

2010-2012 School Day Physical Activity Among Children in Suburban Cook County, Illinois

Introduction

Overweight and obesity among children is a major public health concern in suburban Cook County (SCC). A recent comparison between national and SCC overweight and obesity prevalence rates by grade-specific age groups found SCC rates to be significantly higher. For example, 40% of 9th graders in SCC are overweight or obese compared to 32% in the U.S. Disparities in overweight and obesity prevalence are also found among regions within SCC where the West and Southwest regions have significantly higher rates.¹

Physical activity (PA), along with proper nutrition, is important in preventing obesity. In addition, PA has many other benefits for children's health and development, such as building and maintaining strong bones and muscles and promoting social and emotional well-being^{2,3}. PA has also been linked to improved academic performance⁴. The Centers for Disease Control and Prevention recommends that children engage in at least one hour of moderate to vigorous physical activity (MVPA) daily to gain health benefits. Moderate PA includes activities such as fast walking; vigorous PA includes activities such as running. Since most U.S. children and youth spend almost half their waking day in school, providing PA opportunities in school settings has the potential to impact the health of most school-aged children and youth. If PA were distributed equally throughout non-sleep hours, we would expect school-aged children and youth in school to engage in at least 28 minutes or 46% of their daily MVPA during a typical 6.5 hour school day.

To better understand opportunities for school-based PA interventions that support obesity prevention, the Cook County Department of Public Health collaborated with the Consortium to Lower Obesity in Chicago Children at Ann and Robert H. Lurie Children's Hospital of Chicago to assess school day PA in a sample of 5th and 6th grade students in selected SCC public elementary schools. This brief shares key findings and recommendations for future efforts.

What was done

Data on PA during the school day were collected for 1,093 children from two classrooms (either 5th or 6th grade) in each of 14 SCC public schools during the spring of school years 2010-11 and 2011-12. Participating students wore accelerometers, which measured PA including time and intensity, for four consecutive school days.

Accelerometer data were categorized by intensity and time spent in PA by intensity level over the course of the school day was summarized for each of the four days. In addition, on the days when accelerometer data were collected, PA opportunities including physical education classes (PE), in-class PA breaks and recess were tracked.

Summary of Key Findings

1

SCC 5th and 6th grade students did not get the expected 28 minutes of physical activity during the school day.

2

SCC students at schools with high proportions of minority students had less time for physical activity.

3

Students' daily average MVPA minutes varied by PA opportunities offered by grade and gender.



Acknowledgements

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1

Key Finding

SCC 5th and 6th grade students in the sample did not obtain the expected amount of MVPA (28 minutes) during the school day.

The types of PA opportunities offered in SCC public schools included in the sample varied and included PE classes, recess, and in-class PA breaks. All schools in the sample provided some combination of these opportunities, though not all schools provided all types of PA opportunities. On average, 5th and 6th grade students in the sample had 14 minutes of MVPA during the school day. This is half of the expected school day MVPA.

2

Key Finding

Students in schools with high proportions of minority students had less school day MVPA time.

- Students in Hispanic majority schools in the sample had less than half the daily MVPA minutes of students in schools in the sample with a majority of white students (9.8 vs. 21.2 minutes).
- Students in Black majority schools in the sample had 33% fewer daily MVPA minutes than students in schools in the sample with majority of White students (14.2 vs. 21.2 minutes).

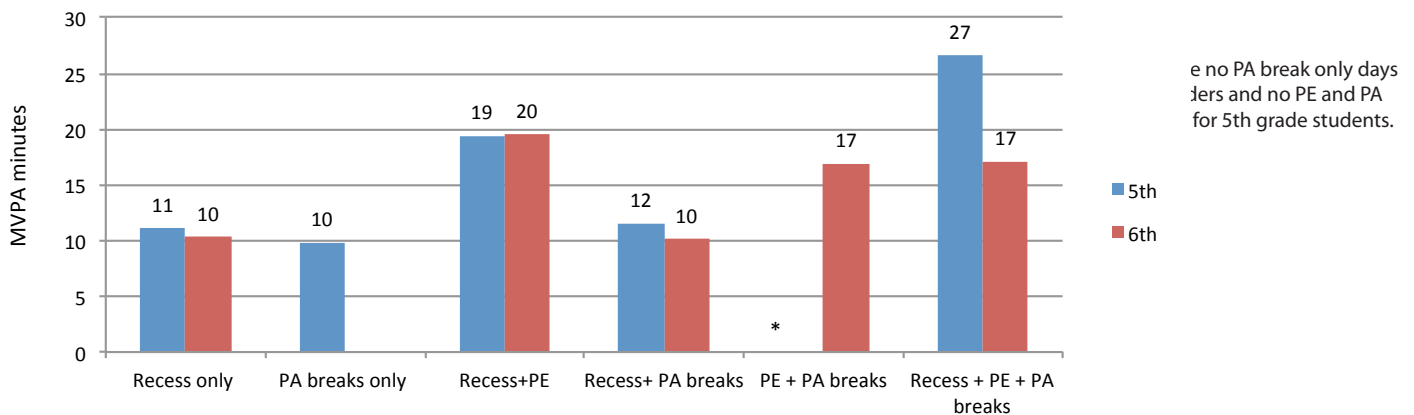
3

Key Finding

Students' daily average MVPA minutes varied by the combination of PA opportunities offered by grade and gender.

- By Grade** (for a visual comparison of MVPA minutes by grade, see Chart 1 below)
 - 6th grade students in the sample had the most daily minutes of MVPA (20 minutes) on school days which included recess and PE.
 - 5th grade students in the sample had the most daily minutes of MVPA time (27 minutes) on school days with a combination of recess, PE and in-class PA breaks PA opportunities.

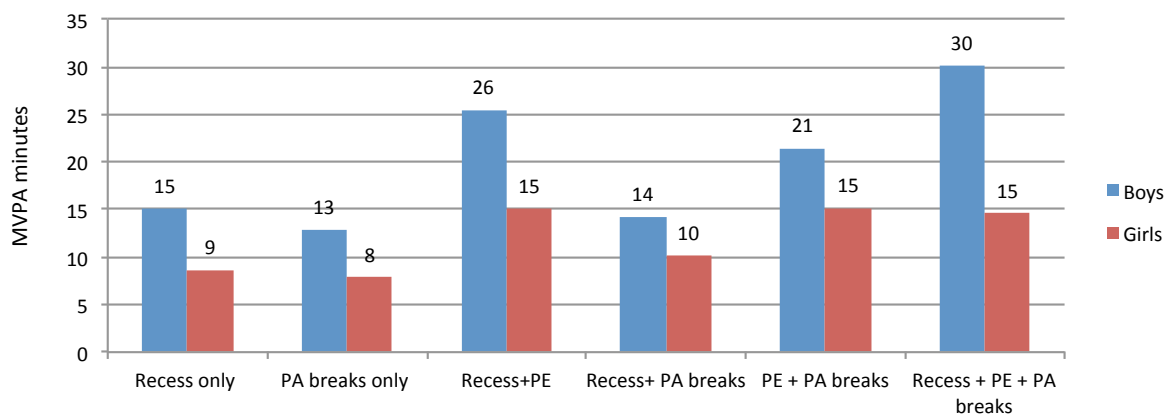
Chart 1 | Comparison of 5th and 6th Grade Students' School-Day Daily MVPA Minutes by PA Opportunity Combinations



By Gender (for a visual comparison of MVPA minutes by gender, see Chart 2 below)

- Boys in the sample acquired the expected MVPA during the school day with a combination of recess, PE and PA breaks; whereas there was no combination of PA opportunities offered that resulted in girls in the sample meeting the expected MVPA during the school day.
- There was no increase in daily MVPA minutes for girls in the sample on days when PA breaks were added to recess and PE combinations. On days when only recess or PA breaks were offered, girls in the sample had the least amount of daily MVPA minutes.

Chart 2 | Comparison of Boys' and Girls' School-Day Daily MVPA Minutes by PA Opportunity Combinations



Recommendations

PA provides numerous health benefits including obesity prevention. PA has also been shown to contribute to academic achievement even when time for PA decreases instructional time⁴. Given the benefits of PA and the relatively low proportion of school day time spent in MVPA among students in the sample, the findings point to the following recommendations.

- Schools should assess current PA opportunities offered to students and increase the opportunities for students to be physically active, especially in schools with high minority enrollment.
- Schools should use a combination of PA opportunities to support students in reaching daily MVPA expected during the school day.
- PA opportunities and their combination should be tailored by grade and gender. In the sample, differences were seen in MVPA achievement by grade and gender based on the combination of PA opportunities offered. To guide the combination of PA offerings, schools should consider gathering student input on preferences for PA opportunities.

References

- Brief Report: 2010-2012 Overweight and Obesity Prevalence Among School-Aged Children in Suburban Cook County, Illinois. September 2013.
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