



**Healthy Kids. Successful Students.**  
**Stronger Communities.**  
**Improving Academic Achievement through**  
**Healthy Eating and Physical Activity**

National Center For Chronic Disease and Health Promotion  
Division of Population Health

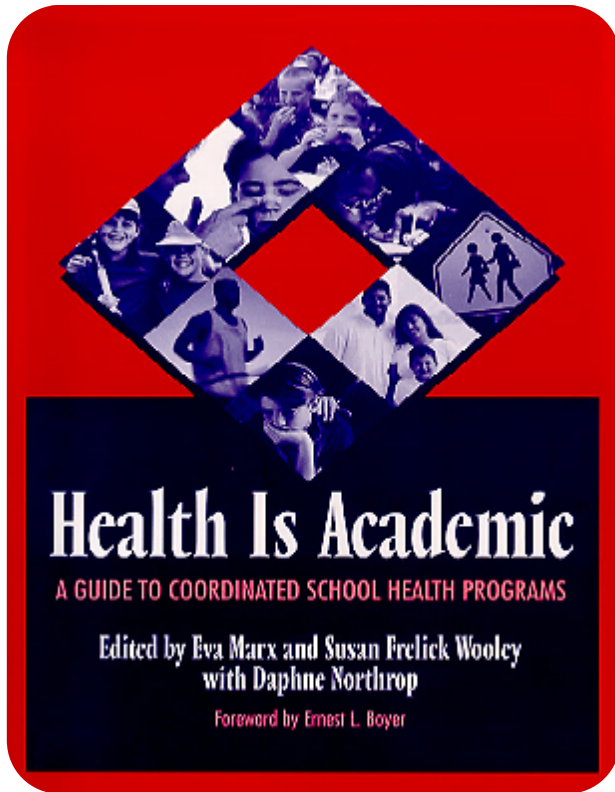




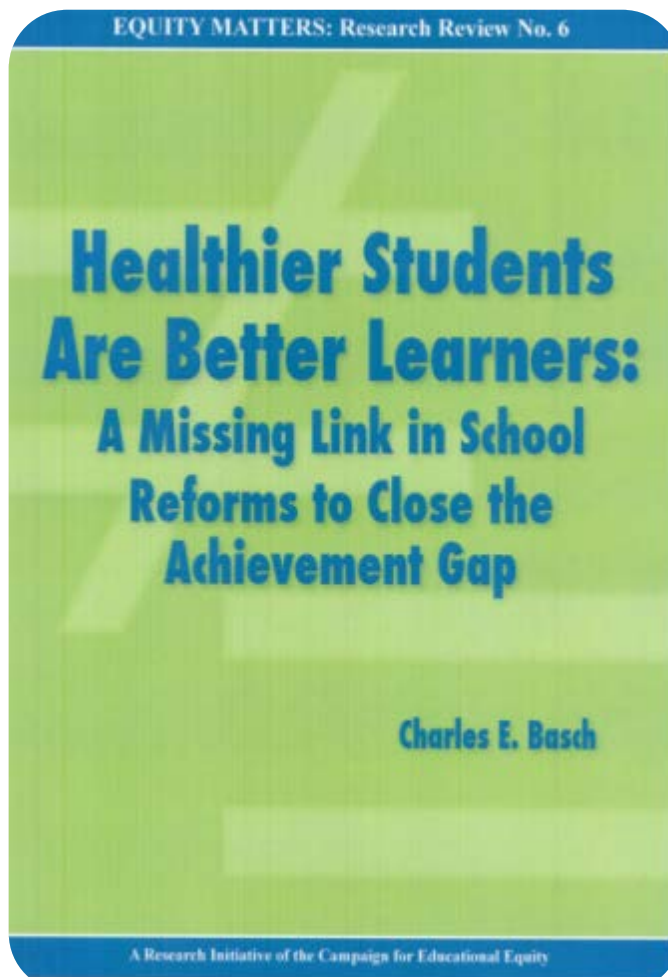
# Objectives

- Describe the evidence supporting the link between healthy eating, physical activity, and improved academic achievement.
- Identify key messages and benefits of addressing healthy eating and physical activity in schools to improve academic achievement and motivate stakeholders to take action.
- Identify at least three actions that can be implemented by states, school districts, schools, parents, and/or students to support healthy eating and physical activity in schools and improve academic achievement.
- Identify at least two resources that can be used to explain the relationship between healthy eating, physical activity, and academic achievement.

# Health is Academic Because . . .



- Helping young people stay healthy is a fundamental part of the mission of our schools
- Health behaviors are associated with academic achievement
- School health programs can help improve students' academic achievement



*“No matter how well teachers are prepared to teach, no matter what accountability measures are put in place, no matter what governing structures are established for schools, educational progress will be profoundly limited if students are not motivated and able to learn. Health related problems play a major role in limiting the motivation and ability to learn...”*

~Charles Basch

[http://www.equitycampaign.org/i/a/document/12557\\_equitymattersvol6\\_web03082010.pdf](http://www.equitycampaign.org/i/a/document/12557_equitymattersvol6_web03082010.pdf)

# Success in School is More Than Just Academics

Schools must also consider other factors that affect  
academic achievement:

## Healthy Food Options



## Opportunities To Be Physically Active







## EVIDENCE

Healthy Eating



Academic Achievement

Physical Activity



## MESSAGE

Know the Core Messages

**AND**

The Audience-Specific Messages

## ACTION

Be Ready to Share with Key Stakeholders How They Can Take Action



# KNOW THE EVIDENCE



# Academic Achievement

## Academic performance

- Class grades
- Standardized tests
- Graduation rates

## Education behavior

- Attendance
- Drop out rates
- Behavioral problems at school

## Students' cognitive skills and attitudes

- Concentration
- Memory
- Mood

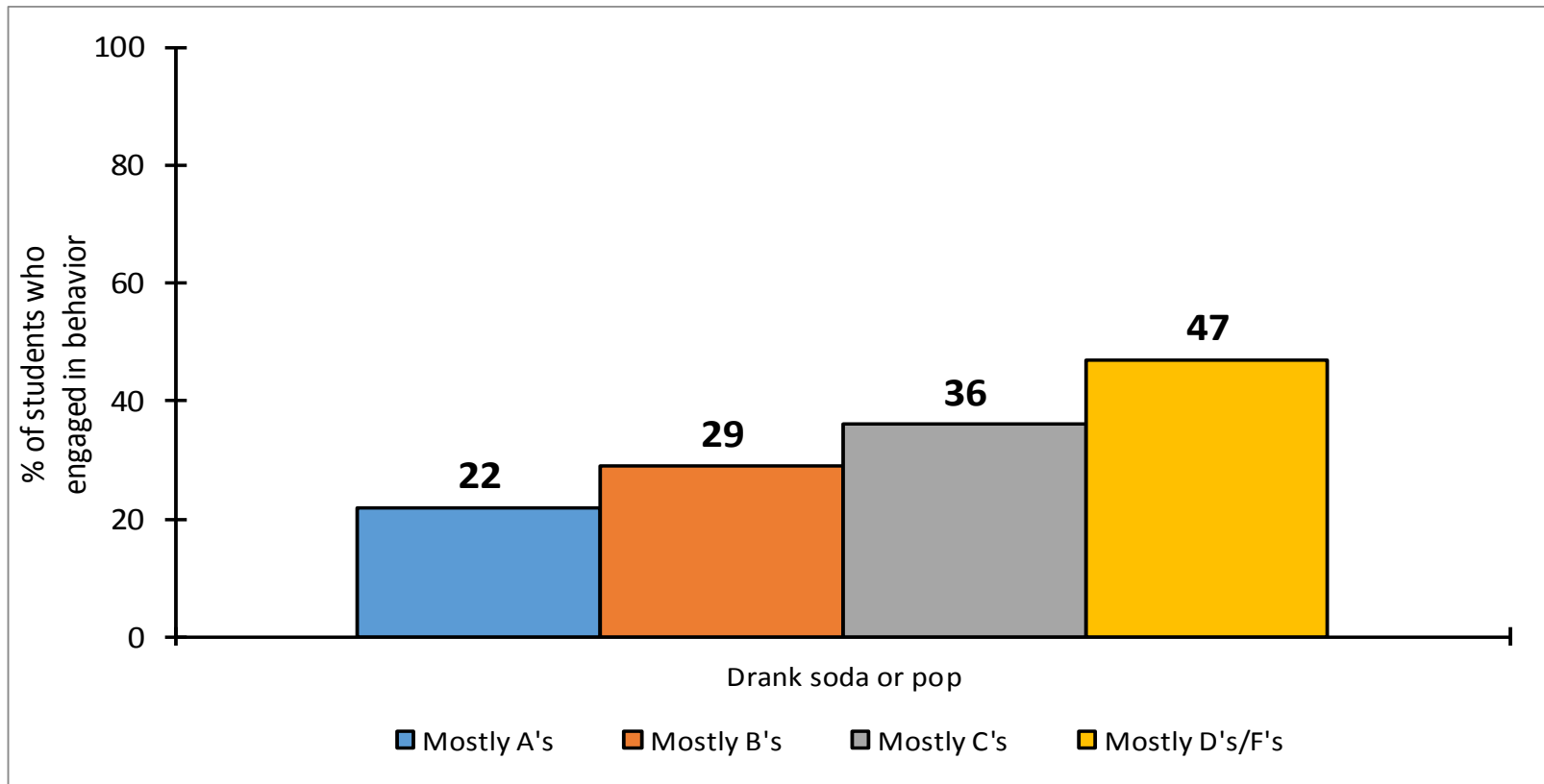




# Healthy Eating and Academic Achievement

Dietary Behavior/Issue	Related Academic Achievement Outcomes
<b>Participation in the School Breakfast Program (SBP)</b>	<ul style="list-style-type: none"><li>• Increased academic grades and standardized test scores</li><li>• Reduced absenteeism</li><li>• Improved cognitive performance</li></ul>
<b>Skipping breakfast</b>	<ul style="list-style-type: none"><li>• Decreased cognitive performance</li></ul>
<b>Lack of adequate consumption of specific foods</b>	<ul style="list-style-type: none"><li>• Lower grades</li></ul>
<b>Deficits in specific nutrients</b>	<ul style="list-style-type: none"><li>• Lower grades</li><li>• Higher rates of absenteeism and tardiness</li></ul>
<b>Insufficient food intake</b>	<ul style="list-style-type: none"><li>• Lower grades</li><li>• Higher rates of absenteeism</li><li>• Repeating a grade</li><li>• Inability to focus</li></ul>

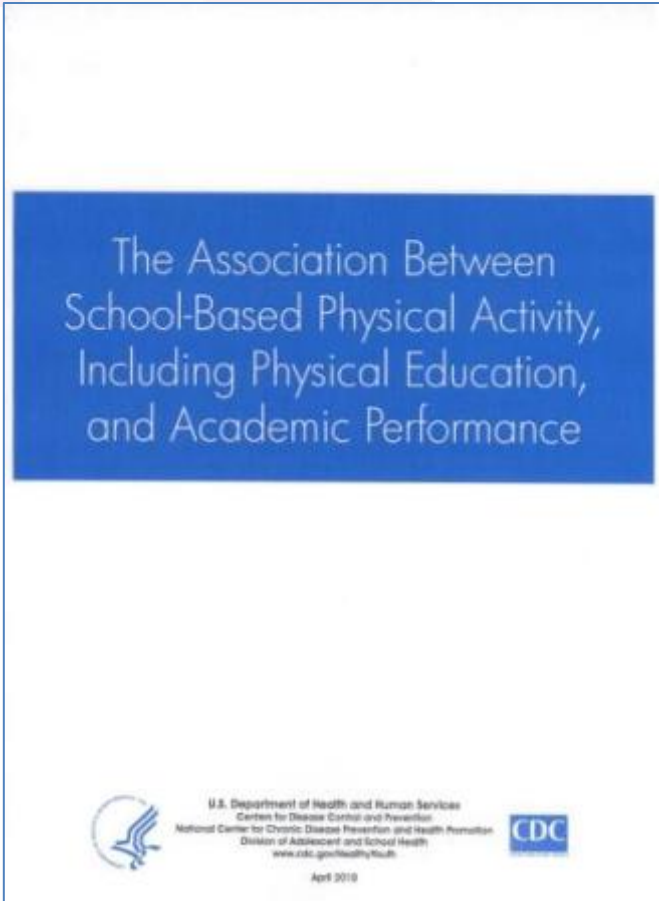
# Percentage of High School Students Who Drank a Can, Bottle, or Glass of Soda or Pop at Least One Time Per Day,\* by Type of Grades Earned (Mostly A's, B's, C's or D's/F's), 2009\*\*



\*Drank a can, bottle, or glass of soda or pop (not including diet soda or diet pop) at least one time per day during the 7 days before the survey.

\*\* $p < .0001$  after controlling for sex, race/ethnicity, and grade level.

United States, Youth Risk Behavior Survey, 2009, [http://www.cdc.gov/healthyyouth/health\\_and\\_academics/data.htm](http://www.cdc.gov/healthyyouth/health_and_academics/data.htm)

The image shows the cover of a report. At the top, there is a blue rectangular box with white text that reads: "The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance". Below this box, the cover is mostly white. At the bottom left, there is a logo for the U.S. Department of Health and Human Services, Center for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Adolescent and School Health, with the website www.cdc.gov/HealthyYouth. To the right of this is the CDC logo. At the bottom center, it says "April 2010".

The Association Between  
School-Based Physical Activity,  
Including Physical Education,  
and Academic Performance

## Physical Activity

- Physical education
- Recess
- Classroom-based
- Extracurricular

## Results

- School-based physical activity can:
  - Help improve academic performance.
  - Have a positive impact on education behaviors and cognitive skills.

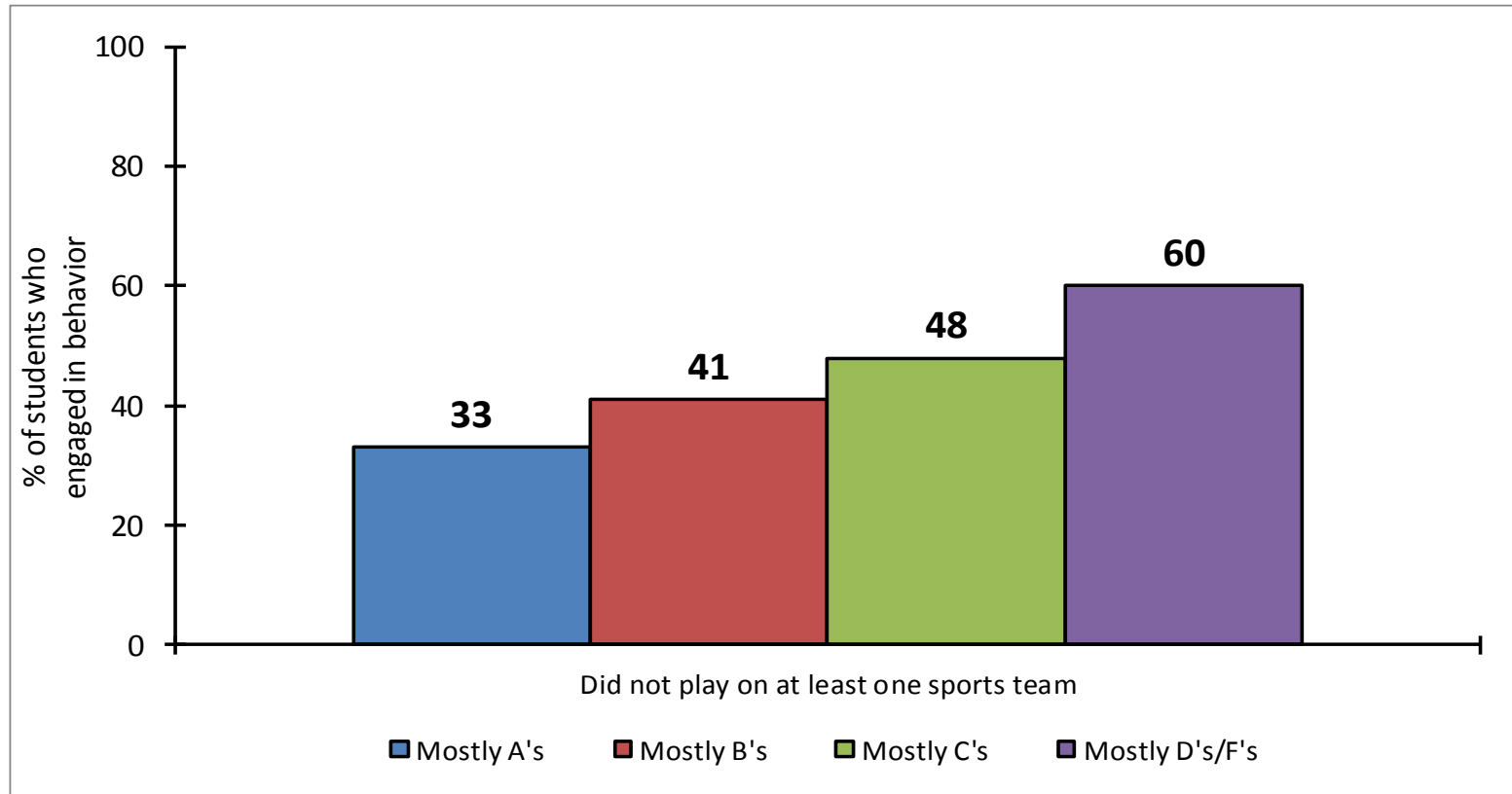
[www.cdc.gov/HealthyYouth/health\\_and\\_academics/pdf/pa-pe\\_paper.pdf](http://www.cdc.gov/HealthyYouth/health_and_academics/pdf/pa-pe_paper.pdf)

# Physical Activity and Academic Achievement

Physical Activity Practice	Related Academic Achievement Outcomes
Students who are physically active	<ul style="list-style-type: none"><li>• Have better grades, better school attendance, and better classroom behaviors</li></ul>
Higher physical activity and physical fitness levels	<ul style="list-style-type: none"><li>• Improved cognitive performance</li></ul>
More participation in physical education class	<ul style="list-style-type: none"><li>• Better grades, standardized test scores, and classroom behavior</li></ul>
Time spent in recess	<ul style="list-style-type: none"><li>• Improved cognitive performance and classroom behaviors</li></ul>
Participation in brief classroom physical activity breaks	<ul style="list-style-type: none"><li>• Improved cognitive performance, classroom behaviors, and education outcomes</li></ul>
Participation in extracurricular physical activities	<ul style="list-style-type: none"><li>• Higher GPAs, lower drop-out rates, and fewer disciplinary problems</li></ul>



## Percentage of High School Students Who Did Not Play on at Least One Sports Team,\* by Type of Grades Earned (Mostly A's, B's, C's or D's/F's), 2009\*\*



\*Run by their school or community groups during the 12 months before the survey.

\*\* $p < .0001$  after controlling for sex, race/ethnicity, and grade level.

United States, Youth Risk Behavior Survey, 2009, [http://www.cdc.gov/healthyyouth/health\\_and\\_academics/data.htm](http://www.cdc.gov/healthyyouth/health_and_academics/data.htm)



# SHARE THE MESSAGE



# Core Messages



- Healthy students are better learners
- Schools can influence eating and physical activity behaviors
- Healthy, successful students help build strong communities.
- All students deserve the opportunity to be healthy and successful

# Audience-specific Messages

Audience	Benefits to the Audience
<b>States</b>	<ul style="list-style-type: none"><li>• Help reduce barriers to learning</li><li>• More likely to have higher levels of education</li><li>• Contributes to a better prepared workforce</li></ul>
<b>School Districts</b>	<ul style="list-style-type: none"><li>• Increased attendance rates</li><li>• Increased graduation rates</li><li>• Higher district-wide test scores and grades</li></ul>
<b>Schools</b>	<ul style="list-style-type: none"><li>• Meet educational goals</li><li>• Decreased rates of student absenteeism</li><li>• Fewer behavioral problems</li><li>• Higher school-wide test scores and grades</li></ul>
<b>Parents</b>	<ul style="list-style-type: none"><li>• Opportunities for your child to practice healthy behaviors</li><li>• Help your child become better learners</li></ul>
<b>Students</b>	<ul style="list-style-type: none"><li>• Feel better</li><li>• Increase their concentration</li><li>• Have better grades and test scores</li></ul>





# Share the Message

- Consistently share the evidence, key messages, and benefits with key stakeholders
- Include this topic in professional development for district and school staff
- Ask parents to support and promote the healthy eating and physical activity as a way to improve academic achievement
- Use meaningful success stories that support healthy eating and physical activity as a way to improve academic achievement

# Remember . . .

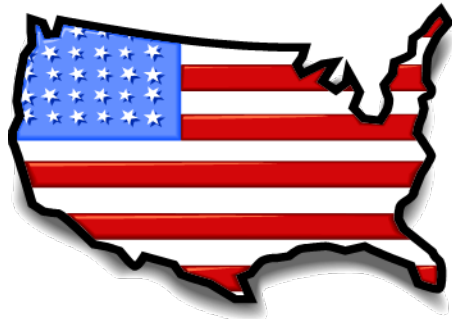
*It is our responsibility to share the evidence and important link between healthy eating, physical activity, and improved academic achievement with state and local policy makers, state and local school boards, key community organizations, parents, and anyone else interested in equipping children to be healthy and successful in school.*



# TAKE ACTION



# Who Can Take Action?



**States**



**Schools Districts**



**Schools**



**Parents**



**Students**





# Take Action

- ✓ Establish an agenda to support health in schools
- ✓ Develop and implement key policies
- ✓ Provide appropriate guidance, technical assistance, and professional development
- ✓ Implement effective, high-quality programs and practices
- ✓ Ensure accountability



# Examples of Actions

## State

- Create a partnership between departments of health and education to support the connection between health and academic achievement
- 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

## School Districts

- Establish, implement, and monitor local school wellness policies
- Collect data on health and educational behaviors and outcomes to assess the benefits of school health policies and practices



# Examples of Actions

## Schools

- Establish a school health advisory council or wellness committee
- Provide healthy food
- Provide physical education programs

## Parents

- Be involved in school health activities at your child's school
- Ask the school to provide educational opportunities for you to help increase access to healthy eating and physical activity in your child's school

## Students

- Participate on state, district, and/or school health advisory councils or other health-related committees
- Lead activities in your school that promote eating healthy and being physically active



# USE THE RESOURCES





## Adolescent and School Health

### Home

Adolescent Health

School Health

Coordinated School Health (CSH)

### ► Health & Academics

Data & Statistics

Publications & Resources

National Health Education Standards

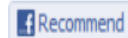
Characteristics of an Effective Curriculum

School Health Policies and Practices Study

School Health Profiles

BAMI Body and Mind

[Home](#) > [School Health](#)



## Health and Academics

The academic achievement of America's youth is strongly linked with their health.

### Healthy Students Are Better Learners

Health-related factors such as hunger, physical and emotional abuse, and chronic illness can lead to poor school performance.<sup>1</sup> Health-risk behaviors such as early sexual initiation, violence, unhealthy eating, and physical inactivity are consistently linked to poor grades, test scores, and lower educational attainment.<sup>2-5</sup>

Leading national education organizations recognize the close relationship between health and education, as well as the need to foster health and well-being within the educational environment for all students.<sup>6-9</sup>

### Schools are the Right Place for a Healthy Start



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Site Map

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### Related CDC Tools

[School Health Index \(SHI\)](#)

[Health Education Curriculum Analysis Tool](#)

[http://www.cdc.gov/HealthyYouth/health\\_and\\_academics/](http://www.cdc.gov/HealthyYouth/health_and_academics/)



# Health-Risk Behaviors and Academic Grades Fact Sheets

### Tobacco Use and Academic Achievement

What is the relationship between tobacco use and academic achievement?

Data presented below from the 2009 National Youth Risk Behavior Survey (NYRBS) show a negative association between tobacco use and academic achievement among high school students after controlling for sex, race/ethnicity, and grade level. This means that students who use tobacco are less likely to engage in health-risk behaviors than their classmates who do not use tobacco, and students who do not engage in health-risk behaviors receive higher grades than their classmates who do engage in health-risk behaviors. Further research is needed to determine whether the grades receive health-risk behaviors, health-risk behaviors lead to low grades, or some other factor leads to both of these outcomes.

Students with higher grades are significantly less likely to have engaged in behaviors such as:

- Ever having sex
- Having sex without using a condom before the survey
- Drinking alcohol
- Not using a car seat belt

Percentage of high or D+/P+<sup>a</sup>—United States

Behavior	High or D+/P+—United States
Ever smoked cigars	17
Ever smoked cigars for 30 days	41
Current cigarette use before the survey	11
Current frequent use (at least 5 days during the 30 days before the survey)	11
Current cigarette use (at least 1 day during the 30 days before the survey)	24
Current tobacco use (at least 1 day during the 30 days before the survey)	47
Smoked a whole cigarette during the survey	24
Smoked a whole cigarette during the survey	41
Current alcohol use (at least 1 day during the 30 days before the survey)	21
Used alcohol to get high or drunk at least 1 day during the 30 days before the survey	12

<sup>a</sup> A score of 3 or higher is considered high or D+/P+.

### Alcohol and Other Drug Use and Academic Achievement

What is the relationship between alcohol and other drug use and academic achievement?

Data presented below from the 2009 National Youth Risk Behavior Survey (NYRBS) show a negative association between alcohol and other drug use and academic achievement among high school students after controlling for sex, race/ethnicity, and grade level. This means that students who use alcohol or other drugs are less likely to engage in health-risk behaviors than their classmates who do not use alcohol or other drugs, and students who do not engage in health-risk behaviors receive higher grades than their classmates who do engage in health-risk behaviors. Further research is needed to determine whether the grades receive alcohol and other drug use, alcohol and other drug use lead to low grades, or some other factor leads to both of these outcomes.

Students with higher grades are significantly less likely to have engaged in behaviors such as:

- Carrying a weapon (for example, a gun, knife, or club) on at least 1 day during the 30 days before the survey
- Current cigarette use (smoking cigarettes on at least 1 day during the 30 days before the survey)
- Current alcohol use (having at least one drink of alcohol on at least 1 day during the 30 days before the survey)
- Being currently sexually active (having sexual intercourse with at least one person during the 12 months before the survey)
- Watching television 3 or more hours per day (on an average school day)
- Being physically active at least 60 minutes per day on fewer than 3 days during the 30 days before the survey

Percentage of high school students who carried a weapon, smoked cigarettes, drank alcohol, were sexually active, watched television 3 or more hours per day, and were physically active at least 60 minutes per day on fewer than 3 days, by type or grades earned (priority A's, B's, C's, or D+/P+—United States, Youth Risk Behavior Survey, 2009)

Behavior	Priority A's	Priority B's	Priority C's	D+/P+—United States
Carried a weapon	13	18	22	27
Current cigarette use	11	11	11	11
Current alcohol use	18	24	33	41
Currently sexually active	24	33	41	47
Watched television 3 or more hours per day	24	33	41	47
Physically active at least 60 minutes per day on fewer than 3 days	24	33	41	47

<sup>a</sup> This means that 100% of students with priority A's carried a weapon and 100% of students with priority B's carried a weapon.

### Sexual Risk Behaviors and Academic Achievement

What is the relationship between sexual risk behaviors and academic achievement?

Data presented below from the 2009 National Youth Risk Behavior Survey (NYRBS) show a negative association between sexual risk behaviors and academic achievement among high school students after controlling for sex, race/ethnicity, and grade level. This means that students who have sex are less likely to engage in health-risk behaviors than their classmates who do not have sex, and students who do not engage in health-risk behaviors receive higher grades than their classmates who do engage in health-risk behaviors. Further research is needed to determine whether the grades receive sexual risk behaviors, sexual risk behaviors lead to low grades, or some other factor leads to both of these outcomes.

Students with higher grades are significantly less likely to have engaged in behaviors such as:

- Ever having sex
- Having sex without using a condom before the survey
- Drinking alcohol
- Not using a car seat belt

Percentage of high or D+/P+—United States

Behavior	High or D+/P+—United States
Ever had sexual intercourse	24
Had sexual intercourse during the survey	41
Had sexual intercourse during the survey	24
Currently sexually active (at least 1 day during the 12 months before the survey)	47
Drank alcohol or used other drugs to get high or drunk at least 1 day during the 30 days before the survey	12
Did not use a car seat belt at least 1 day during the 30 days before the survey	21

<sup>a</sup> A score of 3 or higher is considered high or D+/P+.

### Physical Inactivity and Unhealthy Dietary Behaviors and Academic Achievement

What is the relationship between physical inactivity and unhealthy dietary behaviors and academic achievement?

Data presented below from the 2009 National Youth Risk Behavior Survey (NYRBS) show a negative association between physical inactivity and unhealthy dietary behaviors and academic achievement among high school students after controlling for sex, race/ethnicity, and grade level. This means that students who are physically inactive and engage in unhealthy dietary behaviors receive lower grades than their classmates who are physically active and engage in healthy dietary behaviors. Further research is needed to determine whether the grades receive physical inactivity and unhealthy dietary behaviors, physical inactivity and unhealthy dietary behaviors lead to low grades, or some other factor leads to both of these outcomes.

Students with higher grades are significantly less likely to have engaged in behaviors such as:

- Being physically active at least 60 minutes per day on fewer than 3 days during any kind of physical activity that increased their heart rate and made them breathe hard some of the time on fewer than 3 days during the 7 days before the survey
- Watching television 3 or more hours per day (on an average school day)
- Using computers 3 or more hours per day (played video or computer games or used a computer for something that was not school work on an average school day)
- Drinking a can, bottle, or glass of soda or juice (not including diet soda or diet pop) at least one time per day during the 7 days before the survey
- Not eating for 24 or more hours (to lose weight or to keep from gaining weight) during the 30 days before the survey

Percentage of high school students who engaged in physical inactivity or unhealthy dietary behaviors, by type of grades earned (priority A's, B's, C's, or D+/P+—United States, Youth Risk Behavior Survey, 2009)

Behavior	Priority A's	Priority B's	Priority C's	D+/P+—United States
Physically active at least 60 minutes per day on fewer than 3 days during any kind of physical activity that increased their heart rate and made them breathe hard some of the time on fewer than 3 days during the 7 days before the survey	24	33	41	47
Watched television 3 or more hours per day (on an average school day)	24	33	41	47
Used computers 3 or more hours per day (played video or computer games or used a computer for something that was not school work on an average school day)	24	33	41	47
Drank a can, bottle, or glass of soda or juice (not including diet soda or diet pop) at least one time per day during the 7 days before the survey	24	33	41	47
Did not eat for 24 or more hours (to lose weight or to keep from gaining weight) during the 30 days before the survey	13	18	22	27

<sup>a</sup> This means that 100% of students with priority A's carried a weapon and 100% of students with priority B's carried a weapon.

### Health-Risk Behaviors and Academic Achievement

What is the relationship between health-risk behaviors and academic achievement?

Data presented below from the 2009 National Youth Risk Behavior Survey (NYRBS) show a negative association between health-risk behaviors and academic achievement among high school students after controlling for sex, race/ethnicity, and grade level. This means that students with higher grades are less likely to engage in health-risk behaviors than their classmates who do not engage in health-risk behaviors, and students who do not engage in health-risk behaviors receive higher grades than their classmates who do engage in health-risk behaviors. Further research is needed to determine whether the grades receive health-risk behaviors, health-risk behaviors lead to low grades, or some other factor leads to both of these outcomes.

Students with higher grades are significantly less likely to have engaged in behaviors such as:

- Carrying a weapon (for example, a gun, knife, or club) on at least 1 day during the 30 days before the survey
- Current cigarette use (smoking cigarettes on at least 1 day during the 30 days before the survey)
- Current alcohol use (having at least one drink of alcohol on at least 1 day during the 30 days before the survey)
- Being currently sexually active (having sexual intercourse with at least one person during the 12 months before the survey)
- Watching television 3 or more hours per day (on an average school day)
- Being physically active at least 60 minutes per day on fewer than 3 days during any kind of physical activity that increased their heart rate and made them breathe hard some of the time on fewer than 3 days during the 7 days before the survey

Percentage of high school students who carried a weapon, smoked cigarettes, drank alcohol, were sexually active, watched television 3 or more hours per day, and were physically active at least 60 minutes per day on fewer than 3 days, by type or grades earned (priority A's, B's, C's, or D+/P+—United States, Youth Risk Behavior Survey, 2009)

Behavior	Priority A's	Priority B's	Priority C's	D+/P+—United States
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<sup>a</sup> This means that 100% of students with priority A's carried a weapon and 100% of students with priority B's carried a weapon.



# New CDC Health and Academic Resources



- Health and Academic Achievement overview document
- Presentation slides with notes
- Podcast for health and academics
  - Nutrition
  - Physical activity

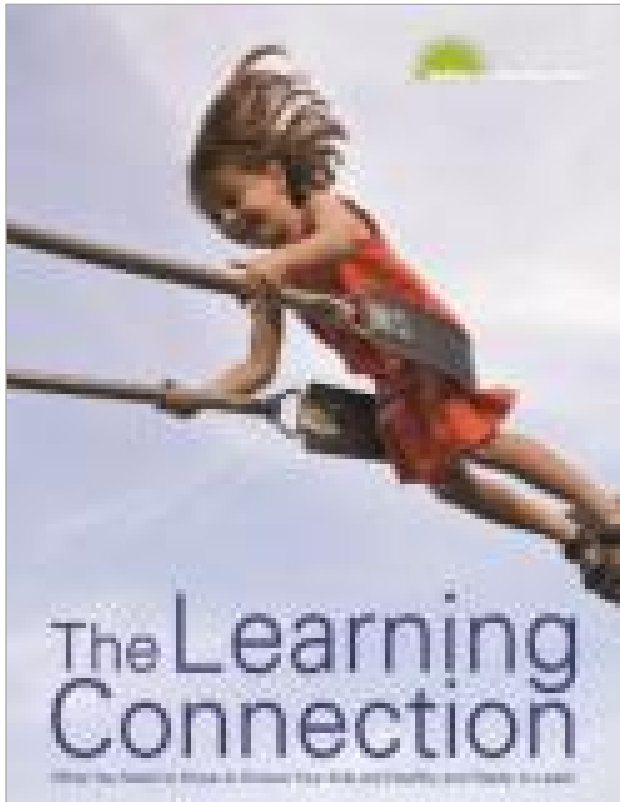
# Health in Mind



- Focuses on several initiatives and policies that can benefit the health and well-being of students
- Provides strategies that federal agencies can support to create the conditions for health and learning in our nation's schools
- Provides recommendations that can be addressed at the state, district, and school levels

[http://www.nasmhpd.org/docs/PreventionResources/Health\\_in\\_Mind\\_Report.pdf](http://www.nasmhpd.org/docs/PreventionResources/Health_in_Mind_Report.pdf)

# The Learning Connection



- Demonstrates that physical activity supports academic achievement, well-nourished kids learn better and that healthier practices in schools can increase school revenue
- Provides a roadmap for parents, educators, school administrators and school volunteers to create healthier school environments

[http://www.actionforhealthykids.org/storage/documents/pdfs/afhk\\_thelearningconnection\\_digitaledition.pdf](http://www.actionforhealthykids.org/storage/documents/pdfs/afhk_thelearningconnection_digitaledition.pdf)

# The Wellness Impact



- Highlights that improved nutrition and physical activity can help lead to better academic performance
- Serves as a launch pad to ignite the conversation about how all sectors of society can work together to create an environment for children to reach their full potential.

<http://www.nationaldairyCouncil.org/ChildNutrition/Pages/The-Wellness-Impact-Healthy-Eating-and-Physical-Activity-Helps-Improve-Academic-Performance.aspx>





**THANK YOU!**





# Healthy Kids. Successful Students. Better Communities.

Improving Academic Achievement through  
Healthy Eating and Physical Activity

## **WEB INFORMATION**

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

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