The current status of physical activity related programs and policies in schools

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Amy Eyler, PhD
Agenda

• Background

• Physical Activity During School Hours
  • Physical Education
  • Recess
  • Other Physical Activity Breaks

• Physical Activity Outside of School Hours
  • After School Programs
  • Active Travel to/from School
  • Sedentary Activity Reduction

Definitions, status and trends, and policy/practice implications.
Physical Activity During School Hours
Youth Physical Activity Guidelines

- Children ages 6 to 17 should be physically active at least one hour a day.

- The National Association of Sport and Physical Education (NASPE) [http://www.aahperd.org/naspe/](http://www.aahperd.org/naspe/) recommends that elementary school students:
  - receive at least 150 minutes of physical education class a week
  - 20 minutes of daily recess (100 minutes a week)

- This is an average of about 50 minutes of activity each school day
Physical Activity in Primary Schools

Percentage of students in schools with physical activity opportunities

Turner, et al. (2010) and updates from 2009/10 and 2010/11 Food & Fitness surveys
Physical Activity in Secondary Schools

Percentage of **middle school students** in schools with physical activity opportunities

Percentage of **high school students** in schools with physical activity opportunities

Johnston, et al. (2011) and updates from 2009/10 YES survey
Physical Education

• Children who attend regularly scheduled physical education (PE) classes get significantly more physical activity than those who attend PE less often.
• Physical education programs that include the use of standardized curricula, goals for active classes and staff development result in children who are more physically active.
• Quality in-service training for teachers, either for PE specialists or for classroom teachers, increases students’ levels of physical activity at school.
• Numerous studies have shown that PE/activity time does not negatively impact academic performance.

See: Active Living Research Program
PE Prevalence and Trends

• Less than one in five elementary schools (18%) offer 150 minutes of PE per week.
• Only 13 percent of states and 4 percent of school districts have a law requiring this.
• Only laws that require 90+ minutes of PE per week increase middle school students’ PE attendance.
• Requiring PE increases activity in middle school, but it does not reduce disparities.
• Policies that require a minimum amount of MVPA during PE class do reduce disparities among middle school boys, but not girls.
Multilevel, Multivariate Associations between State and District Policy and ES PE ≥ 150 mins/week

State law requiring 150 min PE/weekly

State law suggests 150 min PE/week or requires <150

No state PE time-related law

District policy requiring 150 min PE/weekly

District policy suggests 150 min PE/week or requires <150

No district PE policy

* Indicates significant difference from reference, p<.05
### Policies Governing Physical Activity and Physical Education

<table>
<thead>
<tr>
<th>Policies Governing Physical Activity and Physical Education</th>
<th>Elementary</th>
<th>Middle</th>
<th>High</th>
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<tbody>
<tr>
<td>06–07</td>
<td>10–11</td>
<td>06–07</td>
<td>10–11</td>
</tr>
<tr>
<td><strong>Physical education time requirements:</strong> at least 150 mins/week (ES); at least 225 mins/week (MS/HS)</td>
<td></td>
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<tr>
<td>No policy</td>
<td>77%</td>
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<td>79%</td>
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<td><strong>Physical education time devoted to moderate-to-vigorous physical activity (i.e., minimum of 50% of class time)</strong></td>
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<tr>
<td>No policy</td>
<td>72%</td>
<td>56%</td>
<td>71%</td>
</tr>
<tr>
<td>Weak policy</td>
<td>20%</td>
<td>33%</td>
<td>22%</td>
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<tr>
<td>Strong policy</td>
<td>8%</td>
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<td><strong>Required physical education to be taught by a state-authorized physical educator</strong></td>
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<td>No policy</td>
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<td><strong>Required physical education teachers to be trained in physical education skills</strong></td>
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<td>85%</td>
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<td>6%</td>
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<tr>
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<td>p = 0.1873</td>
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</table>
Policy Practice and Implications

- Require more time in PE
- Require PE teachers to be certified
- Require a minimum amount of physical activity in PE
- Require consequences for non-compliance
- Require each school district to appoint a PE or physical activity coordinator
- Identify sources of funding in the policy document
- Make PE waivers harder to obtain
The Importance of Play

Physical Development
- Strong, healthy bodies
- Coordination
- Stress Management
- Physical confidence
- Fine & large motor skills
- Agility

Cognitive Development
- Scientific & mathematical thinking
- Language Skills
- Literacy Skills
- Research and inquiry skills
- Independent thinking

Social Development
- Cooperation
- Negotiation
- Collaboration
- Socialization
- Rules formation
- Conflict resolution

Emotional Development
- Empathy
- Impulse Control
- Self-regulation
- Persistence
- Resilience
- Self-confidence
- Joy

Play at School Develops Children Four Ways
The Benefits of Recess

• Providing recess breaks during the day can improve students’ classroom behavior and attentiveness.

• Children can accumulate up to 40 percent of their total daily physical activity during recess.

• Unstructured physical play can reduce stress

• Recess allows children an opportunity to develop social skills

See: Pellegrini and Glickman (1989); Active Living Research Program http://activelivingresearch.org/files/ALR_Brief_Recess.pdf;
Recess Prevalence and Trends

- 70% of schools offer recess for at least 20 minutes per day.
- Schools in states with a law that encouraged daily recess were much more likely to offer it.
- Only 11% of states encourage daily recess (an additional 6% require it).
- Schools that offered 150 minutes of weekly PE or 20 minutes of daily recess were less likely to offer the other. This suggests that schools are substituting one opportunity for another instead of providing the recommended amount of both.
- Schools with a longer day were more likely to meet the national recommendations for both PE and recess.
### Policies Governing Physical Activity and Physical Education

<table>
<thead>
<tr>
<th>No policy</th>
<th>06–07</th>
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<th>10–11</th>
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<tbody>
<tr>
<td>Prohibited use of (e.g., running laps) or withholding physical activity (e.g., recess) as punishment</td>
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<tr>
<td>No policy</td>
<td>79%</td>
<td>68%</td>
<td>81%</td>
<td>72%</td>
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<td>71%</td>
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<tr>
<td>Weak policy</td>
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<td>15%</td>
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<tr>
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*p-value for change over time*  
\[ p = 0.0060 \quad p = 0.0191 \quad p = 0.0018 \]

### Daily recess requirements for elementary-school students

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<tr>
<td>Weak policy</td>
<td>12%</td>
<td>16%</td>
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<tr>
<td>Strong policy</td>
<td>16%</td>
<td>24%</td>
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*p-value for change over time*  
\[ p = 0.0090 \]

### Recess requirements for elementary-school students (less than daily) *(added in SY 2008–09)*

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<td>Recess requirements for elementary-school students (less than daily)</td>
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<tr>
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<tr>
<td>Weak policy</td>
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<td>11%</td>
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<td>Strong policy</td>
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<td>5%</td>
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</table>
Multilevel, Multivariate Associations between State and District Policy and ES offering 20 mins of recess daily

Source: Slater et al. (2012) *Archives of Pediatrics and Adolescent Medicine.*
Policy Practice and Implications

- Mandates for both physical education and recess are needed to help elementary school students meet the national recommendations for physical activity.
- Given competing time demands and other issues schools face, increasing the amount of time for physical activity during the school day may be challenging.
- Two strategies schools can use to help more kids get the exercise they need to promote overall health and reduce risk for obesity are:
  - increase the amount of time kids spend in moderate-to-vigorous activity during PE, recess and brief classroom breaks; and
  - Require schools to provide structured physical activity during recess.
Average Percentage of Public Elementary Schools (n=1761) with Barriers to Recess & PE, 2007-2009

- Recess: Time demands
- Recess: Lack of resources
- PE: Financial constraints
- PE: No PE policy
- PE: PE not a school priority
- PE: Competing demands
- PE: Lack of outdoor facilities
- PE: Lack of indoor facilities
- PE: Lack of staff

X-axis: Percentage
Y-axis: Barriers
Other Physical Activity Breaks

Defined as school-based programs that include short bouts of physical activity integrated into classroom activities or activity during breaks during the day (excluding recess).

Examples include:

- “Brain breaks” or “brain gym”
- Walking club
- Lunch activity time (non-elementary level)
  - Lunchtime sports competitions/clubs/intramurals
  - Activity/wellness breaks
  - Open gym/fields during lunch
- Allow students to use gym/ cardio/weight room in lieu of homeroom
- End of day activity breaks broadcast on school tv/video
- Standing desks
- School garden as a physical activity opportunity (and nutrition education opportunity)
- Stair Club (log of stair walking)
- Elective courses (MS/HS)
PA Breaks Prevalence and Trends

• 1 in 4 public elementary schools provide activity breaks for students.
• Recent research found no differences across school characteristics (e.g., SES, race/ethnicity, and urbanicity)
• PA during breaks can be increased by 17 – 60% from simple low-cost interventions.
• Introducing structured PA sessions into the school day has been shown to increase youths’ habitual activity levels even after they no longer participate in daily PA breaks.
• PA breaks have been shown to improve cognitive performance in students.
Policy Practice and Implications

- Require physical activity to be incorporated into the classroom
- Scheduling brief activity breaks could be a promising strategy for promoting physical activity during the school day without creating additional challenges for teachers, administrators and students.
- Further research is needed to identify strategies for implementing classroom-based activity breaks and providing teachers with the skills and confidence necessary to engage students.
- More research is needed to determine the optimal duration, timing and programming (e.g., types of activities) for physical activity breaks.
OTHER SCHOOL-RELATED PHYSICAL ACTIVITY
Sports Programs in Schools

• School-based sport remains one of the most effective ways to facilitate PA among adolescents. (McKenzie & Kahan, 2008)
• Intramural sports
• Interscholastic sports
• Multiple benefits
• NSCH study showed that those not involved in sports were 60% more likely to be overweight
Prevalence and Trends: Intramural

• According to 2006 SHPPS, 48.4% offer intramural activities or PA clubs and 23% offer transportation home
• Rates of participation and opportunities vary between elementary, middle, and high schools
• Gender differences: girls less likely than boys and less likely to engage in VPA during intramural sports
• Age differences: decrease between middle and high school
• SES and Racial Ethnic: results vary
Participation

Percentage of Students in Grades 8, 10, and 12 Who Participate in School Athletics,¹ by Gender, 1991 and 2010

¹Participation in school athletics includes all students who have participated to any degree in school athletic teams during the current school year.
Prevalence and Trends: Interscholastic

- 77% of middle and 91.3% of high schools offer at least 1 sport
- 33-55% of students participate
- Most common sport offered: Basketball
- Most participation: Football
- Fastest growing: Girl’s Lacrosse
- State differences: TX, CA, NY highest
- Difference in participation by grade level, gender, SES, race/ethnicity
- 45% time in MVPA; More PA in structured activities
Policy Practice and Implications

- School Opportunities
- Title IX
- “Pay to Play”
- Joint/Community Use
Sedentary Time Reduction

- Children and youth spend an average of 6-8 hours per day being sedentary
  - Sedentary commute to school
  - Sitting in class
  - Sedentary homework
  - Sedentary discretionary time
- Sedentary Behavior has health risks independent of PA
- SB >2 hrs per day is associated with unfavorable body composition, decreased fitness, decreased self esteem, decreased pro-social behavior, decreased academic achievement (Tremblay et al. 2011)
Mean accumulated time spent sedentary across school day
(Salmon, Healy, Hume, Ridley, Timperio, Dunstan, Owen, Crawford)

174±46 mins/day (48% of time)

N=2,452 participants
Current Trends

• Trends show that children have fewer opportunities to be physically active during the school day than in the past (Ahlporn et al. 2008)

• Classroom Environment Changes
  • E.g. Standing Learning Stations

• Increasing breaks in prolonged sitting
  • E.g. Prompts, Policies
Policy Practice and Implications

- Reductions in sedentary time should not replace PE
- Implementing policies at district, school, and class levels may affect reduction in sedentary behavior
- More research is needed in identifying specific strategy effectiveness (e.g. breaks in prolonged sitting)
- Need a system of prevalence monitoring
Active Transportation

- Using an active, non-motorized mode of transportation to travel to or from school
  - Mainly walking or biking
- Important contributor to total PA in children and adolescents
Current Trends

• Estimates between 12.9-13.7% of children and adolescents walk or bike to school
• Reduced substantially since 1969
  • Distance to school
  • Increase in personal vehicle
  • Parental Perception
• Less than ¼ of middle school and 1 in 8 high school students walk or bike (Bridging the Gap, 2012)
• Lower SES middle and high schools MORE LIKELY to walk or bike to school
• Middle and High schools with Black and Latino majority walked or biked more than in predominantly white schools
Policy Practice and Implications

- Many associated policies:
  - School siting
  - Public Safety
  - Community Design (e.g. sidewalks)
  - Funding
- Multiple Stakeholder Involvement