Welcome to Today’s Webinar!

School-Based Physical Fitness and the Link to Improved Student Academic Outcomes and School Climate

This event will begin at 2:00 p.m. Eastern Time.
School-Based Physical Fitness and the Link to Student Academic Outcomes and Improved School Climate Brief

Victoria Stuart-Cassel

Children and adolescents need opportunities to regularly engage in fun and age-appropriate physical activities to maintain healthy development and fitness. Schools can offer a safe and supervised environment for promoting children's physical activity to help reduce the risk of obesity and other negative health outcomes. Studies show, however, that children's access to school-based fitness activities, such as physical education (PE) and recess, has declined in the past 15 years. This trend has been tied to the enactment of federal legislation that raised academic standards and increased pressure on schools to improve school accountability and reduce educational disparities for underperforming students. Schools responded to these new requirements by allocating more time within the school day to core academic subjects, like mathematics and reading, with the belief that increased instructional time would translate into better academic outcomes.

More recent perspectives reflect a shift in thinking about the value of school physical activity, challenging the notion that efforts to boost student achievement must come at a cost to children's physical health. Notably, in a recent press release, U.S. Secretary of Education Arne Duncan advocated for dedicating more time to fitness-promoting activity in schools, arguing that "helping students become more active physically also helps students become more successful academically." This statement finds support in a growing body of evidence suggesting that physical activity and physical education, offered within the context of the school day, are not only essential for children's healthy development but also may contribute to children's academic achievement and positively impact school climate and conditions for learning in schools.

This brief will do the following:
The National Center on Safe Supportive Learning Environments

- Is funded by the U.S. Department of Education’s Office of Safe and Healthy Students.
- Provides training and support to federal grantees, including 22 grantees funded under the Project Prevent Program and other state administrators; administrators of districts and schools; teachers; support staff at schools; communities and families; and students.
- Has a goal to improve schools’ conditions for learning through measurement and program implementation, so that all students have the opportunity to realize academic success in safe and supportive environments.

*The content of this presentation was prepared under a contract from the U.S. Department of Education, Office of Safe and Healthy Students to the American Institutes for Research (AIR). This presentation does not necessarily represent the policy or views of the U.S. Department of Education, nor do they imply endorsement by the U.S. Department of Education.*
Chat Pod

If you have a question for the presenters, please type it in the Chat Pod, or e-mail ncssle@air.org during the webinar.

Feedback Form

At the end of the presentation, a series of questions will appear. Please provide feedback on this event so that we can better provide the resources you need. All answers are completely anonymous and are not visible to other participants.

For assistance during the webinar, please contact the National Center on Safe Supportive Learning Environments at ncssle@air.org.
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Norris Dickard, Healthy Students Group Leader, Office of Safe and Healthy Students, U.S. Department of Education |
| 2 | Physical Activity and Academic Achievement  
Shannon Michael, Ph.D., Health Scientist, Centers for Disease Control and Prevention |
| 3 | Physical Activity and School Climate  
Rebecca London, Ph.D., Research Professor, University of California Center for Collaborative Research for an Equitable California, UC Santa Cruz |
| 4 | Addressing Physical Activity at the State and Local Level  
Josh Grant, Coordinator, Office of Middle/Secondary Learning, West Virginia Department of Education |
## Webinar Objectives

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<td>1</td>
<td>Describe the research evidence showing a link between physical activity and academic achievement.</td>
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<td>2</td>
<td>Share key recommendations from recent research on physical activity.</td>
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<td>3</td>
<td>Discuss the connection of physical activity to improved school climate.</td>
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<td>4</td>
<td>Review effective strategies for increasing student activity levels.</td>
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Polling Question #1

Which of the following best describes your role?

- State education agency (SEA) staff
- Local education agency (LEA) staff
- Carol M. White Physical Education Program [PEP] grantee
- Other federal grantee (e.g., Project Prevent, ESSC, School Transformation)
- Physical education teacher
- School administrator
- Classroom teacher
- School nurse
- Health teacher
- Community stakeholder
- Other
Polling Question #2

Which of the following best describes the primary reason you chose to participate in this webinar on physical activity and its link to academic achievement and school climate?

- I want to learn how physical activity can impact academic achievement and school climate.
- I want to learn what others have done to address academic achievement and school climate through physical activity.
- I want to obtain strategies and resources to enhance academic achievement and school climate through physical activity.
- Other (please type description into Chat Pod)
Webinar Welcome
Norris Dickard, Healthy Students Group Leader, Office of Safe and Healthy Students, U.S. Department of Education
Physical Activity and Academic Achievement
Shannon Michael, PhD, MPH, Health Scientist, Centers for Disease Control and Prevention
Children and adolescents should do 60 minutes (1 hour) or more of physical activity daily
- Aerobic
- Muscle strengthening
- Bone strengthening

Activities should be age-appropriate, enjoyable, and varied.
How Active Are Kids?

- Only 27% of high school students achieve the recommended 60 minutes per day every day of the week!
  - Higher for males (37%) than females (18%)
  - Decreases from 9th grade to 12th grade (30%–24%)

- Only 29% of high school students attend physical education daily.
  - Higher for males (35%) than females (24%)
  - Decreases from 9th grade to 12th grade (42%–20%)
Why Should Schools Provide Opportunities for Physical Activity?

- **Most children and adolescents attend school**
  - Captive audience
  - Ideal place for them to learn about physical activity and practice skills

- **Help students achieve some or all of the recommended 60 minutes of physical activity through**
  - Physical education
  - Recess
  - Classroom physical activity breaks
  - Physical activity clubs or sports

- **Students who are physically active…**
  - Benefit physically, mentally, and emotionally
  - Can do better in school
Comprehensive School Physical Activity Program

- National framework
- 5 components
- Foundation is physical education
- Goal is for students to have…
  - More opportunities for physical activity in school
  - Increased participation in physical activity
Process of Physical Activity Impacting Academic Achievement

Immediate Benefits

- Students are better able to concentrate on classroom tasks
- Enhances student learning

Long-term Benefits

- Students increase their physical fitness ability
- Increases academic achievement

Students Engage in Physical Activity

Improves school climate
Special Issue: The Whole School, Whole Community, Whole Child Model

- CDC, ASCD, and partners
- November 2015 issue
- 10 articles
- One article on…

Critical Connections:

Health and Academics
Academic Achievement Defined

Students’ cognitive skills and attitudes
- Concentration
- Memory
- Mood

Academic performance
- Class grades
- Standardized tests
- Graduation rates

Education behavior
- Attendance
- Drop out rates
- Behavioral problems at school
Findings for Physical Education, Physical Activity, and Academic Achievement

Physical Activity → Cognitive Skills and Attitudes
Physical Activity → Academic Performance
Physical Activity → Education Behavior
Findings for Physical Education, Physical Activity, and Academic Achievement

- Over 50 years of research on physical activity and academic achievement
- 28 reviews on research on physical activity and academic achievement
  - 410 articles
  - 259 unique articles
- Included physical fitness and physical activity
- Included all types of school-based physical activity
  - Physical education
  - Recess
  - Classroom physical activity breaks
  - Physical activity after school (sports)
- Examined different aspects of academic achievement
Since 1997, there have been 4 meta-analyses that have examined different aspects of physical activity and academic achievement:

- Exercise has a positive effect on cognitive performance
- Physical activity has a positive effect on cognitive performance
- Physical activity has a positive effect on academic achievement
- Based on 20 experimental studies, students participating in physical activity have improved academic achievement
## Findings for Different Aspects of Physical Activity in School and Academic Achievement

<table>
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<tr>
<th>Physical Activity Practice</th>
<th>Related Academic Achievement Outcomes</th>
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<tr>
<td>Students who are physically active</td>
<td>Better grades, school attendance, and classroom behaviors</td>
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<tr>
<td>Increased participation in physical education class</td>
<td>Better grades, standardized test scores, and improved classroom behavior</td>
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<tr>
<td>Time spent in recess</td>
<td>Improved cognitive performance and classroom behaviors</td>
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<tr>
<td>Participation in brief classroom physical activity breaks</td>
<td>Improved cognitive performance, classroom behaviors, and education outcomes</td>
</tr>
<tr>
<td>Participation in extracurricular physical activities</td>
<td>Higher GPAs, lower drop-out rates, and fewer disciplinary problems</td>
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</table>
CDC’s Resources on Physical Activity and Academic Achievement

- 2010 Report
- Health and Academic Achievement overview document
- Presentation slides with notes
- Podcast on physical activity and academic achievement
  [http://www2c.cdc.gov/podcasts/player.asp?f=8634967](http://www2c.cdc.gov/podcasts/player.asp?f=8634967)

Citation ▪ 11-12
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Composite Attentional Allocation of 20 Students Taking the Same Test

After 20 minutes of Walking
After 20 minutes of Sitting Quietly

3 µV 8

After a 20 minutes of Walking
New Study by National Institutes of Health: Brief Intervals of Exercise for Kids

**Methodology**
- Randomly assigned 28 healthy, normal-weight children to two groups
  - remained seated for 3 hours and engaged in sedentary activities
  - alternated sitting with 3 minutes of moderate-intensity walking

**Findings**
- Children who had 3 minutes of moderate-intensity walking every half hour had lower levels of blood glucose and insulin
- Breaks into school class time might be part of effective strategies to prevent obesity-related illnesses
- Need larger study to confirm findings
RECOMMENDATION:
Students should do 60 minutes (1 hour) or more of physical activity daily

REALITY:
Many students are not getting opportunities to be active.

Over half of all schools have 10% or less of their students walking or biking to and from school.

Less than 4% of schools require daily physical education.

Only 45% of all schools provide opportunities for students to participate in classroom physical activity breaks.

Only 55% of all schools offer opportunities for students to participate in physical activity clubs or intramural sports programs.

Source: School Health Policies and Practices Study 2014
Whole School, Whole Community, Whole Child

Physical Education & Physical Activity

Healthy

Coordinating Policy, Process, & Practice

Community Involvement

Employee Wellness

Physical Environment

Social & Emotional Climate

Nutrition Environment & Services

Health Services

Counseling, Psychological, & Social Services

Whole School, Whole Community, Whole Child

Safe Supportive Learning

Engagement | Safety | Environment
Federal Initiatives to Support Comprehensive School Physical Activity Programs
CDC’s State Public Health Actions Program (1305)

**BASIC**

- PE
- RECESS

**ENHANCED**

- Physical Education
- Physical Activity Before & After School
- Comprehensive School Physical Activity Program
- Physical Activity During School
- Family & Community Engagement
- Staff Involvement
Active Kids Do Better
Join the movement to bring physical activity back to our nation’s schools.

JOIN THE MOVEMENT
Presidential Youth Fitness Program

- Physical Education
  - Fitness Assessment
  - Fitness Education
  - Motivational Recognition
If you have a question for the presenters, please type it in the Chat Pod, or e-mail ncssle@air.org during the webinar.
Physical Activity and School Climate

Rebecca London, PhD, Research Professor, UC Santa Cruz
## Outline for the Presentation

<table>
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<th>1</th>
<th>Describe what we mean by school climate.</th>
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<td>2</td>
<td>Discuss the different school contexts that promote physical activity and school climate.</td>
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<td>3</td>
<td>Focus in on recess and review the American Academy of Pediatrics policy statement on recess.</td>
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<td>4</td>
<td>Look at an example of one program that addresses these recommendations.</td>
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<td>5</td>
<td>Talk about how these lessons can apply across school contexts for physical activity.</td>
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</tbody>
</table>
NCSSLE defines school climate as having the following three domains:

**Engagement**
- Cultural and linguistic competence
- Relationships
- School participation

**Safety**
- Emotional safety
- Physical safety
- Bullying/Cyberbullying
- Substance abuse
- Emergency readiness

**Environment**
- Physical environment
- Instructional environment
- Physical health
- Mental health
- Discipline
Comprehensive School Physical Activity Program

- Physical Activity During School
- Physical Education
- Physical Activity Before and After School
- Staff Involvement
- Family and Community Engagement

60 Minutes
Contexts that Affect School Climate

- **Inside classrooms:** This is where students spend the most time, and it is the most structured time of day.

- **Free time:** At lunch and recess, instructional breaks, as well as study halls, advisory periods, and in hallways.

- **Schoolwide events and programs:** For instance during school assemblies, rallies, festivals, open houses—both during and outside the school day (can include parents).

- **One-on-one interactions:** When students meet with counselors, administrators, or other adults or peers.

- **Before and after school:** Any programs run by the school or its partners; school sports, music, theater, or arts; other clubs.
Polling Question #3

In which of the following school contexts does your program provide physical activity that could affect school climate? (Check all that apply.)

- In classrooms
- During free time
- During schoolwide events and programs
- In one-on-one interactions
- Before and after school
- Physical activity and school climate enhancing activities are Tier I, universal
- The same principles for supporting these activities should apply across all school contexts
Spotlight on Recess and School Climate

- **American Academy of Pediatrics’ policy statement**
  - Describes the importance of recess in aiding “whole child” development, including academic, social and emotional, and physical benefits.
  - Outlines guidelines for implementing high quality recess: attention to safety and supervision; social and emotional skill building; school policies related to recess.
  - Directed at recess, but applies to other times of day as well.

- **But isn’t recess a time all kids have fun?**
  - Recess can be withheld, either as a policy or in individual cases.
  - Recess can feel unsafe for children for a variety of reasons.
  - Attention to recess is important for promoting positive school climate.

- **What is a high quality recess?**
  - Appropriate games, space, equipment available.
  - Inclusive, positive, and engaged environment, both adults and students.
  - Organized, but not structured.
Playworks: Example of Program Providing High Quality Recess

- Aims to improve recess in low-income elementary schools
- Full-time coach placed at schools to engage with students all day
- Junior coach program to foster leadership
- Students can choose what they play

Core values include:
- Inclusive behavior
- Positive language
- Consistent rules and norms
- Conflict resolution
- Engagement in play
- Adults playing alongside children
Polling Question #4

Which of these values does your physical fitness program currently reflect? (Check all that apply.)

- Inclusive behavior
- Positive language
- Consistent rules and norms
- Conflict resolution
- Engagement in physical activity
- Adults participating alongside students
Impact of High Quality Recess

Randomized Controlled Trial of Playworks conducted by Mathematica Policy Research

Increased student physical activity levels Children in Playworks schools spent significantly more time in vigorous physical activity at recess (14% versus 10% of recess time, a 43% difference)

- Increased student feelings of safety
  - Playworks teachers’ average rating of students’ feelings of safety at school was 20% higher than the average ratings reported by teachers in control schools

- Reduced bullying
  - Teachers in Playworks schools reported significantly less bullying and exclusionary behavior during recess, a 43% difference in average rating scores

- Decreased time for student to transition back to learning
  - Teachers in Playworks schools reported spending significantly less time to transition from recess to learning activities (34% fewer minutes)
  - Increased value placed on organized play at school by teachers
# Recommendations for Using Physical Activity to Enhance School Climate

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<th>Recommendation</th>
<th>Practices that promote school climate</th>
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<td>Allow students daily physical activity</td>
<td>• Permit daily physical activity for students in PE, recess, or free time regardless of their behavior, missed schoolwork, or the weather</td>
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</table>
| Ensure physical and emotional safety                 | • Support conflict resolution tools like rock-paper-scissors  
• Provide age- and activity-appropriate equipment  
• Establish rules and norms for activities as well as designated locations where they are played |
| Provide opportunities for engagement                 | • Allow students to choose their activities from several different offerings  
• Create an inclusive environment where everyone can participate  
• Support ongoing participation through positive encouragement |
| Foster adult-student relationships                    | • Adults support activity by participating with or cheering for students  
• Adults model inclusive and positive behaviors |
| Foster student-student relationships                  | • Create leadership programs for students  
• Encourage activities that mix up students across their friend groups  
• Create noncompetitive environment |
If you have a question for the presenters, please type it in the Chat Pod, or e-mail ncssle@air.org during the webinar.
Addressing Physical Activity at the State and Local Level

Josh Grant, Coordinator, Office of Middle/Secondary Learning, West Virginia Department of Education
## Presentation Overview

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<td>Results From Increased Physical Activity</td>
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<td>Greenbrier CHOICES</td>
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Elementary School K-5
• At Least three times a week for 30 min.
• At least 50% of time spent in moderate to vigorous-intensity physical activity (MVPA)

Middle School  6-8
• One period daily for a semester
• 50% MVPA

High School  9-12
• One required credit
• 50% MVPA

Grades 4 - HS
• FITNESSGRAM®
Elementary School
• 30 min. daily for All Students

Middle School
• 30 min. daily – MVPA Opportunities **must** be provided

High School
• 30 min. daily - MVPA Opportunities **should** be provided
West Virginia won its 3rd straight JAM World record with 176,849 participants; 11.17% of WV population.

The President’s Council on Fitness, Sports & Nutrition (PCFSN), Recognizes WV as first state to have at least one school enrolled within each school district.
West Virginia Physical Activity Accomplishments

- Physical Activity Trainings occurred to train over 400 classroom teachers and administrators to impact over 150,000 students.
- Karen Bonnett: SHAPE High School Physical Education Teacher of the Year
- Challenging every WV Elementary School to be a Let’s Move Active School (LMAS)
How We Made Statewide Training Happen

[Logos and images related to healthy schools programs, universities, and health initiatives]

Active Academics®
Learning on the Move!

TRY THIS
west virginia
Building Blocks for Healthy Communities

West Virginia Action for Healthy Kids®
Results from More Physical Activity in Schools

- “Positively impacted test scores, attendance, behavior and attitudes. First month report indicated zero discipline violations and test scores raised 33 points in one grade level.”
  
  Sabrina Runyon - Principal Lenore K-8

- “Increased PA in the morning has greatly reduced tardiness and students are more anxious to get to school, more focused, and discipline has been minimized to hardly anything at all.”
  
  Mike DeRose - Principal Kanawha Elementary

- “Increased PA through MIM has led to more fluent reading, neater handwriting, and students fine motor skills, gross motor skills, and overall social behavior has improved.”
  
  Wade Armentrout - Principal Moorefield Elementary
Greenbrier CHOICES

- Children’s Health Opportunities Involving Coordinated Efforts in Schools (CHOICES)
- Carol M. White Physical Education Program Grant
- Components: Community, Healthcare, School
- Integrated approach to adolescent health promotion
Greenbrier CHOICES Physical Education

- Enhanced PE Curriculum focused on lifetime physical activities rather than traditional sports.
- PECAT & Assessments
- Culturally relevant

As a result:

- 89.4% said they would like to participate in the chosen PAs in their communities in which they live.
- 78.3% said they would like to join an after-school program with these PAs.
“Healthy, active students make better learners”
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References
