



# HEALTH *AND* ACADEMIC ACHIEVEMENT



National Center for Chronic Disease Prevention and Health Promotion  
Division of Population Health



# Healthy Kids. Successful Students. Stronger Communities.

Schools, health agencies, parents, and communities share a common goal of supporting the link between healthy eating, physical activity, and improved academic achievement of children and adolescents. Evidence shows that the health of students is linked to their academic achievement, so by working together, we can ensure that young people are healthy and ready to learn.<sup>1-4</sup> Public health and education professionals can use this resource to share the link between healthy eating, physical activity, and improved academic achievement to engage stakeholders in working together to support healthy school environments. This resource includes

1. **Evidence** linking healthy eating and physical activity with academic achievement.
2. Evidence-driven **messages** with specific benefits to states, school districts, schools, parents, and students.
3. Specific, feasible, and effective **actions** to support healthy eating and physical activity in schools.
4. Key **resources** to learn more.

## Know the Evidence

Knowing the evidence is important to help make the case for addressing healthy eating and physical activity in schools. There are several possible direct and indirect pathways linking healthy eating and physical activity with academic achievement in schools. While the current evidence is limited but evolving, it shows that certain factors in a school environment can positively influence the health of students and improve academic achievement. These factors include access to healthy foods and opportunities to stay physically active.<sup>4</sup> Improving access to healthy foods and physical activities is linked to healthier students who are also better learners.<sup>2,3</sup>

**How to use the research:** The evidence can be used in presentations, key documents, or any other resource that communicates the evidence link between health (i.e., healthy eating and physical activity) and academic achievement.

### Academic Achievement

For this document, we define academic achievement as<sup>2</sup>

1. *Academic performance* (class grades, standardized tests, and graduation rates).
2. *Education behavior* (attendance, dropout rates, and behavioral problems at schools).
3. *Students' cognitive skills and attitudes* (concentration, memory, and mood).

## Evidence on dietary behaviors and academic achievement

- Student participation in the United States Department of Agriculture (USDA) School Breakfast Program (SBP) is associated with increased academic grades and standardized test scores, reduced absenteeism, and improved cognitive performance (e.g., memory).<sup>3, 5-11</sup>
- Skipping breakfast is associated with decreased cognitive performance (e.g., alertness, attention, memory, processing of complex visual display, problem solving) among students.<sup>8, 9, 11-17</sup>
- Lack of adequate consumption of specific foods, such as fruits, vegetables, or dairy products, is associated with lower grades among students.<sup>18-20</sup>

- Deficits of specific nutrients (i.e., vitamins A, B6, B12, C, folate, iron, zinc, and calcium) are associated with lower grades and higher rates of absenteeism and tardiness among students.<sup>4, 5, 10</sup>
- Hunger due to insufficient food intake is associated with lower grades, higher rates of absenteeism, repeating a grade, and an inability to focus among students.<sup>5, 10, 19–23</sup>

## Evidence on physical activity and academic achievement

- Students who are physically active tend to have better grades, school attendance, cognitive performance (e.g., memory), and classroom behaviors (e.g., on-task behavior).<sup>24–30</sup>
- Higher physical activity and physical fitness levels are associated with improved cognitive performance (e.g., concentration, memory) among students.<sup>30–35</sup>
- More participation in physical education class has been associated with better grades, standardized test scores, and classroom behavior (e.g., on-task behavior) among students.<sup>36–39</sup>
- Increased time spent for physical education does not negatively affect students' academic achievement.<sup>2, 32</sup>
- Time spent in recess has been shown to positively affect students' cognitive performance (e.g., attention, concentration) and classroom behaviors (e.g., not misbehaving).<sup>40–44</sup>
- Brief classroom physical activity breaks (i.e., 5-10 minutes) are associated with improved cognitive performance (e.g., attention, concentration), classroom behavior (e.g., on-task behavior), and educational outcomes (e.g., standardized test scores, reading literacy scores, math fluency scores) among students.<sup>28, 45–50</sup>
- Participation in extracurricular physical activities such as interscholastic sports has been associated with higher grade point averages (GPAs), lower drop-out rates, and fewer disciplinary problems among students.<sup>51–63</sup>

## Share the Message

All stakeholders, including parents, educators, and public health professionals, can use the evidence to support messages about the importance of healthy eating and physical activity and their link to academic achievement. Using consistent messages creates better understanding and awareness of the need for addressing healthy eating and physical activity in schools. *Core messages* are provided that apply to all audiences and connect with common values and beliefs of multiple stakeholders. In addition to the core messages, *audience-specific messages* are provided that identify the unique benefits for five key audiences.

**How to use the messages:** The core and audience-specific messages can be used in conversation, PowerPoints, Webinars, meetings, presentations, Web content, e-mails, newsletters, and other print documents.



## Core Messages

The core messages articulate the importance of increased access to healthy foods and physical activities in schools as ways to enhance the academic achievement of students.

### How to use core messages:

- Use messages when communicating with different audiences at both the state and local level (e.g., parents, schools, teachers, administrators, public health professionals).
- Incorporate at least 1–2 core messages in all communication to support both healthy eating and physical activity strategies in schools (conversation, PowerPoints, Webinars, meetings, presentations, Web content, e-mails, newsletters, print documents).

### Core Messages:

1. Healthy students are better learners
  - Healthy students are better on all levels of academic achievement: academic performance, education behavior, and cognitive skills and attitudes.
2. Schools can influence eating and physical activity behaviors
  - Students spend much of their time at school, and may eat as many as 2 out of 3 meals per day and may get much of their physical activity at school.
3. Healthy, successful students help build strong communities
  - Investing in the health of students contributes to healthy communities in the future.
4. All students deserve the opportunity to be healthy and successful
  - Providing access to healthy foods and physical activity plays an important role in the academic achievement of students.



## Audience-Specific Messages

The audience-specific messages reflect the benefits of addressing healthy eating and physical activity in schools for each stakeholder audience.

### How to use audience messages:

- Add these messages to the core messages when communicating to specific stakeholder audiences in all communication (conversation, PowerPoints, Webinars, meetings, presentations, Web content, e-mails, newsletters, print documents).
- Use messages to support both healthy eating and physical activity strategies in schools.

Audience	Benefit
<b>States (public health and education agencies)</b>	<ul style="list-style-type: none"> <li>■ Focusing on healthy eating and physical activity in schools can help reduce barriers to learning.</li> <li>■ Healthy students are more likely to have higher levels of education.</li> </ul>
<b>School Districts</b>	<ul style="list-style-type: none"> <li>■ Investing in healthy school nutrition environments and school physical activity programs can play an important role in school reform.</li> <li>■ Helping students stay healthy through eating healthy foods and being physically active can help school districts achieve better overall test scores, grades, and attendance rates.</li> </ul>
<b>Schools</b>	<ul style="list-style-type: none"> <li>■ Promoting healthy eating and physical activity can help schools meet their educational goals.</li> <li>■ Implementing strategies that help students stay healthy through eating healthy foods and being physically active can result in decreased rates of student absenteeism, fewer behavioral problems, and higher school-wide test scores and grades.</li> </ul>
<b>Parents</b>	<ul style="list-style-type: none"> <li>■ Schools can create a healthy learning environment and provide opportunities for your child to practice healthy behaviors.</li> <li>■ Helping your child's school support healthy eating and physical activity can help them become better learners, healthier adults, and ready for college.</li> </ul>
<b>Students</b>	<ul style="list-style-type: none"> <li>■ Learning about healthy eating and physical activity in school will give you the knowledge and skills to make good health decisions now and in the future.</li> <li>■ Eating healthy and staying active in school can help you feel better, do better in sports, concentrate, and get better grades and test scores.</li> </ul>

## Take Action

Creating healthy schools requires action from different stakeholders. Use the evidence and messages to engage stakeholders to take action to help make schools a place for health and learning. The table below identifies possible actions different audiences can take. The actions below are not comprehensive but rather identify a sample of key actions to support schools in adequately addressing healthy eating and physical activity to improve academic achievement.<sup>2,64,65</sup>

Audience	Action
<b>States (public health and education agencies)</b>	<ul style="list-style-type: none"> <li>■ Create partnerships between departments of health and education and other key stakeholders to help support the connection among healthy eating, physical activity, and academic achievement.</li> <li>■ Provide consistent messages about the connection among healthy eating, physical activity, and academic achievement that school districts and schools can use to get support for addressing health in schools.</li> <li>■ Develop policies that support healthy school nutrition environments (e.g., access to healthy and appealing foods and beverages; consistent messages about food and healthy eating; opportunities for students to learn about healthy eating).</li> <li>■ Develop policies that support a comprehensive approach to physical activity in schools (e.g., quality physical education programs, physical activity before and after school like a walking and biking to school programs); physical activity during school (e.g., recess, physical activity breaks in and outside the classroom); school employee wellness programs); and parent and community engagement.</li> <li>■ Provide professional development and technical assistance to school districts and schools on healthy school nutrition environments and a comprehensive approach to physical activity in schools.</li> <li>■ Seek funding opportunities to support new activities and incentives for schools to create healthy school environments.</li> </ul>
<b>School Districts</b>	<ul style="list-style-type: none"> <li>■ Create partnerships between the local departments of health and education and other key stakeholders to help support the connection among healthy eating, physical activity, and academic achievement.</li> <li>■ Establish, implement, and evaluate local school wellness policies that support healthy school nutrition environments and a comprehensive approach to physical activity in schools.</li> <li>■ Provide professional development to schools on healthy food options for breakfast and lunch, standards for competitive foods (e.g., school store, vending machines), and at school-sponsored events.</li> <li>■ Provide professional development to schools on a comprehensive approach to physical activity in schools (e.g., quality physical education programs, walking and biking to school program, recess, physical activity breaks in and outside the classroom).</li> <li>■ Collect data on health and educational behaviors and outcomes to assess the benefits of school health (e.g., healthy eating, physical activity) policies and practices.</li> </ul>

Audience	Action
<b>Schools</b>	<ul style="list-style-type: none"> <li>■ Establish a school health advisory council or wellness committee that includes school staff, parents, students, and other community members and that meets regularly to develop and implement a school-wide plan for addressing healthy eating and physical activity in schools.</li> <li>■ Develop policies that support healthy school nutrition environments and a comprehensive approach to physical activity in schools.</li> <li>■ Provide professional development to school staff on the importance of healthy eating and physical activity and their connection to learning.</li> <li>■ Provide healthy food options for breakfast and lunch, in other school venues (e.g., school store, vending machines), and at school-sponsored events.</li> <li>■ Provide physical education programs, recess for elementary students, classroom-based physical activity, and extracurricular physical activities (e.g., sports programs, physical activity club).</li> <li>■ Support health education programs to incorporate topics on nutrition and physical activity.</li> <li>■ Include school health as an important element in school improvement plans.</li> <li>■ Support parent and community engagement in school health activities.</li> <li>■ Incorporate health into recognition programs and school metrics and accountability.</li> </ul>
<b>Parents</b>	<ul style="list-style-type: none"> <li>■ Be involved in school health activities at your child’s school—this can be done by attending classes on health topics supported by the school, communicating with the school about health issues, volunteering to support health activities, making decisions related to school health policies and practices, and reinforcing health messages taught in school at home.</li> <li>■ Help your school put into action the local school wellness policy that focuses on nutrition education, foods and beverages sold at school, physical activity, and physical education.</li> <li>■ Ask the school to provide educational opportunities for you to learn about the connection between health and academic achievement and the importance of healthy eating and physical activity.</li> <li>■ Talk to other parents about ways they can help support and promote healthy school nutrition environments and a comprehensive approach to physical activity in schools.</li> <li>■ Join a group that supports and can address a healthy school environment such as the Parent Teacher Association (PTA), school health advisory council, school wellness council, and school improvement team.</li> </ul>
<b>Students</b>	<ul style="list-style-type: none"> <li>■ Participate on state, district, or school health advisory councils or other health-related committees.</li> <li>■ Learn why it is important to eat healthy and stay active and share it with your classmates.</li> <li>■ Lead activities in your school that promote eating healthy and being physically active.</li> <li>■ Ask your classmates what information and activities they would like to have at the school related to healthy school nutrition environments and physical activity and physical education.</li> <li>■ Share ideas from your classmates with school staff and talk about helping to meet the needs of students.</li> </ul>



## Use the Resources

Below are resources to learn more about how healthy eating and physical activity can play a role in improving the academic achievement of students. The resources are from the federal government and national organizations. Some of the resources provide specific data, while others review existing evidence and give practical suggestions and recommendations for states, school districts, and schools in supporting healthy eating and physical activity to enhance academic achievement.

### **Breakfast for Learning. Food Research and Action Center, 2011.**

This is a research brief developed by the Food Research and Action Center that highlights the link between eating breakfast and learning.

### **Health in Mind, Healthy Schools Campaign, 2012.**

This report is from Healthy Schools Campaign (HSC) and Trust for America's Health (TFAH) and details immediate solutions that can help close the achievement gap and create a healthy future for all children. Health in Mind focuses on several federal initiatives and policies that can broadly benefit the health, well-being and education of the nation's students.

### **Healthier Students Are Better Learners: A Missing Link in Efforts to Close the Achievement Gap. Columbia University, 2010.**

This report articulates that educationally relevant health disparities, such as how participation in and access to physical activity and eating breakfast improve educational opportunities and outcomes of students.

### **Student Health and Academic Achievement. Centers for Disease Control and Prevention, 2009.**

These are fact sheets developed by the Centers for Disease Control and Prevention show the link between health behaviors (e.g., physical inactivity, unhealthy dietary behaviors) and academic grades.

### **The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance. Centers for Disease Control and Prevention, 2010.**

This report examined how different physical activity contexts in schools, including physical education, recess, classroom-based activity, and extracurricular activities are associated with a variety of academic outcomes.

### **The Healthy School Communities Model: Aligning Health & Education in the School Setting.**

Association for Supervision of Curriculum Development, 2011. This document describes the actions that schools and school communities need to take to make systemic change that improves the health, well-being, growth, and development of their students, staff, and schools.

### **The Learning Connection: What You Need to Know to Ensure Your Kids Are Healthy and Ready to Learn, Action for Healthy Kids, 2013.**

This report developed by Action for Healthy Kids is a roadmap for parents, educators, school administrators and school volunteers to create healthier school environments so the kids in their lives are better positioned to learn.

### **The Wellness Impact: Enhancing Academic Achievement Through Healthy School Environments, GENYOUth, 2013.**

The report, produced by National Dairy Council, in partnership with GENYOUth Foundation, American College of Sports Medicine, and American School Health Association, highlights that improved nutrition and physical activity can help lead to better academic performance. This report serves as a launch pad to ignite the conversation about how all sectors of society can work together to create an atmosphere where children have the knowledge, options, and opportunities to help them reach their full potential.

### **Web Information:**

[www.cdc.gov/healthyyouth](http://www.cdc.gov/healthyyouth)

[www.cdc.gov/BAM](http://www.cdc.gov/BAM)



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