PHYSICAL ACTIVITY: Evidence-Informed Practice Brief

WHAT DO WE MEAN?

As outlined by the WSCC model, Physical Education and Physical Activity (referred to as simply Physical Activity throughout this brief) includes: (a) physical activity before, during, and after school, (b) physical education, (c) staff involvement, and (d) family and community engagement. These primary components are derived from the Comprehensive School Physical Activity Program (CSPAP) framework, which also provides guidelines and resources designed to facilitate the organization, implementation, and evaluation of school-based physical activity programs.

Physical education helps students develop the motor skills, knowledge, and behaviors necessary for maintaining a physically active lifestyle. Instruction should focus on providing learning opportunities to enhance students’ physical fitness, good sporting behavior, self-efficacy, and emotional regulation. Effective interventions, as documented by the available literature, typically address multiple health behaviors in addition to physical activity, such as increasing healthy eating habits. To allow students adequate time to acquire these skills, the weekly recommended amount of physical education is 150 minutes for elementary school students and 225 minutes for middle and high school students. Additionally, students should be engaged in moderate-to-vigorous physical activity for at least 50 percent of class time. To ensure important topics are addressed, physical education programs should utilize a sequential K-12 curriculum based on the national standards for physical education. PE teachers delivering instruction should be certified or licensed according to state guidelines.

In addition to physical education class, it is recommended that opportunities for physical activity be integrated throughout the school day, using specific classroom-based movement breaks. The CDC recommends that in-class activity breaks (a) last between five and 15 minutes and (b) are provided several times each day. These activity breaks can include stretching, jumping, dancing, or other short movements that can be completed safely within the classroom. Before and after school times can also provide opportunities for children to be physical active, such as walking or biking to and from school and participating in extracurricular activities. In addition to school personnel, family and community members can help increase these opportunities that encourage students to engage in the recommended 60 minutes of physical activity each day. Overall, the Physical Activity domain of the WSCC model is designed to integrate physical activity into multiple facets of students’ lives through knowledge, engagement, and shared responsibility among students, teachers, families, and the community.
WHY IS IT RELEVANT TO CHILD OUTCOMES?

Physical Health Outcomes
Physical activity is associated with numerous health benefits for children and adolescents. For example, increased rates of physical activity are associated with positive changes in blood pressure and body mass index.\textsuperscript{5,15} Physical activity can also help students build strong bones, muscles, and increase coordination and overall muscle movement (i.e., motor proficiency).\textsuperscript{7, 11} Research suggests that even 10 minutes of moderate to high impact physical activity can have positive health effects for students, such as increased bone density.\textsuperscript{15} With regard to prevention, consistent physical activity is associated with a lower likelihood of developing various health problems, including cardiovascular disease, diabetes, obesity, and cancer.\textsuperscript{4,13}

Social, Emotional, and Behavioral Outcomes
Physical activity has also been linked to student social, emotional, and behavioral health. For example, consistent engagement in physical activity is associated with reduced symptoms of depression, anxiety, and psychological distress among students.\textsuperscript{1,15,25} Children and adolescents who regularly engage in physical activity are also less likely to experience internalizing (i.e., anxiety) and externalizing (i.e., conduct and/or behavioral problems) difficulties.\textsuperscript{25,26} Additionally, increased rates of physical activity are associated with positive impacts on students’ self-esteem.\textsuperscript{1,25}

Academic Outcomes
Consistent engagement in physical activity can also strengthen students’ cognitive abilities (e.g., thinking, reasoning, and problem-solving), resulting in increased attentiveness and academic achievement.\textsuperscript{7,24} Additional physical education, even when core academic instructional time is decreased, is associated with increased cognitive functioning and academic achievement.\textsuperscript{2} There are also relationships between physical activity and classroom behavior.\textsuperscript{25} For example, when classroom instruction incorporates opportunities for students to be physically active, students are more likely to be engaged and on-task.\textsuperscript{20,29} Additionally, increased participation in physical education and recess is associated with improved classroom behavior, including increased student attentiveness.\textsuperscript{19} By consistently engaging in physical activity, students can be more prepared to learn in the classroom.
# PHYSICAL ACTIVITY: EVIDENCE IN ACTION

The strategies provided here summarize a review of available evidence and best practice recommendations in this domain. Strategies are grouped by anticipated resource demand for implementation (e.g., funding, time, physical space, training, materials).

## Level 1: Low resource demand

**Implement physical activity breaks**
- In-class physical activity breaks should be provided several times each day for all K-12 students and should last between five and 15 minutes.\(^9\)
- Teachers can utilize breaks that can be done safely within the classroom, such as stretching, jumping, or dancing.\(^6\)

**Avoid physical activity as a disciplinary consequence**
- Administering or withholding physical activity (e.g., taking minutes away from recess or movement breaks for disruptive behavior) as a form of punishment or behavior management can negatively influence students’ attitudes towards physical activity.\(^22\)
- School administrators should ensure opportunity to participate in physical activity—students who engage in physical activity are also more likely to be attentive and on-task in the classroom\(^1,20,29\)—which can then reduce the need for disciplinary consequences.

**Promote employee involvement in physical activity**
- Teacher involvement has been associated with increased rates of student physical activity.\(^12\)
- Schools can provide opportunities for personnel to lead recess activities, participate in physical activity breaks, and serve as healthy role models.\(^12\)

## Level 2: Moderate resource demand

**Encourage family involvement in physical activity**
- Physical activity interventions are more likely to be effective when family members are involved.\(^16,28\)
- Schools can provide families with information about how to be physically active at home, along with information about physical activity events and programming in the community.

**Incorporate physical activity into existing curricula**
- Students are more likely to engage in physical activity when instruction related to maintaining a physically active lifestyle is integrated in the core academic curriculum (as opposed to only physical and health education).\(^10,18\)
- Teachers can also aim to foster student skill development related to self-regulation, which has also been associated with increased levels of physical activity.\(^14\)
- Instruction related to physical activity (i.e., physiological processes and health benefits) and self-regulatory behaviors (i.e., self-monitoring, goal setting, and action planning) can be integrated into related science, environmental, and biology classes.\(^10,14\)

## Level 3: High resource demand

**Provide trainings and materials for teachers to incorporate physical activity into lessons**
- School-based interventions are more likely to be effective when classroom and physical education teachers are provided with informational trainings and classroom materials.\(^10,11\)
- School leaders can offer teacher trainings and provide materials (e.g., posters, activity booklets, small sports equipment) to promote physical activity in the classroom.\(^10,11\)

**Develop a Comprehensive School Physical Activity Program (CSPAP) plan**
- Developed by the CDC and Shape America, the CSPAP helps schools coordinate all components of physical activity before, during, and after school to help students increase their daily physical activity levels and develop the knowledge, skills, and confidence to maintain a physically active lifestyle.\(^8\)
- Schools can use the CSPAP to evaluate, develop, and/or improve physical education programs by utilizing the provided examples, activities, action plans, objectives, goals, and important points to consider during program development and improvement.\(^8\)

*For more information about the systematic review process we used to identify evidence-based practices, please refer to our overview brief which can be found [here](http://www.csch.uconn.edu).
ADDITIONAL RESOURCES

**Classroom Physical Activity: For Parents**
Centers for Disease Control and Prevention
This document provides strategies and information for caregivers about how to support physical activity at their child’s school.

**Energizers for School**
Eat Smart, Move More
https://www.eatsmartmovemorenc.com/resource/energizers-for-schools/
This website provides short classroom-based activities for elementary and middle school students that can be used to increase physical activity during the school day.

**Increasing Physical Education and Physical Activity: A Framework for Schools**
Centers for Disease Control and Prevention
This 2017 guide explains the Comprehensive School Physical Activity Program (CSPAP) framework and provides resources and information to help schools increase physical activity opportunities before, during, and after school.

**Learning on the Move**
Active Academics
http://www.activeacademics.org/
This website includes ideas and strategies for helping teachers integrate physical activity into their classrooms.

**Physical Activity Best Practices**
University of Northern Colorado Active Schools Lab
This resource includes information about physical activity and includes examples of school physical education and physical activity initiatives.

**Physical Education Curriculum Analysis Tool (PECAT)**
Centers for Disease Control and Prevention
https://www.cdc.gov/healthyschools/pecat/index.htm
This webpage helps schools evaluate and enhance their physical education programs based on the national physical education standards.

**Tools and Ideas**
National Education Association
http://www.nea.org/home/ToolsAndIdeas.html/
This his resource includes tools and ideas for classroom teachers.

**Strategies for Recess in Schools**
Centers for Disease Control and Prevention & SHAPE America — Society of Health and Physical Educators
This 2017 document provides information and strategies for providing recess in schools to increase participation in physical activity.

**Teacher Toolbox for Physical Activity Breaks in the Secondary Classroom**
Colorado Education Initiative
This webpage includes practical tools and templates to help teachers provide physically active breaks in the classroom.

**Tips for Teachers: Promoting Healthy Eating & Physical Activity in the Classroom**
Centers for Disease Control and Prevention
This 2013 document includes ideas and information for teachers to help their students engage in a more physically active lifestyle.

**Youth Physical Activity: Guidelines Toolkit**
Centers for Disease Control and Prevention
https://www.cdc.gov/healthyschools/physicalactivity/toolkit/userguide_pa.pdf
This document provides resources, materials, and information to help educators and other community leaders promote physical activity in children and adolescents.
Sources


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