



Taking Youth Physical Activity Beyond the School Walls

with guest speaker:

James “Jim” Sallis, PhD
University of California, San Diego

Today's Moderator



Peter Cribb, MEd

National CATCH Director

Michael & Susan Dell Center for Healthy Living
The University of Texas School of Public Health
Austin Regional Campus



Today's webinar will be recorded and
available online at

www.CATCHinfo.org

About our Center



We are an international leader in conducting research and providing programs that promote healthy living for children, their families and communities.

Our mission: To advance health and healthy living for children and families through innovative research, cutting edge community-based programs, and dissemination of evidence-based practices.

Our vision: *Healthy children in a healthy world*

www.msdcenter.org





James “Jim” Sallis, PhD

Distinguished Professor of Family Medicine & Public Health
Chief, Division of Behavioral Medicine
University of California, San Diego

Scientific Advisory Council member

Michael & Susan Dell Center for Healthy Living

Taking Youth Physical Activity Beyond the School Walls

James F. Sallis
UC, San Diego

For UT Austin, CATCH webinar

February 10, 2015

<http://sallis.ucsd.edu>



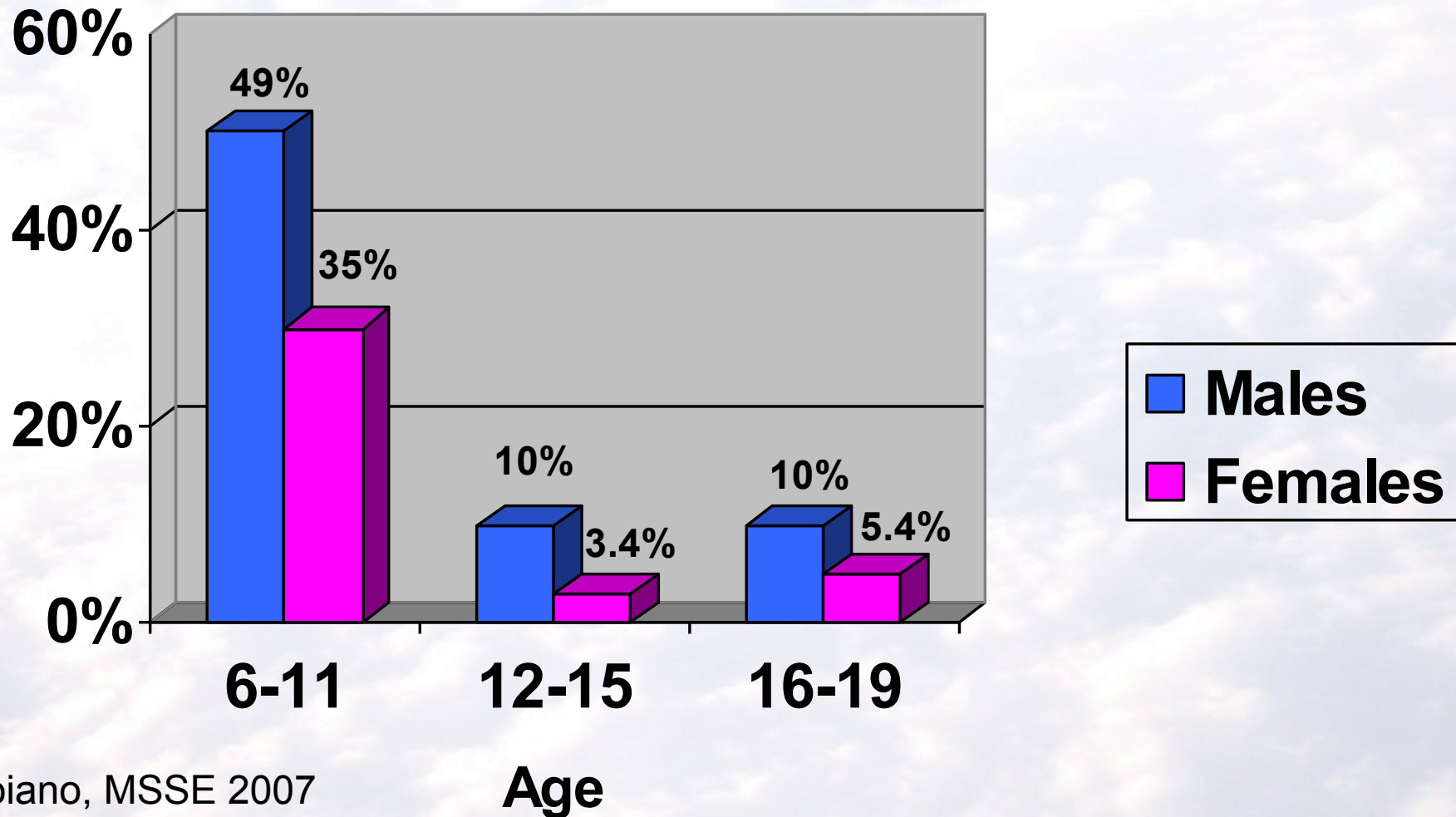
Outline

- Prevalence of youth physical activity
- Community-based strategies to increase physical activity
 - Active commuting
 - Shared use agreements
 - After school programs
 - Youth sports
 - Dance Classes
 - Park design
- Active Living Research Resources



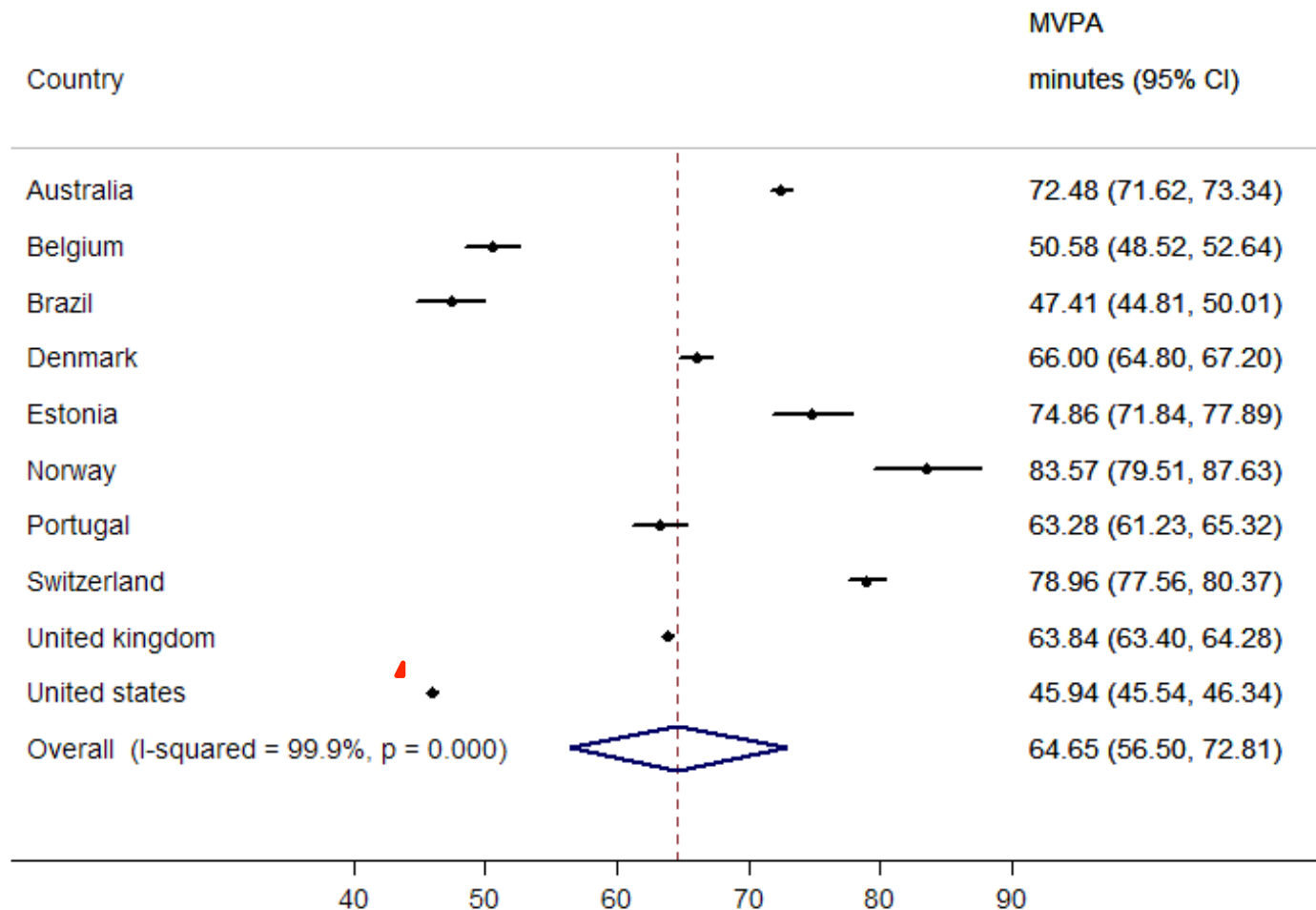
Percentage of youth ages 6-19 meeting 60 min/day physical activity guidelines.

Based on accelerometers. NHANES 2003-4



Accelerometer-based MVPA for Adolescents. From Hallal, Lancet, 2012

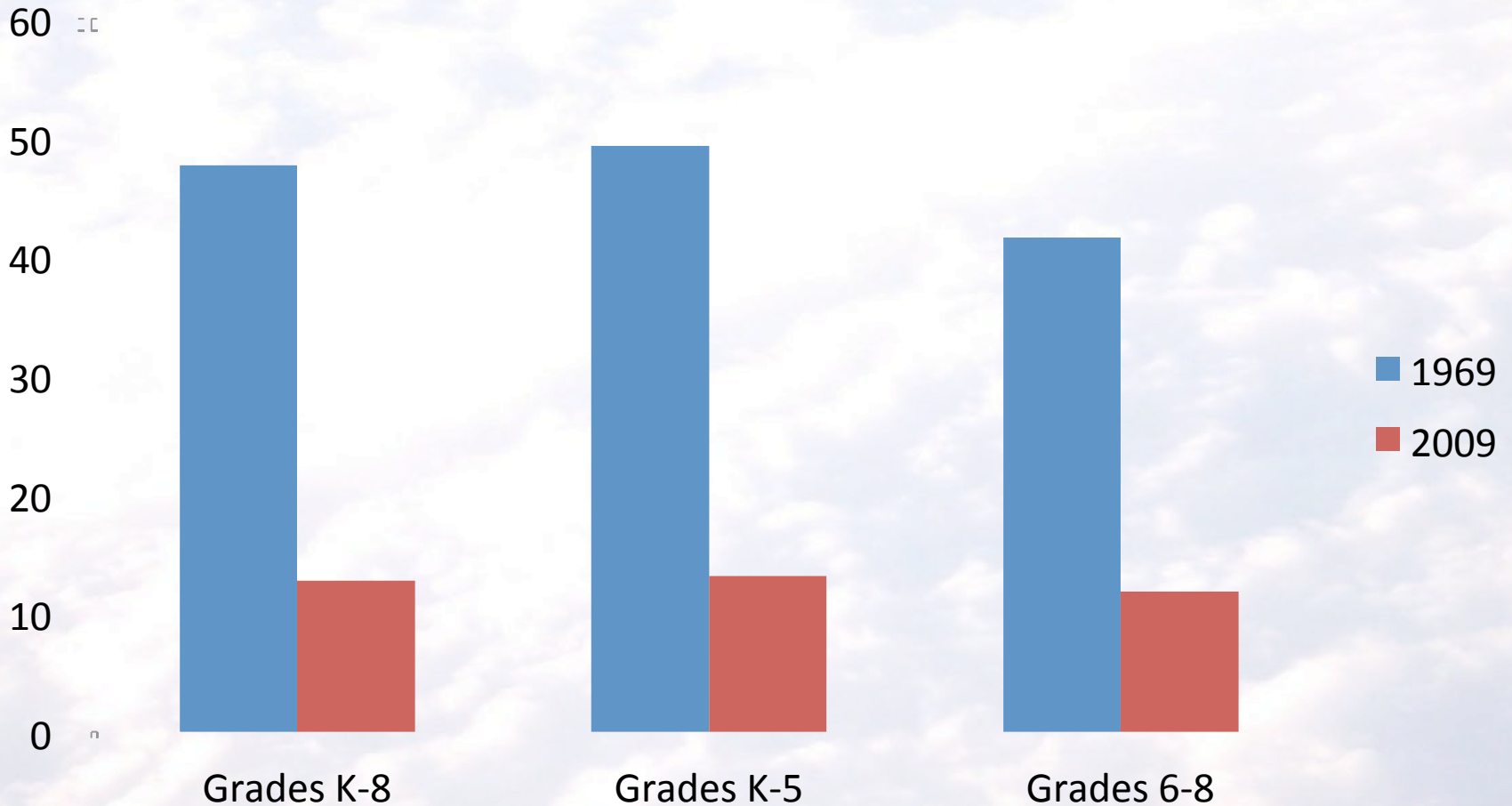
Time Spent in MVPA
adjusted for age, sex





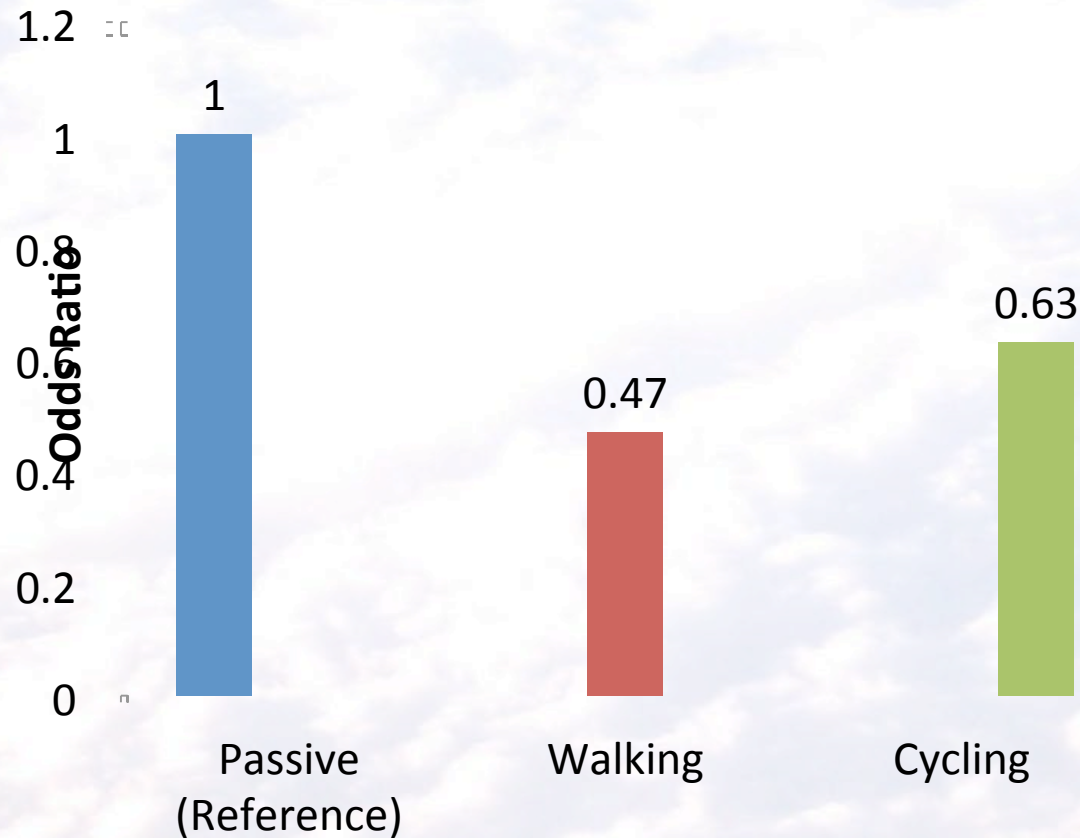
Endangered: Children Walking to School

% of US Children Usually Walking & Biking to School, 1969 & 2009.



Walking and Biking to School Reduces Odds of Being Overweight

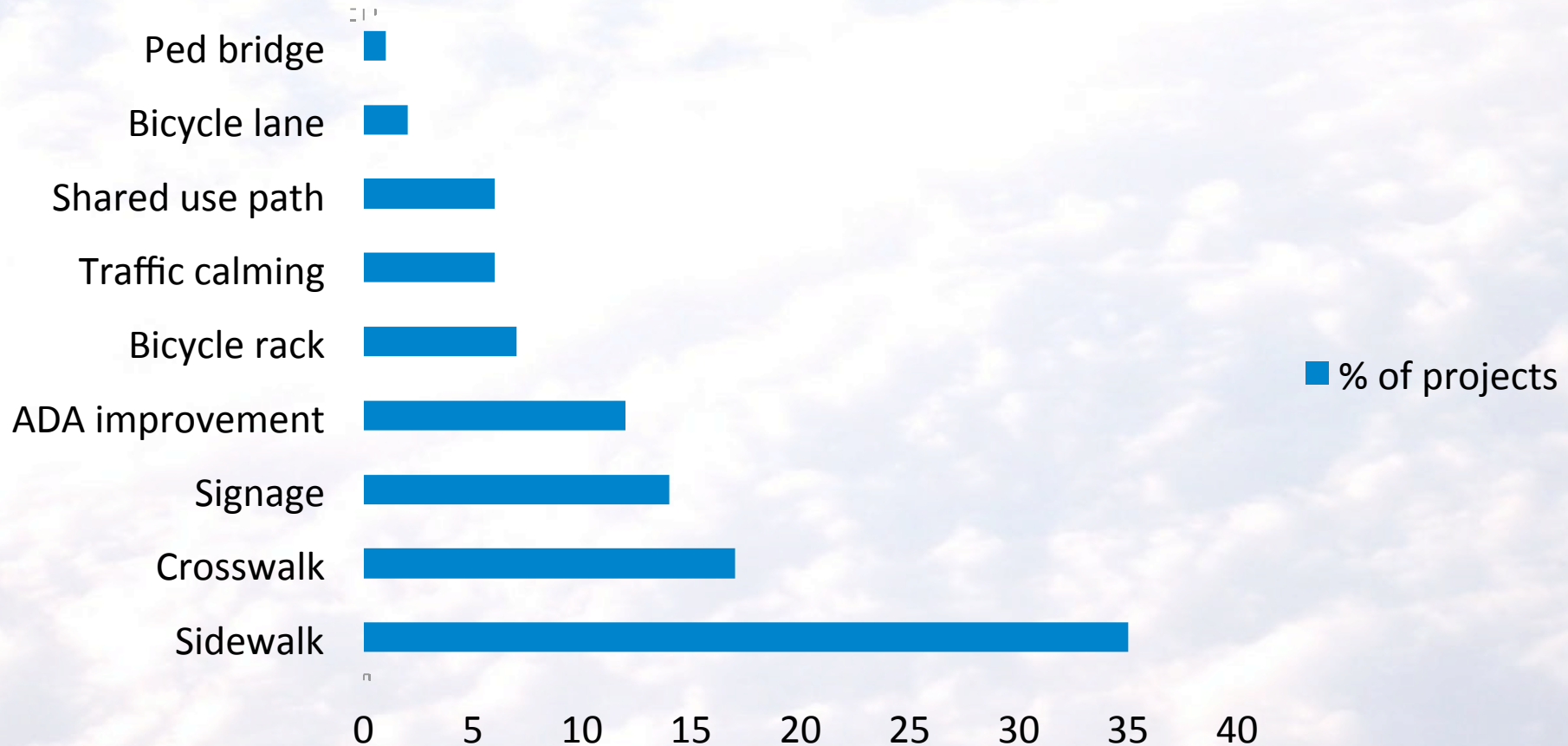
A Danish study found that adolescents (N=3847) who walked or cycled to school were less likely to be overweight than those who rode to school in motor vehicles (passive transport).



Østergaard L. et al. Cycling to School Is Associated With Lower BMI and Lower Odds of Being Overweight or Obese in a Large Population-Based Study of Danish Adolescents. *Journal of Physical Activity and Health* 2012, 9: 617-625.

Evaluation of Federal SRTS Grants: % of SRTS Projects, By Type

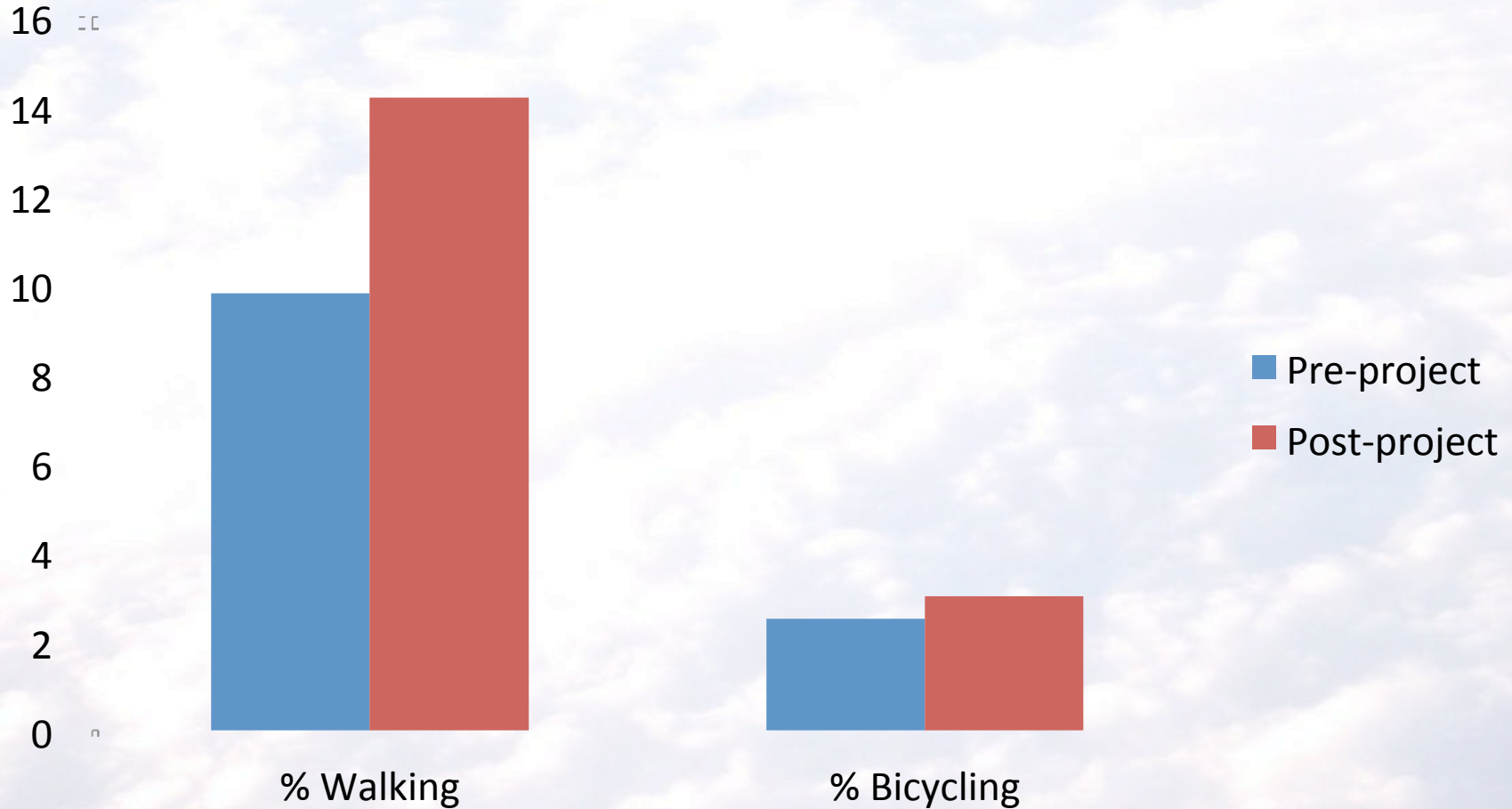
% of projects



Moving Forward: WASH DOT.

<http://www.wsdot.wa.gov/research/reports/fullreports/743.3.pdf>

Walking & Cycling to School Pre & Post SRTS Projects in 5 States



Moving Forward: WASH DOT.

<http://www.wsdot.wa.gov/research/reports/fullreports/743.3.pdf>

McDonald NC, Steiner RL, Lee C, Rhoulac Smith T, Zhu X, Yang Y. Impact of the safe routes to school program on walking and bicycling. *J Am Planning Assoc.* 2014

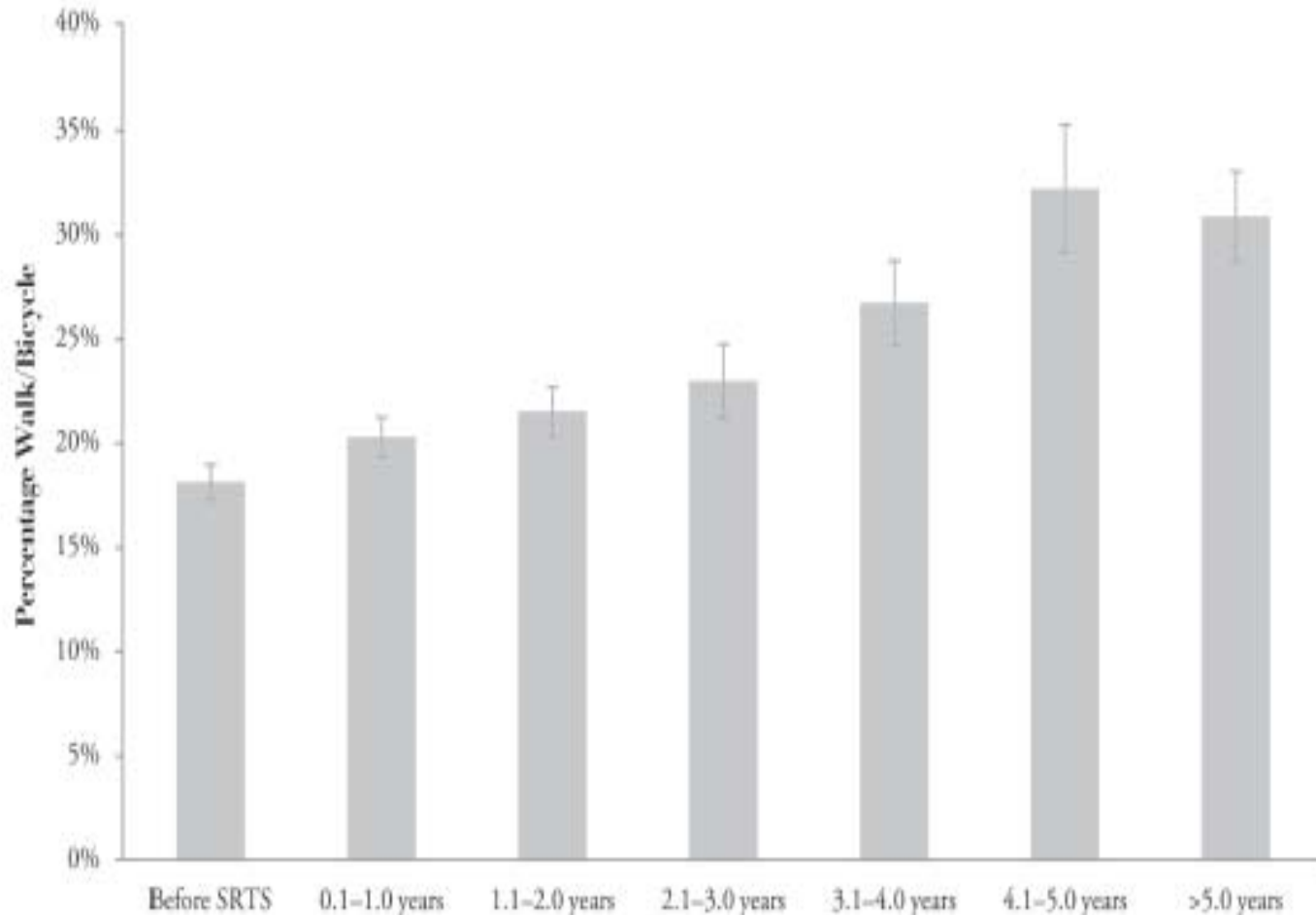
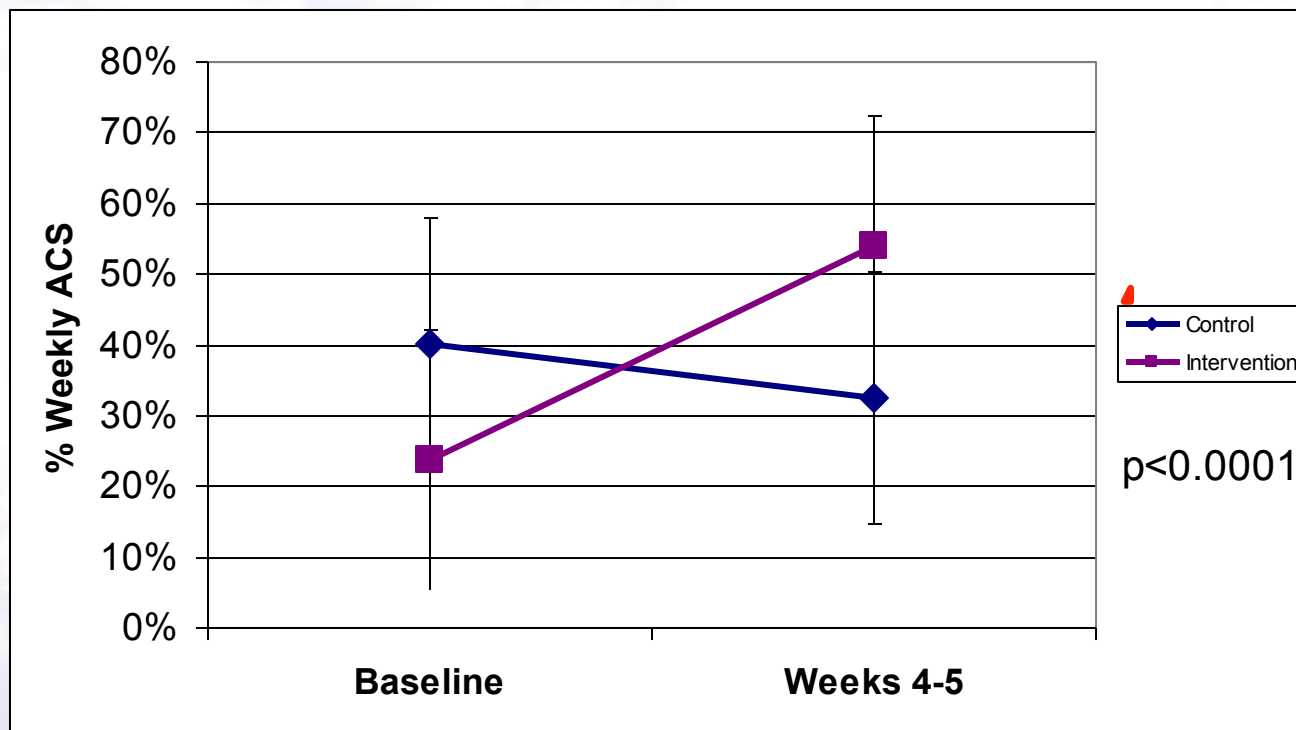


Figure 1. Average rates of walking and bicycling to school by length of participation in Safe Routes to School program.

Effect of Walking School Bus on Active Commuting to School (ACS)

Percent of week using ACS: Intervention vs. Control



Intervention Group ↑ 30%

Control Group ↓ 8%

*controlled for acculturation and parents' outcome expectations

Shared Use Agreements



Youth are more likely to be physically active when they have access to fields and play areas after school.

Shared Use Partnerships

Key Lessons:

1. Build sustainable and trusting relationships
2. You CAN surmount liability concerns
3. Shared use partnerships should address explicit local needs.

JOINT USE SCHOOL PARTNERSHIPS IN CALIFORNIA: STRATEGIES TO ENHANCE SCHOOLS AND COMMUNITIES

A Joint Report from
Center for Cities & Schools (CC&S)
and
Public Health Law and Policy (PHLP)

Tamar Cooper
Jeffrey M. Vincent

August 2008

Center for Cities & Schools
University of California – Berkeley
<http://citiesandschools.berkeley.edu/>



See shared use cost calculator

http://citiesandschools.berkeley.edu/reports/CC&S_PHL_P_2008_shared_use_with_appendices.pdf



Contents lists available at ScienceDirect

Preventive Medicine

journal homepage: www.elsevier.com/locate/ypmed



Joint use policies: Are they related to adolescent behavior?



Sandy Slater ^{a,*}, Jamie Chriqui ^b, Frank J. Chaloupka ^c, Lloyd Johnston ^d

- Surveys of >51,000 8th, 10th, 12 grade students in 461 school districts nationwide
- Joint use policies coded for content
- Presence of shared use policy was not related to reported PA
- Specific policies were weakly related to PA
 - Specify times facilities are available for use
 - Specify which facilities are available for use



Before and after renovation of Denver schoolyards in low-income neighborhoods. Youth increased their PA in renovated schoolyards (Lois Brink)





Active Living Research

Building Evidence to Prevent Childhood Obesity and Support Active Communities
www.activelivingresearch.org

RESEARCH BRIEF | April 2012



Promoting Physical Activity through the Shared Use of School and Community Recreational Resources

INTRODUCTION

Regular physical activity promotes important health benefits and reduces risk for obesity.¹ Providing access to safe, affordable and convenient recreational facilities is a critical strategy for helping children and adults be more active, especially in lower-income communities and communities of color that often lack such facilities.²

Leading public health authorities, including the Centers for Disease Control and Prevention, the U.S. Department of Health and Human Services and the American Academy of Pediatrics, recommend sharing existing school and community recreational facilities to promote opportunities for physical activity.^{3,4} For example, Healthy People 2020 objectives recommend that school recreational facilities be open to the community before, during and after school hours, as well as on weekends, holidays and over the summer.⁵



A national program of the Robert Wood Johnson Foundation, with direction and technical assistance provided by the University of California, San Diego.

Research Brief:

Promoting Physical Activity through the Shared Use of School and Community Recreational Resources

Available at: <http://www.activelivingresearch.org/shareduse>



Policies and Standards for Promoting Physical Activity in After-School Programs

After School Programs

- A comprehensive review⁵ of 13 physical activity interventions conducted across numerous after-school programs found that the amount of time children spent in physical activity during the after-school program increased by as much as 17 percent after the interventions were implemented.
- The effectiveness of programs designed to increase children's physical activity within after-school programs is mixed; some programs have decreased the amount of time children spend in moderate-to-vigorous physical activity and others have shown modest increases.^{13, 14, 22, 23}



Physical Activity during Youth Sports Practices

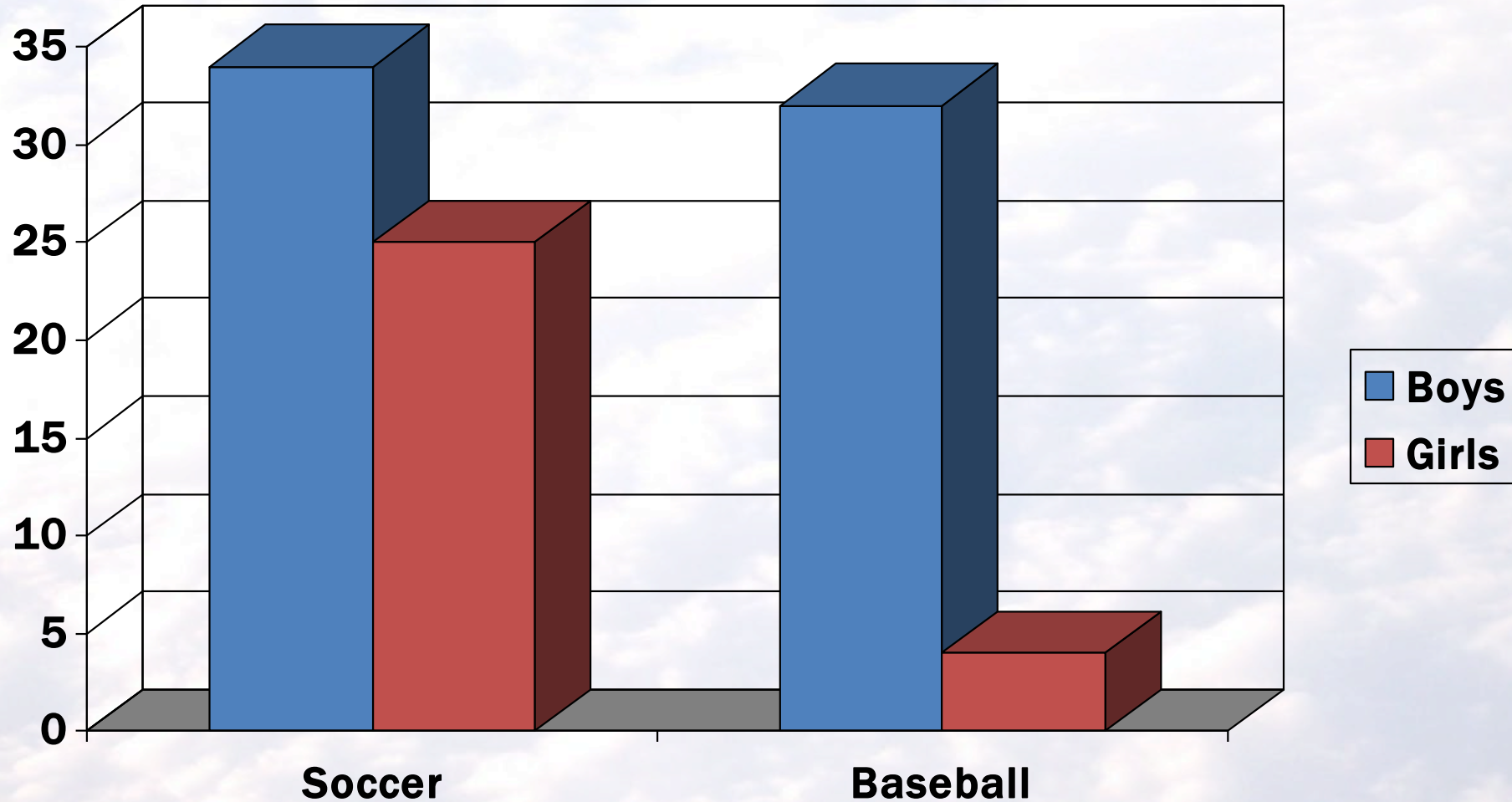
Desiree Leek et al.

Arch Pediatr Adolesc Med. 2011;165(4):294-299.

Background

- Participating in sports is a common way for children to meet these guidelines.
- It is important for parents and practitioners to have an idea as to how much physical activity children are getting during sports.
- In this study, we evaluated minutes and intensity of children's physical activity patterns during soccer and baseball practices.

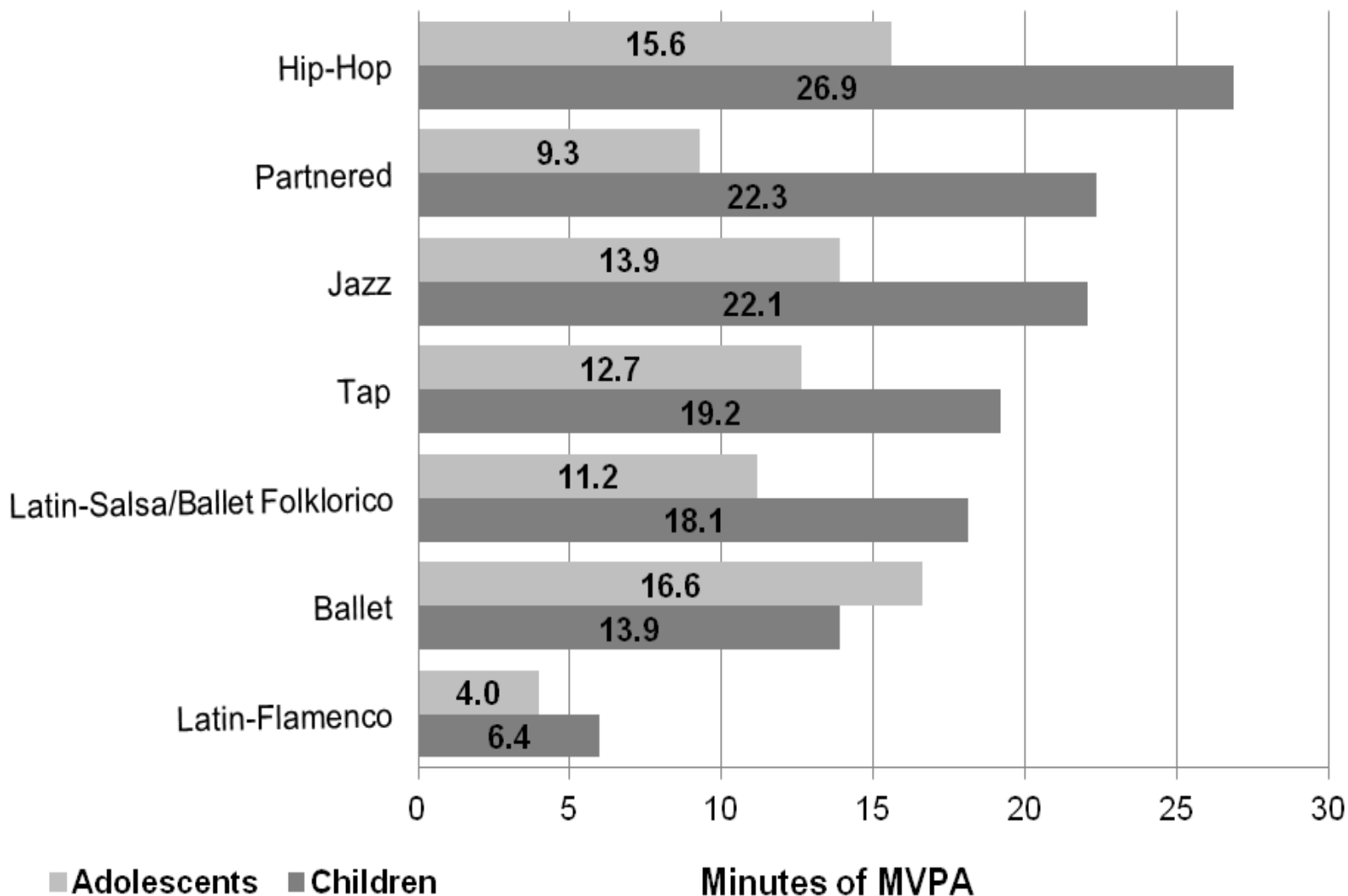
Percent of 8-14 year-olds meeting 60 min/day of MVPA during sports practice



Physical Activity in Youth Dance Classes

- Kelli Cain et al. Revision submitted
- Dance is a popular activity, particularly for girls, but PA in class is seldom studied
- Girls were studied in 7 types of dance classes in 17 private studios and 4 community centers in San Diego
- 264 girls were monitored in 66 classes
 - n=154 children; n=110 adolescents
- average of 17 minutes MVPA (36% of class)

MVPA by Dance Types in Children and Adolescents



Analyses adjusted for student age, race, class length, BMI percentile, instructor MVPA, community vs private, and clustering within dance classes and instructors

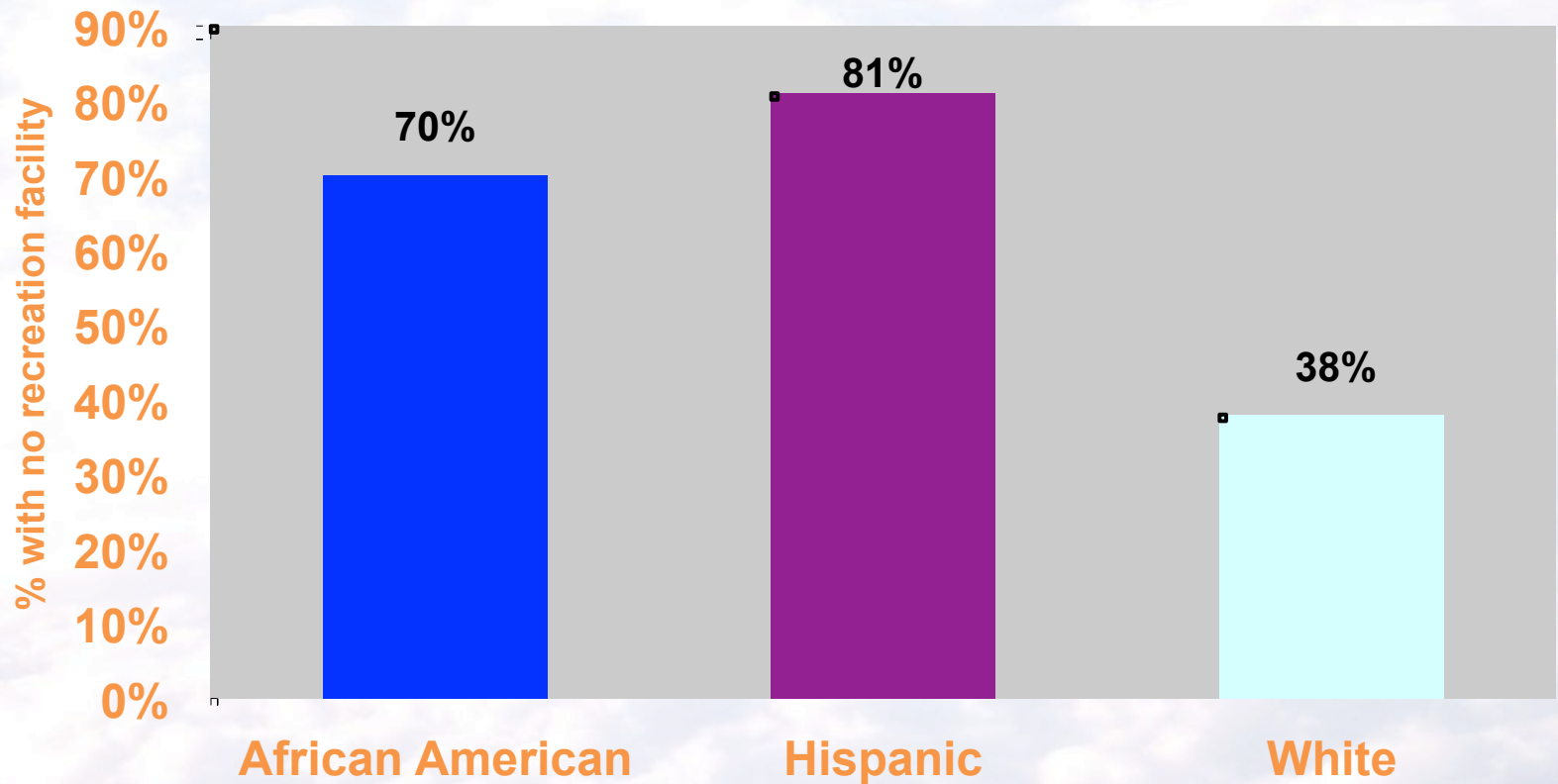
Parks & Youth Physical Activity

Youth who live near parks are more likely to use them and have higher physical activity

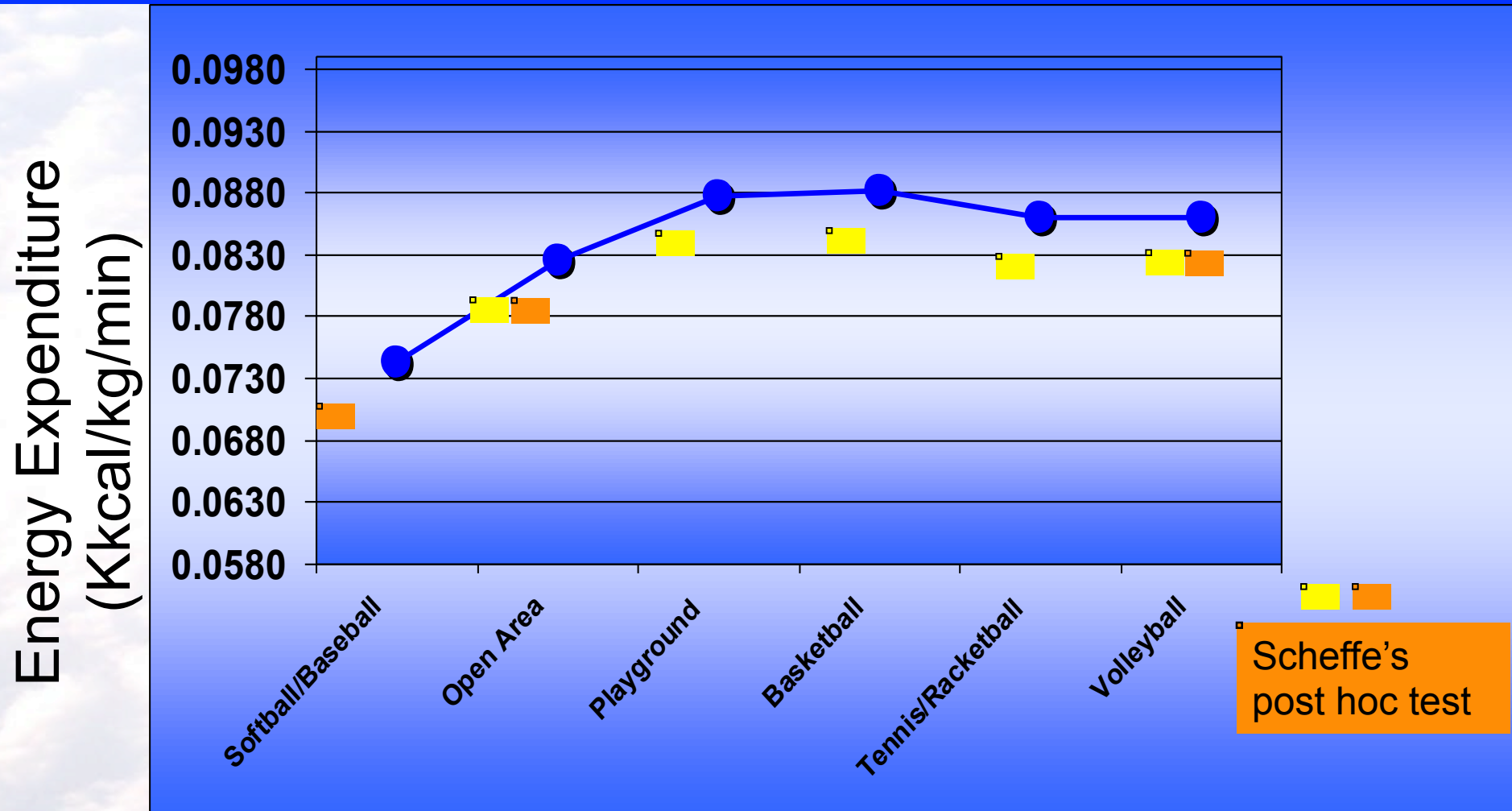


Disparities in Recreational Facilities

(% of census tracts without facilities, by race/ethnicity)



Mean energy expenditure by Park Activity Zones (Chicago): Myron Floyd et al



Chicago, $F = 10.20, p < .001$

Conclusions

- CDC recommendations are for youth to obtain at least 30 min of MVPA during school and 30 min of MVPA outside of the school day
- New evidence that SRTS programs are effective for the 1/3 of students who live close enough
- Much work needed to improve PA in after school programs, including popular options such as youth sports and dance classes
- Emerging evidence on the role of parks in youth PA and how to design parks to be more active
- Effectiveness of shared use policies is unclear
- There are many options for youth PA outside of school, but much work is needed to optimize their effects and ensure equitable access
- Please be an advocate for policies and programs to increase youth PA outside of school, as well as during school

Active Living Research--Briefs & Syntheses

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RESEARCH SYNTHESIS | February 2010

A comprehensive overview of the existing evidence base on a given topic. Find identifier, place, or knowledge gaps, and acknowledge and report for advancing the science.

Parks, Playgrounds and Active Living

Introduction

Regular physical activity increases longevity, well-being, helps children and adults maintain a healthy weight, and can reduce the risk for obesity and its related health consequences. Parks and playgrounds provide a wide variety of opportunities for physical activity and have the potential to help many Americans lead a more active lifestyle.

Across all major U.S. cities, there are approximately 20,000 individual parks and more than 10,000 playgrounds. The total area covered by urban parks in the United States exceeds 1 million acres.¹ And these figures only represent major cities. They are much higher when suburban and rural parks and playgrounds are taken into account. For example, Cleveland Metroparks, a park district in the suburbs of Cleveland, Ohio, operates 21,250 acres and attracts more than 16 million recreational visits and 3.5 million program visits annually.

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The Potential of Safe, Secure and Accessible Playgrounds to Increase Children's Physical Activity

INTRODUCTION

The United States is confronting an epidemic of childhood obesity. During the past four decades, the obesity rate for ages 6 to 11 has more than quadrupled, and it has more than tripled among ages 12 to 19.¹ Currently, more than 23 million young people are overweight or obese.²

There is no single cause underlying this epidemic, and addressing it will require a broad spectrum of approaches to reduce calorie consumption and increase physical activity. The benefits of physical activity for children include decreased risk of obesity and diabetes, improved bone health, better self-esteem and, at least in the short term, improved academic performance.^{3,4} The federal government recommends that every child and adolescent be physically active for at least one hour daily.⁵ To help young people meet this guideline, multiple opportunities for activity must be provided.⁶



A national program of the Robert Wood Johnson Foundation, with advisory and technical assistance provided by the University of California, San Diego.

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The Power of Trails for Promoting Physical Activity in Communities

INTRODUCTION

Promoting physical activity among children and adults is a priority national health objective in the United States.¹ Regular physical activity

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A comprehensive overview of the existing evidence base on a given topic. Find identifier, place, or knowledge gaps, and acknowledge and report for advancing the science.

The Economic Benefits of Open Space, Recreation Facilities and Walkable Community Design

Introduction

Overweight and obesity rates have risen dramatically in the United States since the 1970s,¹ and, during a similar time period, physical activity rates have declined in both children and adults.² Being physically active is more than a personal decision; community design and the availability of open spaces and recreation areas strongly influence how active people are. The Guide to Community Preventive Services created by the Centers for Disease Control and Prevention identifies community designs in which residents can walk or bicycle to nearby destinations (often called compact, walkable or traditionally designed communities) as effective ways of promoting physical activity for adults,^{3,4} and other studies demonstrate similar findings for youth.^{5,6} People living in walkable neighborhoods get about 30–45 more minutes of moderate-to-vigorous physical activity per week, and are substantially less likely to be overweight or obese, than do people of similar socio-economic status living in neighborhoods that are not walkable.^{7–10} Living close to parks and other recreation facilities also is consistently related to higher physical activity levels for both adults¹¹ and youth.¹² One national study found that adolescents with easy access to multiple recreation facilities were both more physically active and less likely to be overweight and obese than were adolescents without access to such facilities.¹³ The Institute of Medicine has stated that improving the walkability of neighborhoods and increasing access to recreation facilities are essential strategies for preventing childhood obesity.¹⁴



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RESEARCH SYNTHESIS | November 2011



Do All Children Have Places to Be Active?

Disparities in Access to Physical Activity Environments in Racial and Ethnic Minority and Lower-Income Communities

INTRODUCTION

Childhood obesity is one of the country's most significant health problems. During the past four decades, the obesity rate for children ages 6 to 11

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RESEARCH BRIEF | April 2012



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Infographic on Schools

THE ROLE OF **Schools** IN PROMOTING PHYSICAL ACTIVITY

RECESS

Students who get at least

20 minutes of
recess per day

have a lower body mass index
percentile than their peers.



P.E.
In states with P.E.
requirements, high
school girls were active

37
more minutes
per week.



SAFE ROUTES TO SCHOOL
Students who walked
to school every day had

24
more minutes of
physical activity
per day.



ACHIEVEMENT
Teens who were
active in school were

20%
more likely to
earn an "A" in
math or English.



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Sources: RECESS: Fernandes M and Sturm R. "The Role of School Physical Activity Programs in Child Body Mass Trajectory" Journal of Physical Activity and Health, 8(2): 174-181, February 2011. PE: Cawley J, Meyerhoefer C and Neuhouse D. The correlation of youth physical activity with state policies. Contemporary Economic Policy, 16(12):1287-1301, 2007. ACHIEVEMENT: Nelson MC and Gordon-Larsen P. "Physical Activity and Sedentary Behavior Patterns Are Associated With Selected Adolescent Health Risk Behaviors." Pediatrics, 117(4): 1281-1290, April 2006. SAFE ROUTES TO SCHOOL: Sirard JR, Riner WF, McIver KL and Pate RR. "Physical Activity and Active Commuting to Elementary School." Medicine and Science in Sports and Exercise, 37(12): 2062-2069, 2005.

New "Active Education" Research Brief & Infographic

Lead author: Darla Castelli



Promoting active



RESEARCH BRIEF

Active Education: Growing Evidence on Physical Activity and Academic Performance

active kids learn better

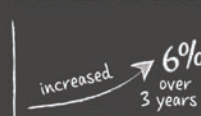
physical activity at school is a win-win for students and teachers



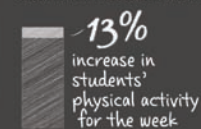
GRADES:



STANDARDIZED TEST SCORES:

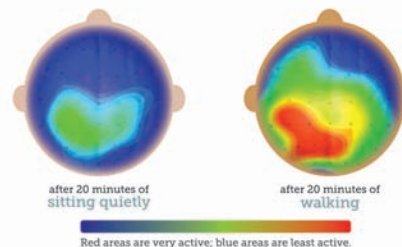


JUST ONE PHYSICALLY ACTIVE LESSON CREATES:



physically active kids have more active brains

BRAIN SCANS OF STUDENTS TAKING A TEST:



MORE RESULTS:

after 20 minutes of physical activity: students tested better in reading, spelling & math and were more likely to read above their grade level

after being in a physically active afterschool program for 9 months: memory tasks improved 16%

SOURCES: Donnelly J.E. and Lambourne K. (2011). Classroom-based physical activity, cognition, and academic achievement. *Prev Med.* 52(Suppl 1):S36-S42. Hillman C.H., et al. (2009). The effect of acute treadmill walking on cognitive control and academic achievement in preadolescent children. *Neuroscience.* 159(3):1044-1054. Kramko K., et al. (2011). The effects of an afterschool physical activity program on working memory in preadolescent children. *Dev Sci.* 14(5):1046-1058. Kibbe D.L., et al. (2011). Ten years of TAKE 10: integrating physical activity with academic concepts in elementary school classrooms. *Prev Med.* 52(Suppl 1):S43-S50. Nelson M.C. and Gordon-Larsen P. (2006). Physical activity and sedentary behavior patterns are associated with selected adolescent health risk behaviors. *Pediatrics.* 117(4): 1281-1290.

Learn more about why active kids learn better and how schools can help at activelivingresearch.org/activeeducationbrief.

Thank You!



Peter Cribb, MEd

National CATCH Director

Michael & Susan Dell Center for Healthy Living

The University of Texas School of Public Health

email: Peter.W.Cribb@uth.tmc.edu

phone: (512) 482-6167

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