The Physical Activity Guidelines for Children and Adolescents

The Role of Schools in Promoting Youth Physical Activity

Your Name
Organization or Group
Date of Presentation

Presentation Objectives

- Identify the benefits of regular physical activity among youth
- Describe the key physical activity guidelines for children and adolescents
- Describe the role of schools, in partnership with families and communities, in promoting physical activity among children and adolescents

A Day in the Life of Colin: A 7-Year-Old Child

- Walks to and from school
- Jumps rope and does gymnastics in physical education class
- Plays on the playground during recess
- Does homework
- Watches television
- Plays soccer with family
- Plays video games

What Are the Benefits of Physical Activity?

- Promotes health and fitness
- Builds healthy bones and muscles[1]
- Reduces the risk of developing obesity and risk factors for diseases such as type 2 diabetes and heart disease[1]
- Reduces the symptoms of anxiety and depression[1]
- Can positively affect concentration, memory, and classroom behavior[2]

1. HHS. Physical Activity Guidelines Advisory Committee Report;2008
2. J Pediatr 2005;146(6):732–7.

How Much Physical Activity Do Youth Need?

- **Children and adolescents should do 60 minutes (1 hour) or more of physical activity daily.**
  - Aerobic Activities: Most of the 60 or more minutes per day should be either moderate- or vigorous-intensity aerobic physical activity. Include vigorous-intensity physical activity at least 3 days per week.
  - Muscle-strengthening Activities: Include muscle-strengthening physical activity on at least 3 days of the week, as part of the 60 or more minutes.
  - Bone-strengthening Activities: Include bone-strengthening physical activity on at least 3 days of the week, as part of the 60 or more minutes.
- Activities should be age-appropriate, enjoyable, and offer variety.

What Does This Really Mean?

- At least 60 minutes every day
- Mostly aerobic activities
- Add variety and fun

What are Aerobic Activities?

- Activities that keep your body moving enough to increase your heart rate and make you breathe harder
- There are two intensities of aerobic activity:
  - Moderate-intensity
  - Vigorous-intensity

Judging the Intensity of Aerobic Activities

- **Moderate-intensity Activity**
  - Heart will beat faster than normal and breathing will be harder than normal
  - On a scale of 0 to 10, moderate-intensity activity is a 5 or 6

- **Vigorous-intensity Activity**
  - Heart will beat much faster than normal and breathing will be much harder than normal
  - On a scale of 0 to 10, a vigorous-intensity activity is 7 or 8

Types of Moderate- and Vigorous-Intensity Aerobic Activities

Type of Physical Activity	Age Group	
	Children	Adolescents
Moderate-intensity aerobic	• Active recreation, such as hiking, skateboarding, rollerblading • Bicycle riding • Brisk walking	• Active recreation, such as canoeing, hiking, skateboarding, rollerblading • Brisk walking • Bicycle riding (stationary or road bike) • Housework and yard work, such as sweeping or pushing a lawn mower • Games that require catching and throwing, such as baseball and softball
Vigorous-intensity aerobic	• Active games involving running and chasing, such as tag • Bicycle riding • Jumping rope • Martial arts, such as karate • Running • Sports such as soccer, ice or field hockey, basketball, swimming, tennis • Cross-country skiing	• Active games involving running and chasing, such as flag football • Bicycle riding • Jumping rope • Martial arts, such as karate • Running • Sports such as soccer, ice or field hockey, basketball, swimming, tennis • Vigorous dancing, cross-country skiing

What are Muscle-Strengthening Activities?

- Activities that make muscles do more work than usual activities of daily life
- Activities that can be part of unstructured play
  - Climbing trees
  - Playing tug-of-war
- Activities that can be structured
  - Push-ups, pull-ups
  - Working with resistance bands
  - Lifting weights

Types of Muscle-Strengthening Activities

Type of Physical Activity	Age Group	
	Children	Adolescents
Muscle-strengthening	• Games such as tug-of-war • Modified push-ups (with knees on the floor) • Resistance exercises using body weight or resistance bands • Rope or tree climbing • Sit-ups (curl-ups or crunches) • Swinging on playground equipment/bars	• Games such as tug-of-war • Push-ups and pull-ups • Resistance exercises with exercise bands, weight machines, hand-held weights • Climbing wall • Sit-ups (curl-ups or crunches)

What Are Bone-Strengthening Activities?

- Activities that produce a force on the bones that promotes bone growth and strength, such as jumping
- Activities that are especially important for young people because the greatest gain in bone mass occur during the years just before and during puberty

Types of Bone-strengthening Activities

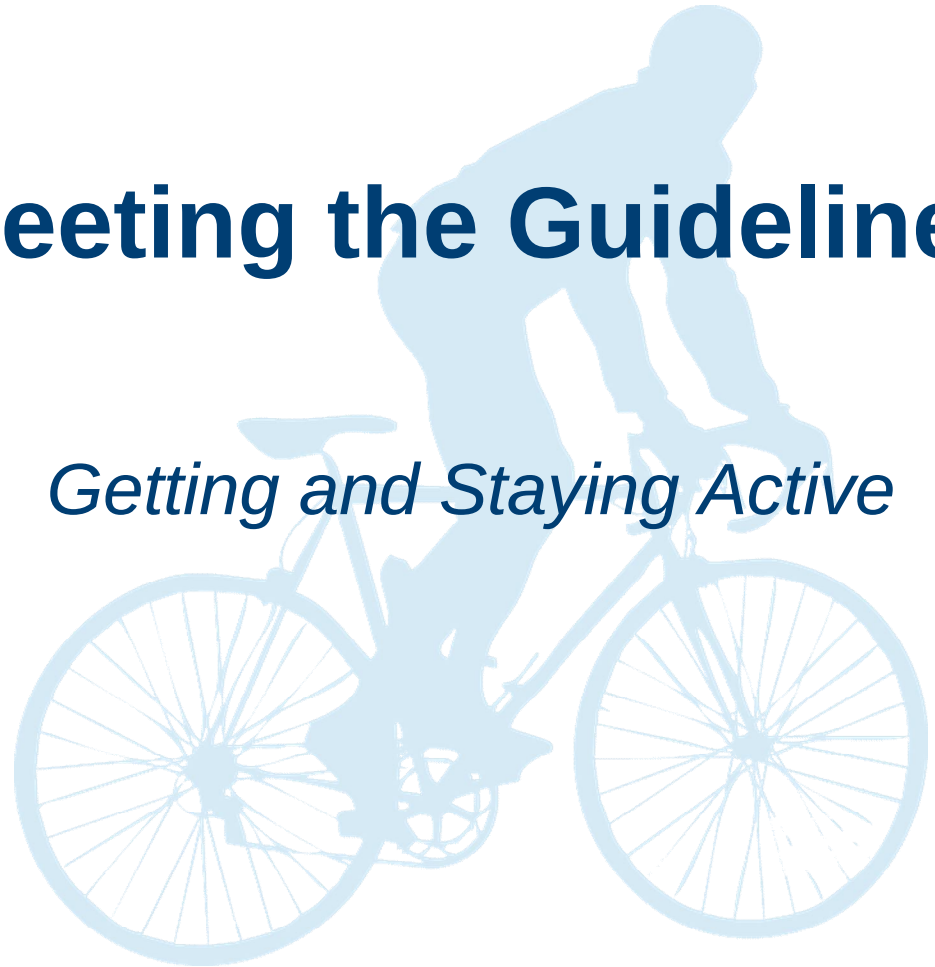
Type of Physical Activity	Age Group	
	Children	Adolescents
Bone-strengthening	• Games such as hopscotch • Hopping, skipping, jumping • Jumping rope • Running • Sports such as gymnastics, basketball, volleyball, tennis	• Hopping, skipping, jumping • Jumping rope • Running • Sports such as gymnastics, basketball, volleyball, tennis

How Are the Guidelines for Youth Different from the Guidelines for Adults?

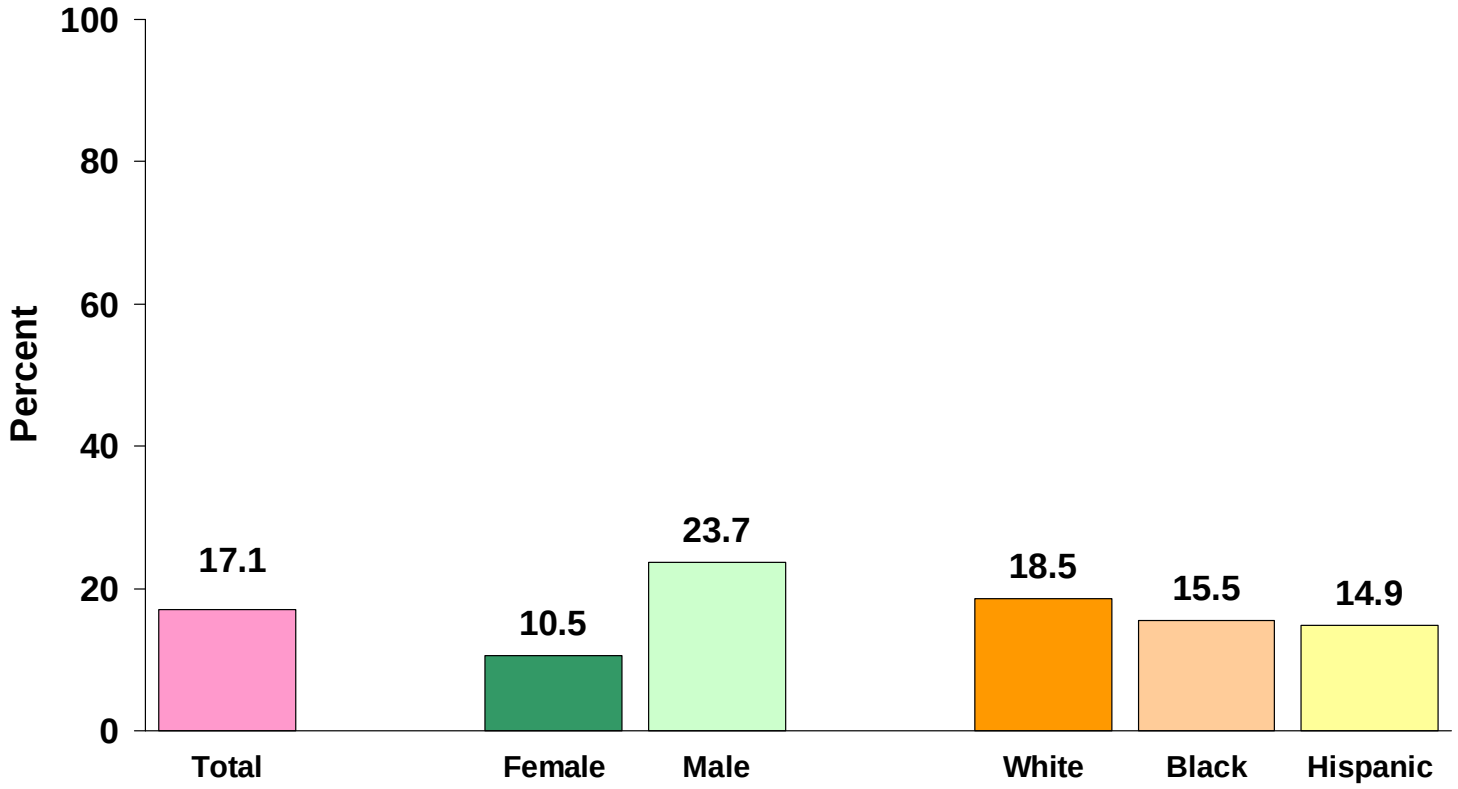
- Take into consideration natural activity patterns of children
  - All episodes of moderate- or vigorous-intensity activities count toward daily requirement
  - Unstructured active play can provide all three types of physical activity
- Daily physical activity required
- Specify need for bone-strengthening activities and vigorous-intensity activities each week

Meeting the Guidelines

Getting and Staying Active



How Physically Active Are High School Students?



* Were physically active doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time for a total of at least 60 minutes/day during the 7 days before the survey.

Source: National Youth Risk Behavior Survey, 2007.

How Much Do 9- to 13- Year-Olds Participate in Physical Activity?

Race/Ethnicity	Organized Activity	Free-Time Activity
Black, non-Hispanic	24%	75%
Hispanic	26%	75%
White, non-Hispanic	47%	79%
Total	39%	77%

Source: MMWR 2003;52(33):785–8.

Meeting the Guidelines

- **Youth Who Don't Meet the Guidelines**
  - Slowly increase activity in small steps
  - Participate in enjoyable activities
- **Youth Who Meet the Guidelines**
  - Continue being active on a daily basis
  - Work toward becoming more active
- **Youth Who Exceed the Guidelines**
  - Maintain activity level
  - Vary the kinds of activities to reduce the risk of injury

A Day in the Life of Colin

- **Walks to and from school (20 minutes)**
- **Jumps rope and does gymnastics in physical education class (10 minutes each).**
- **Plays on the playground during recess (10 minutes)**
- Does homework (20 minutes)
- Watches television (30 minutes)
- **Plays soccer with family (20 minutes)**
- Plays video games (30 minutes)

- **Total physical activity time = 60 minutes**
  - Vigorous-intensity aerobic activity: jumping rope
  - Bone-strengthening activities: jumping rope, gymnastics
  - Muscle-strengthening activities: gymnastics

Colin’s Weekly Physical Activities

Monday	Walks to and from school	20 minutes
	Plays on playground	10 minutes
	Jumps rope	10 minutes
	Does gymnastics	10 minutes
	Plays soccer with family	20 minutes
Tuesday	Walks to and from school	20 minutes
	Plays on playground	25 minutes
	Climbs on playground equipment	15 minutes
Wednesday	Walks to and from school	20 minutes
	Plays actively with friends	25 minutes
	Jumps rope	10 minutes
	Runs	5 minutes
	Does sit ups	2 minutes

Colin’s Weekly Activities, cont.

Thursday	Plays actively with family	30 minutes
	Plays soccer	30 minutes
Friday	Walks to and from school	20 minutes
	Plays actively with friends	25 minutes
	Bicycles	15 minutes
Saturday	Plays on playground	30 minutes
	Climbs on playground equipment	15 minutes
	Bicycles	15 minutes
Sunday	Plays on playground	10 minutes
	Plays soccer	40 minutes
	Plays tag with family	10 minutes

Maria: A 16-Year-Old Adolescent

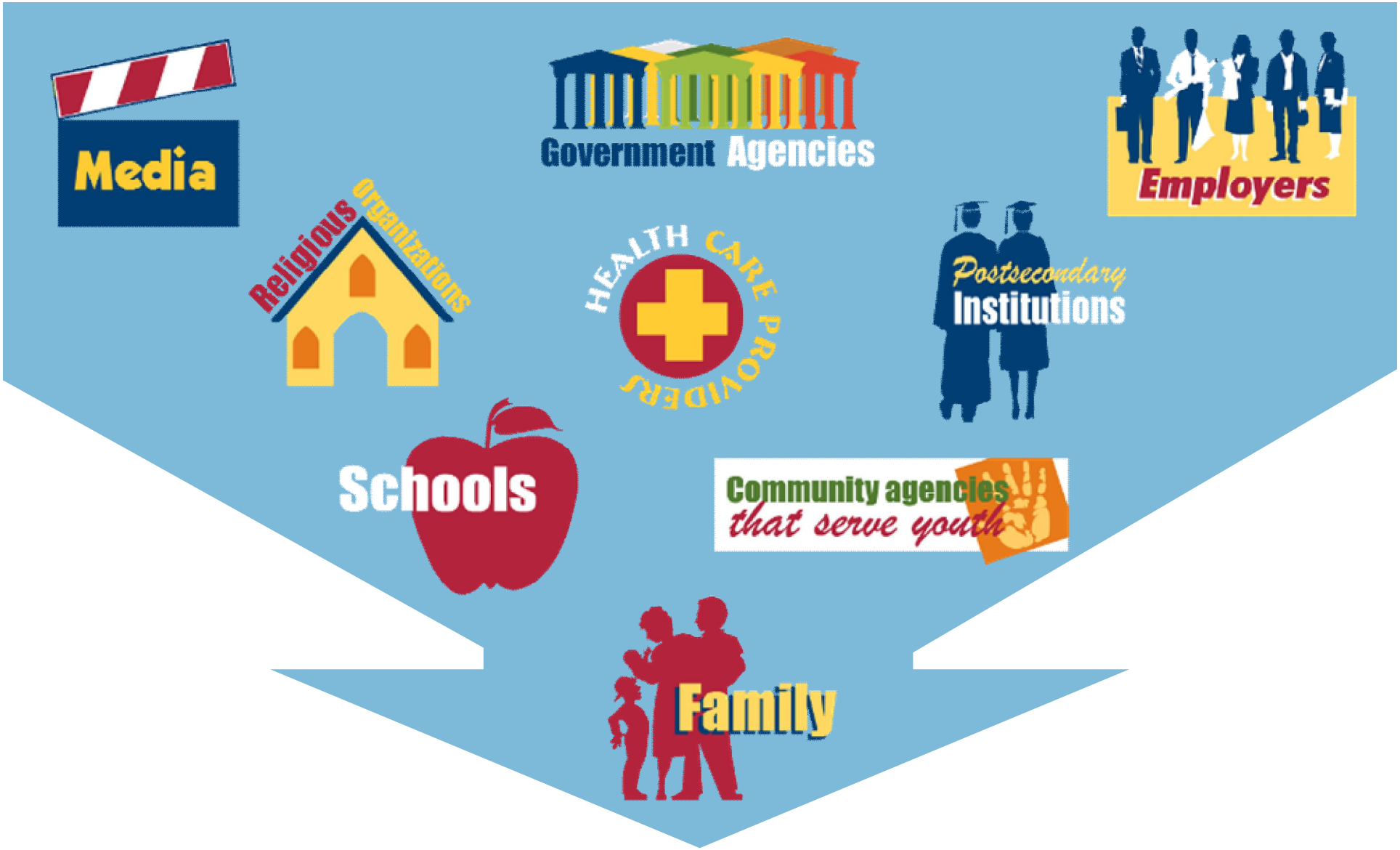
- Maria participates in many types of physical activities in many places
- She plays tennis and does sit-ups and push-ups during physical education class
- She likes to play basketball at the YMCA, do yoga, and go dancing with her friends
- She likes to walk and hike with her dog

A Day in the Life of Maria

- Walks dog (10 minutes)
- Plays tennis (30 minutes)
- Does sit-ups and push-ups (5 minutes)
- Plays with children at the park while babysitting (15 minutes)
- Total physical activity time = 60 minutes
  - Vigorous-intensity aerobic activity: tennis
  - Bone-strengthening activity: tennis
  - Muscle-strengthening activity: sit-ups and push-ups

Barriers to Meeting the Guidelines

- Personal
  - Attitude
  - Belief in ability to be physically active
- Social
  - Influence of their peers
  - Parental support
- Environmental
  - Safe locations to be active
  - Access to equipment
  - Financial costs of physical activities
  - Time



YOUTH PHYSICAL ACTIVITY

Youth Physical Activity

The Role of Schools

Why is Physical Activity Important For Schools?

- Associated with lower levels of stress and anxiety[1]
- Can positively affect concentration, memory, and classroom behavior among adolescents[2]
- Can improve standardized test scores[3]

1. HHS. Physical Activity Guidelines Advisory Committee Report;2008.
2. J Pediatr 2005;146(6)719–20.
3. Res Q Exerc Sport 1999;70(2):127–34.

Physical Education and Academic Achievement[1]

- **Nationally representative sample:** 5,316 students starting kindergarten in 1998–1999, followed through 5th grade
- **Physical education (PE) measure**: Low (0–35 mins/week), Medium (36–69), High (70–300)
- **Academic achievement measure**: Mathematics and reading tests designed by experts
- **Results**: A small but significant benefit on both math and reading tests were observed for girls in the high PE category compared with those in the low PE category; findings not seen in boys

1. Am J Pub Health 2008;98(4):72–7.

Comprehensive School-Based Physical Activity Program[1]

- **Components include:**
  - Quality physical education
  - Daily recess period
  - Activity breaks throughout the day
  - Intramural sports
  - Interscholastic sports
  - Walk- and bike-to-school programs
  - Staff wellness and involvement
  - Family and community participation

1. National Association for Sport and Physical Education. Comprehensive School Physical Activity Programs Package; 2008.

Physical Activity vs. Physical Education[1]

- Physical activity = behavior
- Physical education = curricular area that teaches about physical activity
  - Provides students with the skills needed to participate in a lifetime of physical activity

1. National Association for Sport and Physical Education. Understanding The Difference: Is It Physical Education or Physical Activity?;2005.

What is Quality Physical Education?

- **Opportunity to learn**
  - Adequate time, equipment, and facilities
  - Highly qualified, certified, or licensed teachers
- **Meaningful content**
  - Written standards-based curriculum
  - Sequential, developmentally appropriate learning activities for grades K–12
- **Appropriate instruction**
  - Full inclusion of all students
  - Well-designed lessons that facilitate learning
  - Sufficient practice opportunities for class activities
  - Student assessment

Other Characteristics of Quality Physical Education Programs

- Enjoyable experience for all students
- Meet the needs and interests of all students
- Keep students active for most of class time
  - More than 50% of class time spent in moderate- to vigorous-intensity activity

Policy Recommendation: Schools should require daily PE for students in kindergarten through grade 12[1]

- Elementary school = 150 minutes per week
- Secondary school = 225 minutes per week

1. National Association for Sports and Physical Education. Moving into the Future: National Standards for Physical Education, 2nd ed;2004.

Recess

- Opportunity to participate in free-time physical activity and practice skills learned in physical education classes
- Enhances cooperation and negotiation skills
- Improves attentiveness, concentration, and time-on-task in the classroom

Policy Recommendation: Schools should provide at least 20 minutes of recess per day, in addition to physical education classes[1]

1. National Association for Sport and Physical Education. Recess in Elementary Schools;2006.

Physical Activity Breaks

- Independent of physical education and recess
- Can enhance positive classroom behavior of students
- Incorporates activity in the classroom as part of planned lessons

Physical Activity Break Ideas: Ask students to identify and act out action words from a story through physical activity or take a walk outside as part of a science class

Intramural Sports

- Can be offered before, during, and after school
- Provide students with a choice in activities
- Offer every student an equal opportunity to participate regardless of ability level
- Incorporate lifetime physical activities such as walking, running, hiking, swimming, tennis, dancing, and bicycling

Interscholastic Sports

- Help establish cooperative and competitive skills[1]
- Help students learn sport-specific and performance-based skills
- May be related to higher levels of overall physical activity[2]
- Associated with improved mental health and reduction in some risky health behaviors[3–4]

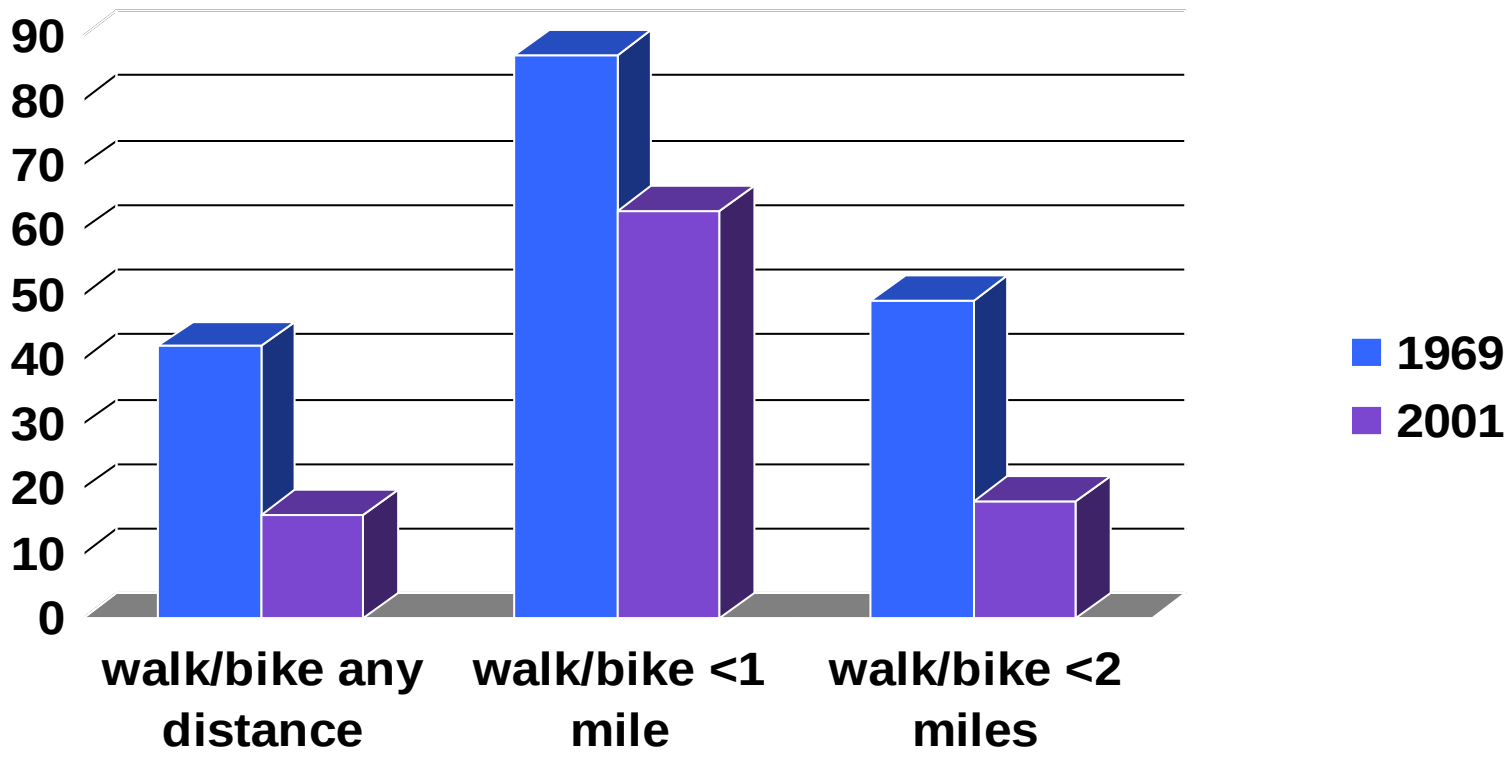
1. National Association for Sports and Physical Education. Eight Domains of Coaching Competencies;2006.
2. Pediatr Exerc Sci 1998;10:378–86.
3. Arch Pediatr Adolesc Med 2000;154:904–11.
4. The President's Council on Physical Fitness and Sports. Research Digest 1997;2:1–12.

Benefits of Active Commuting to School

- Increases physical activity levels[1–3]
- Reduces the number of cars and decreases traffic near schools
- Promotes partnerships among students, parents and community organizations and members

1. Am J Prev Med 2005;29(3):179–84.
2. BMJ 2005;331(7524)1061–2.
3. Med Sci Sports Exerc 2005;37(12):2062–9.

Prevalence of Active Commuting to or from School



Source*:* Am J Prev Med 2007;32(6):509–16.

Walk and Bicycle to School Programs

Activity Recommendation:
Schools should participate in *International Walk to School Week* and support ongoing walk and bike to school programs

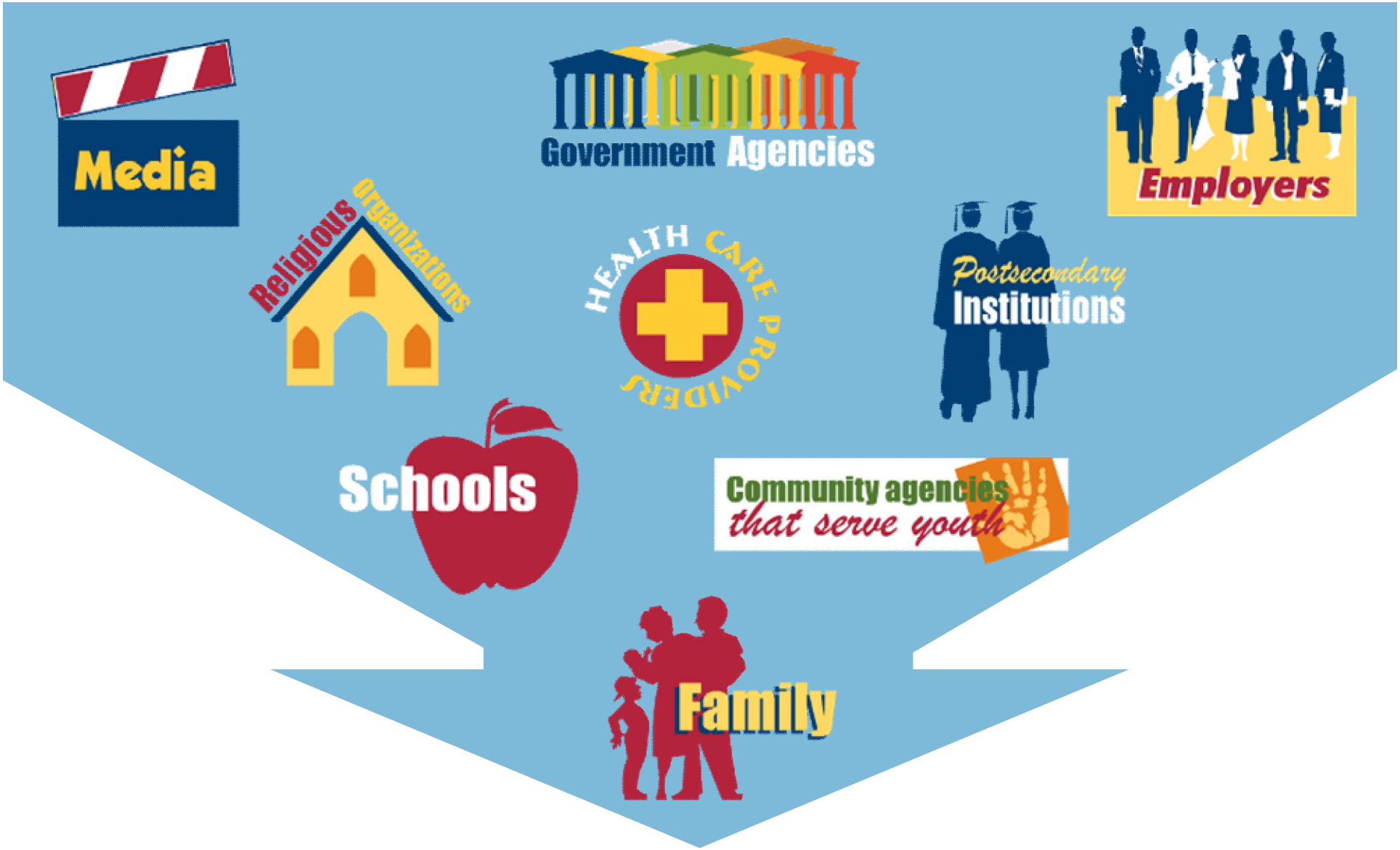
- Resources:
  - *Safe Routes to Schools*
  - *Walking School Bus*
  - *KidsWalk Guide*

Working Together: Joint Use Agreements

- Share resources: athletic fields, playgrounds and fitness facilities with other community members and organizations.
- Open school facilities to provide physical activity programs to students, families, school staff, and community members.
- Seek funding from local businesses, community groups and health organizations for physical activity programs and events

Working Together: Community Involvement In School-Based Physical Activity

- Support school-based physical activity
  - Join the school health advisory council
  - Donate equipment, money or encourage staff to volunteer time
  - Support *Safe Routes to School* programs
  - Offer after-school physical activity programs



YOUTH PHYSICAL ACTIVITY

Thank you!
Questions?

Be Active and Play, 60 minutes, every day!

Information in this presentation is provided by

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Division of Adolescent and School Health
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