

Contributions of Public Parks to Physical Activity and Health: Recent Findings and Research Needs

Myron F. Floyd, PhD
NC State University
Department of Parks,
Recreation, and Tourism
Management



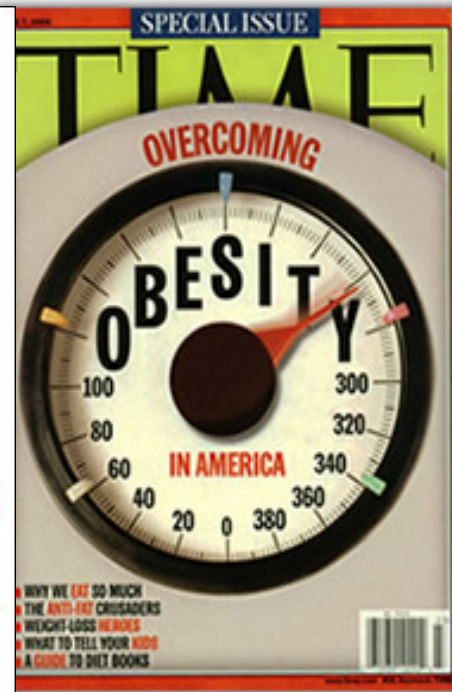
Quarterly Meeting
Consortium to Lower Obesity in Chicago
Children

June 15, 2010

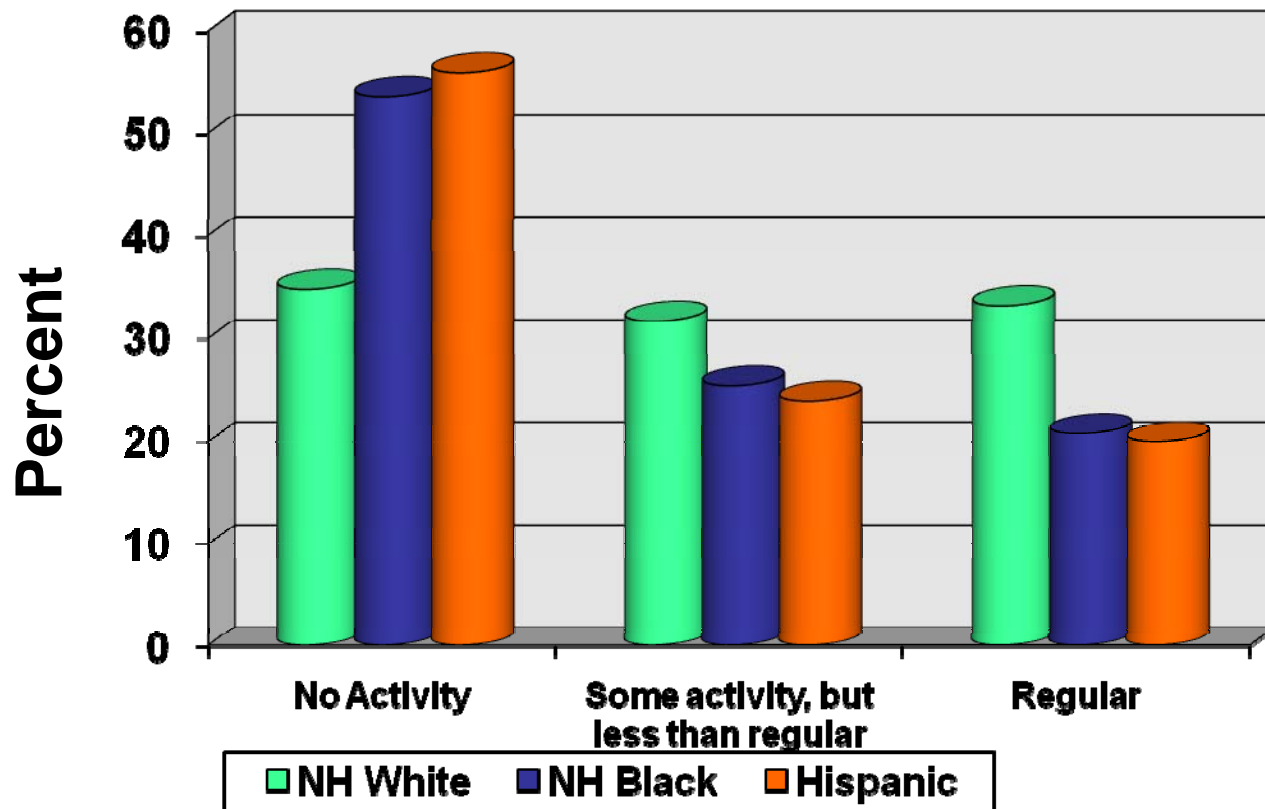
Aims of the Presentation

- **Highlight recent research evidence related to park-based physical activity in low income and minority communities;**
- **Review evidence on disparities in availability of parks and recreation facilities;**
- **Highlight research needs related to park-based physical activity for low income and minority communities.**

2/3 of US adults and
1/3 of children are
overweight or obese



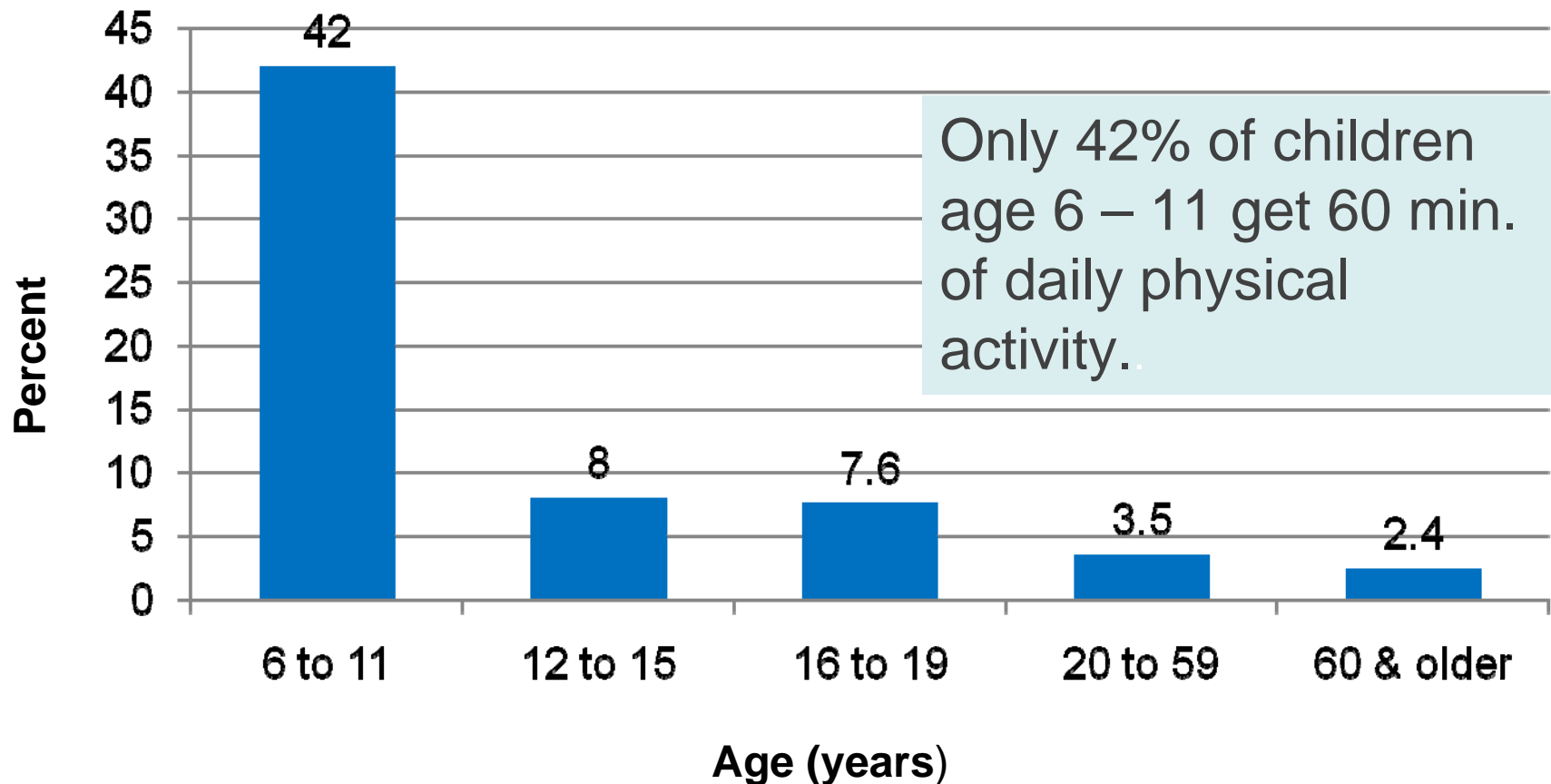
Part of the problem: *Most Americans are not active in their leisure time and this varies by ethnicity.*



Barnes, P. Physical activity among adults, United States, 2000-2005

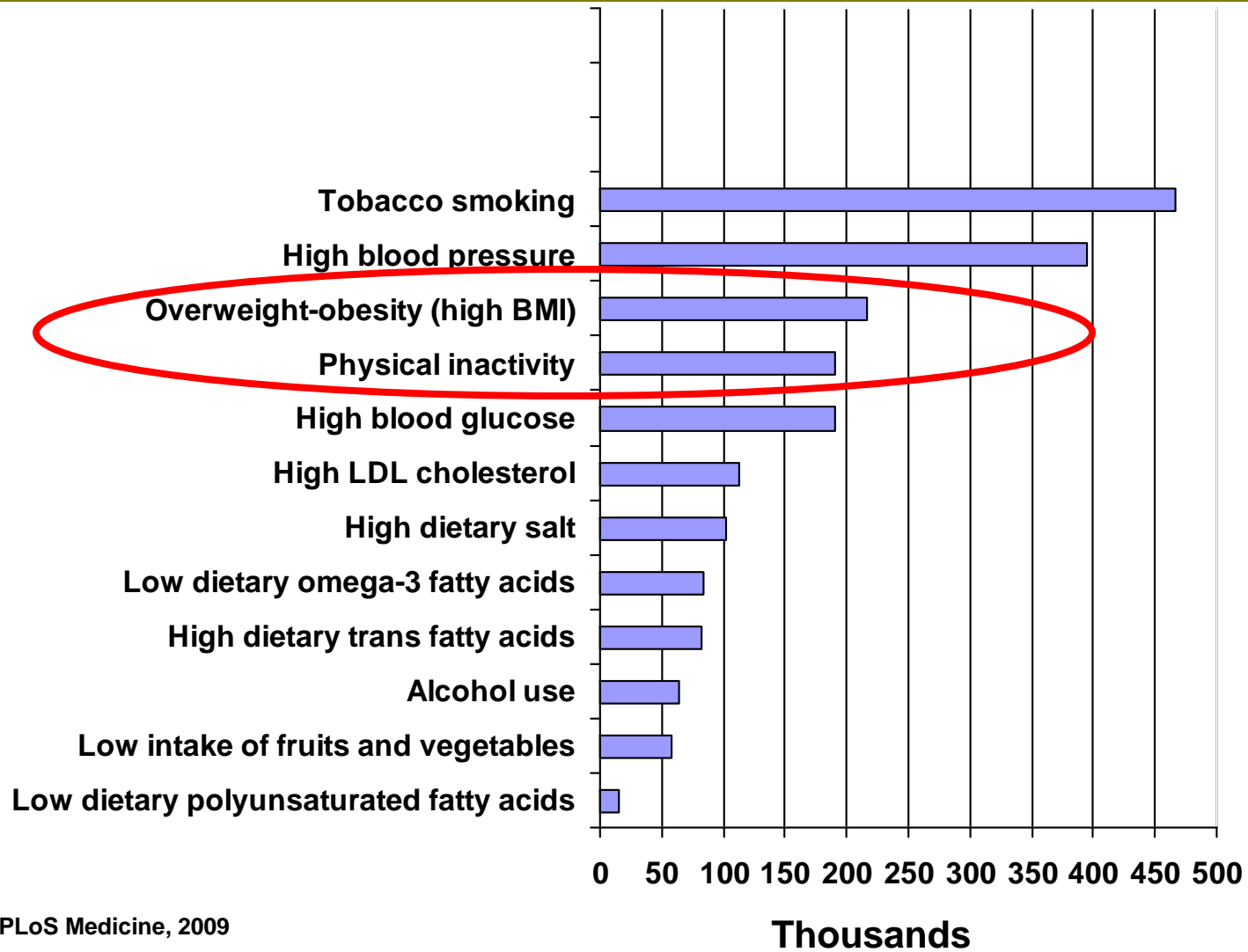
Retrieved February 19, 2007. <http://www.cdc.gov/nchs/products/pubs/pubd/hestats/physicalactivity/physicalactivity.htm>

The problem may be worse...objective measures (accelerometers) show a larger problem.



Troiano, R.P. et al. (2007). Physical activity in the United States measured by accelerometer. *Medicine & Science in Sport & Exercise*, 40, 181-188.

Close to 200,000 annual deaths can be attributed to inactivity.



Are public parks part of the “inactivity-obesity” solution?

- Parks exist at all levels of government and in special park districts (Godbey et al., 2005).
- 20,000 parks in the US; and 10,000+ playgrounds (Mowen, 2010).
- 75% of American households are within 2 miles of a park system (Mowen & Kaczynski, 2008).



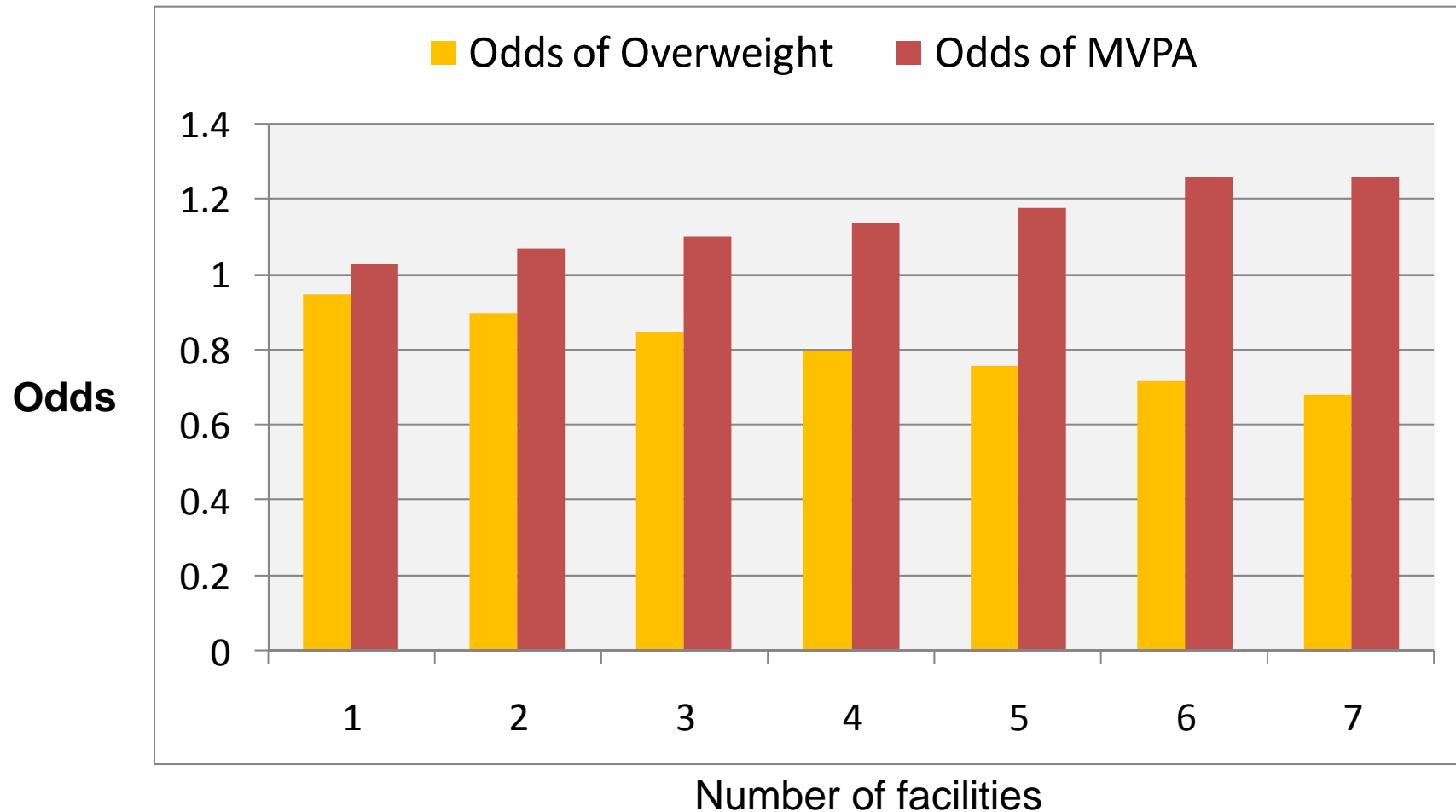
Parks and recreation areas increase opportunities for physical activity.

- **Girls living within 1-mile radius of parks get 35 more minutes of MVPA than girls farther away.**
- **Community and neighborhood parks were associated with 24 additional min.**

Cohen, D.A. et al. (2006). Public parks and physical activity among adolescent girls. *Pediatrics*, 118(5): 1381-1389.



Availability of recreation facilities is associated with MVPA and weight status.



Gordon-Larsen, P. et al. (2006). Inequality in the built environment underlies Key health disparities in physical activity and obesity. *Pediatrics*, 117(2), 417-424.

http://www.activelivingresearch.org/files/Synthesis_Mowen_Feb2010.pdf



29 studies reviewed
(Mowen, 2010)

Active Living Research

Building Evidence to Prevent Childhood Obesity
and Support Active Communities

activelivingresearch.org

RESEARCH SYNTHESIS | *February 2010*

A detailed summary of the existing evidence base on a given topic that identifies gaps in the knowledge and steps 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

Key Findings

1. The majority of Americans use local parks.

Active Living Research

2. Proximity is related to park use and activity.

Prevent Childhood Obesity
and Support Active Communities

3. More parks and park area is related to park use.

activelivingresearch.org

4. **Disparities limit opportunities for physical activity.**

A detailed summary
of the existing evidence
base on
that identifies gaps
in the knowledge and
steps for advancing
the science

5. Trails, playgrounds, and sport facilities increase activity.

Parks, Playgrounds and
Active Living

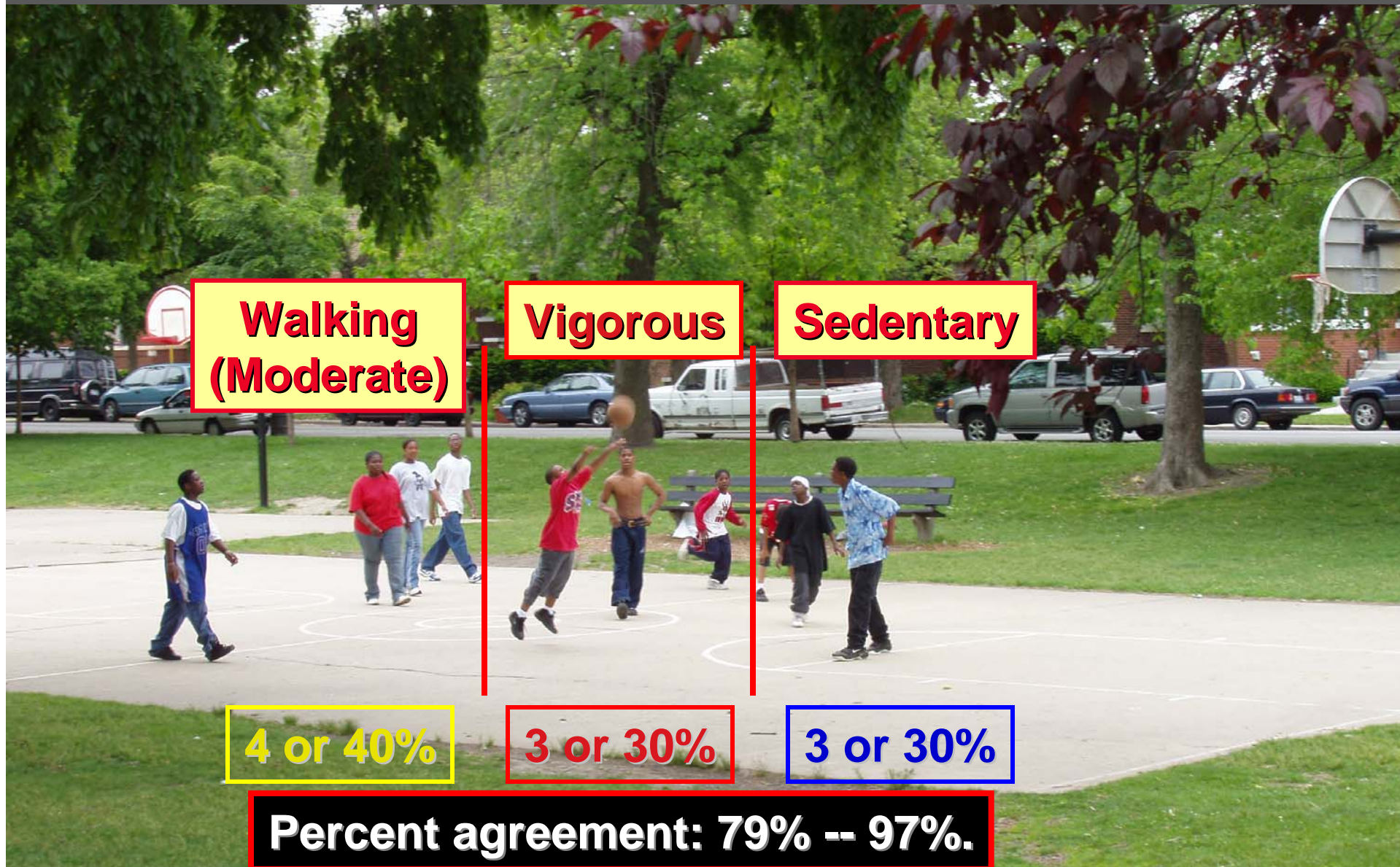
6. Aesthetic, condition, and safety are related to use.

7. Organized programs may increase activity.

8. Renovations can increase facilities use and vigorous activity.

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

Systematic Observations in 18 Chicago Parks: May – June, 2005






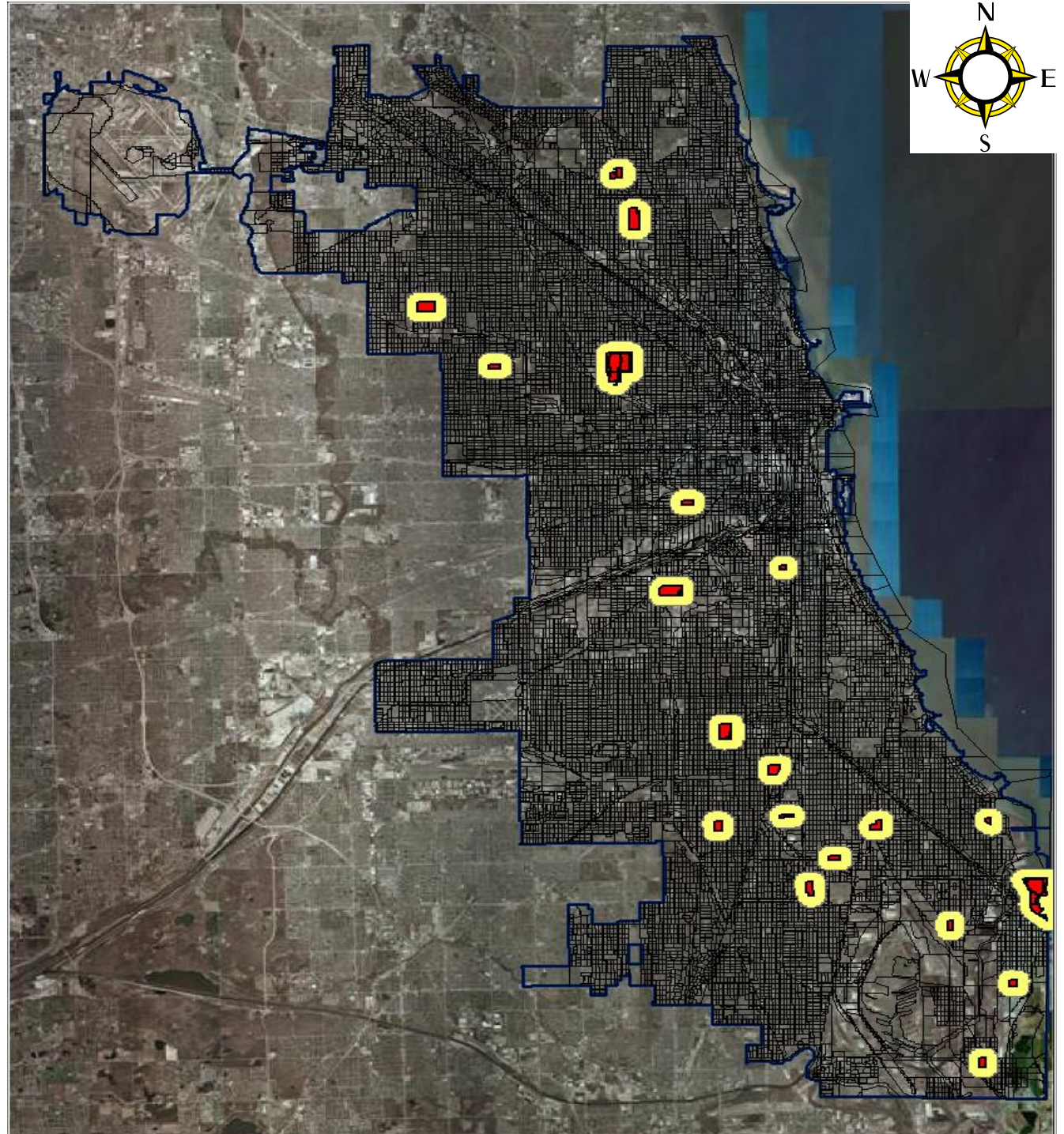
Study Parks Selection

% race/ethnic composition of census tracts:

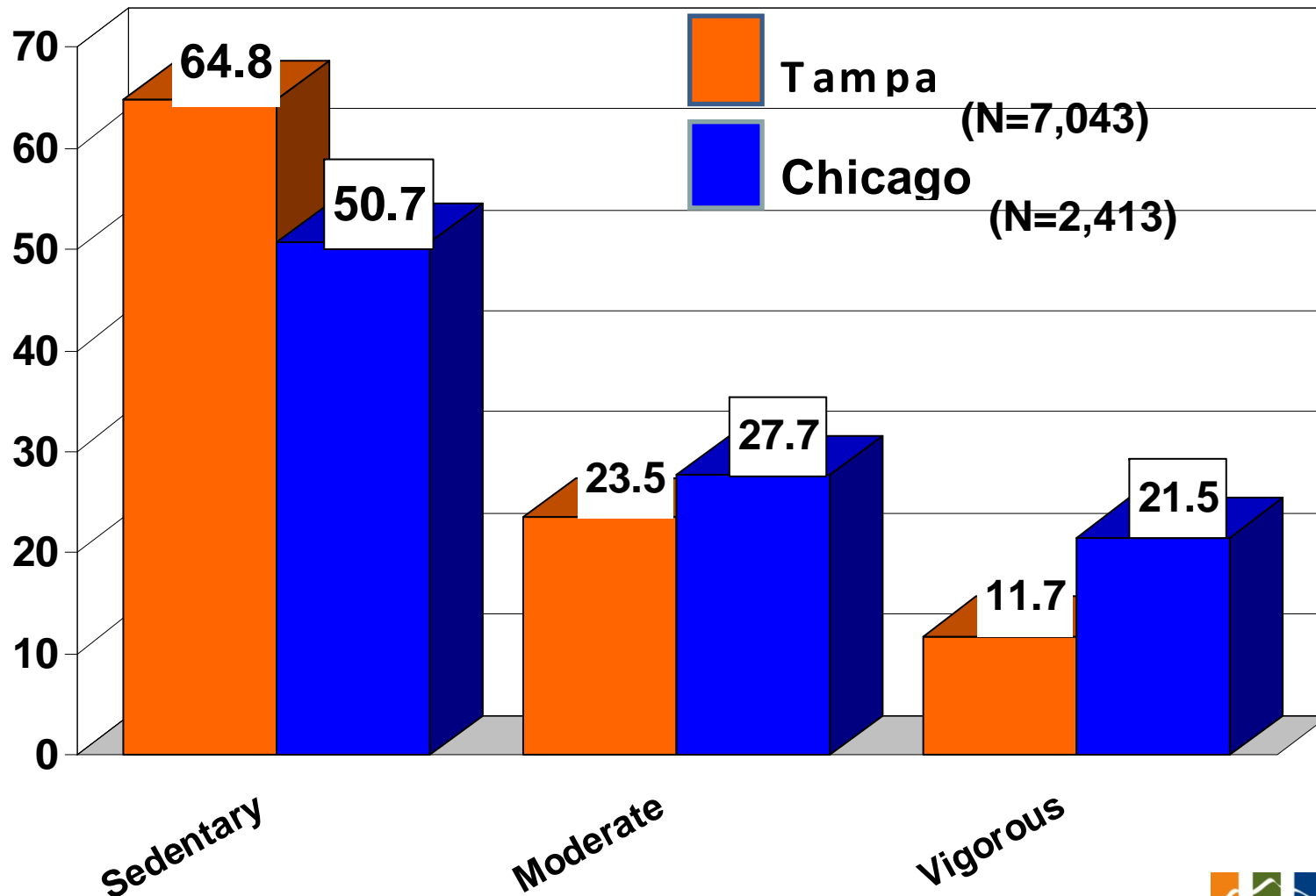
Black: 60 – 99
White: 53 – 84
Hispanic: 70 – 93

Legend

-  Census Block
-  Buffer
-  Selected Parks

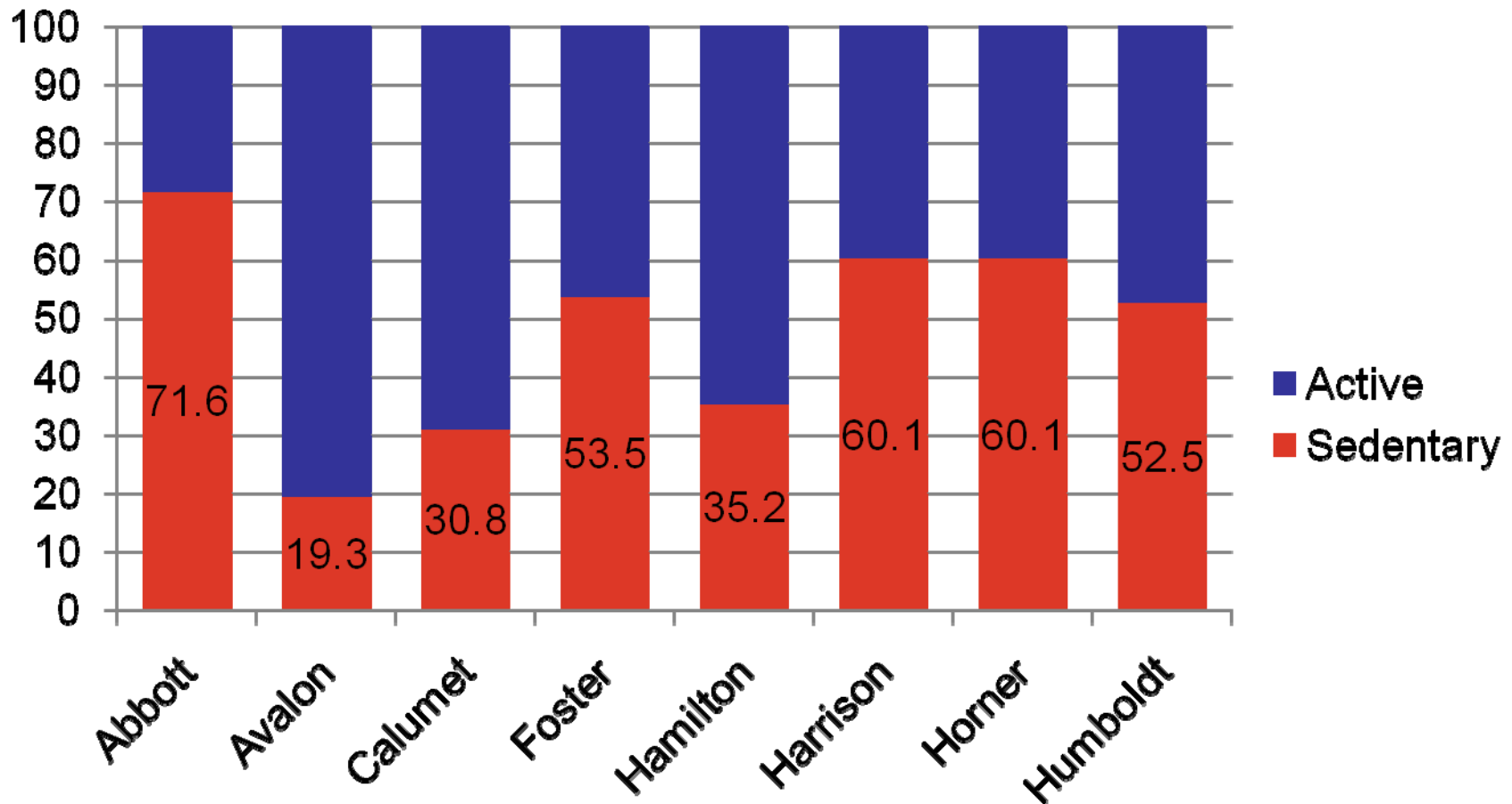


Levels of Physical Activity in Tampa and Chicago Parks

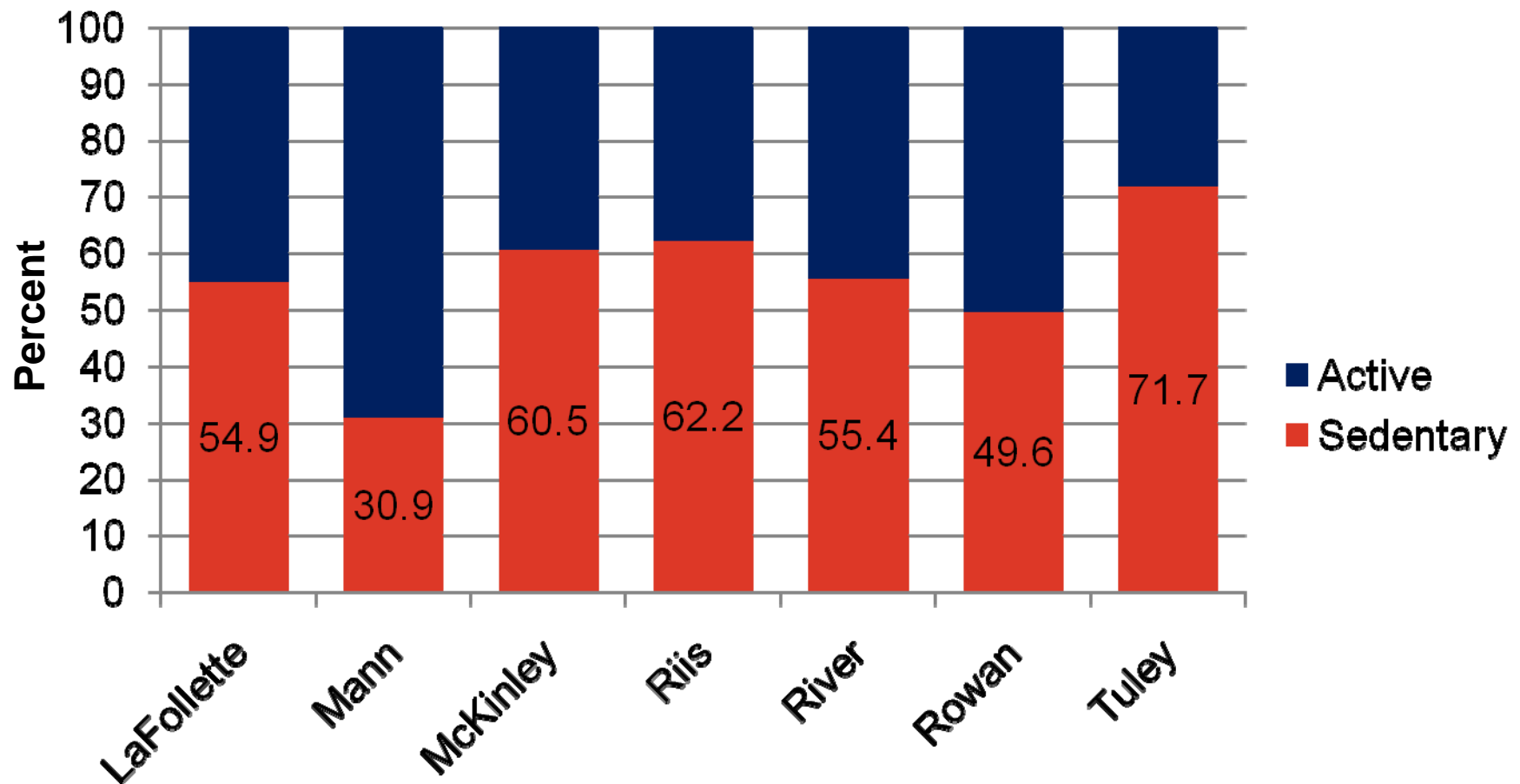


Floyd, M.F. et al.(2008). Park-based physical activity in diverse communities of two US cities: An observational study. *American Journal of Preventive Medicine*, 34, 299-305.

Levels of Physical Activity by Park

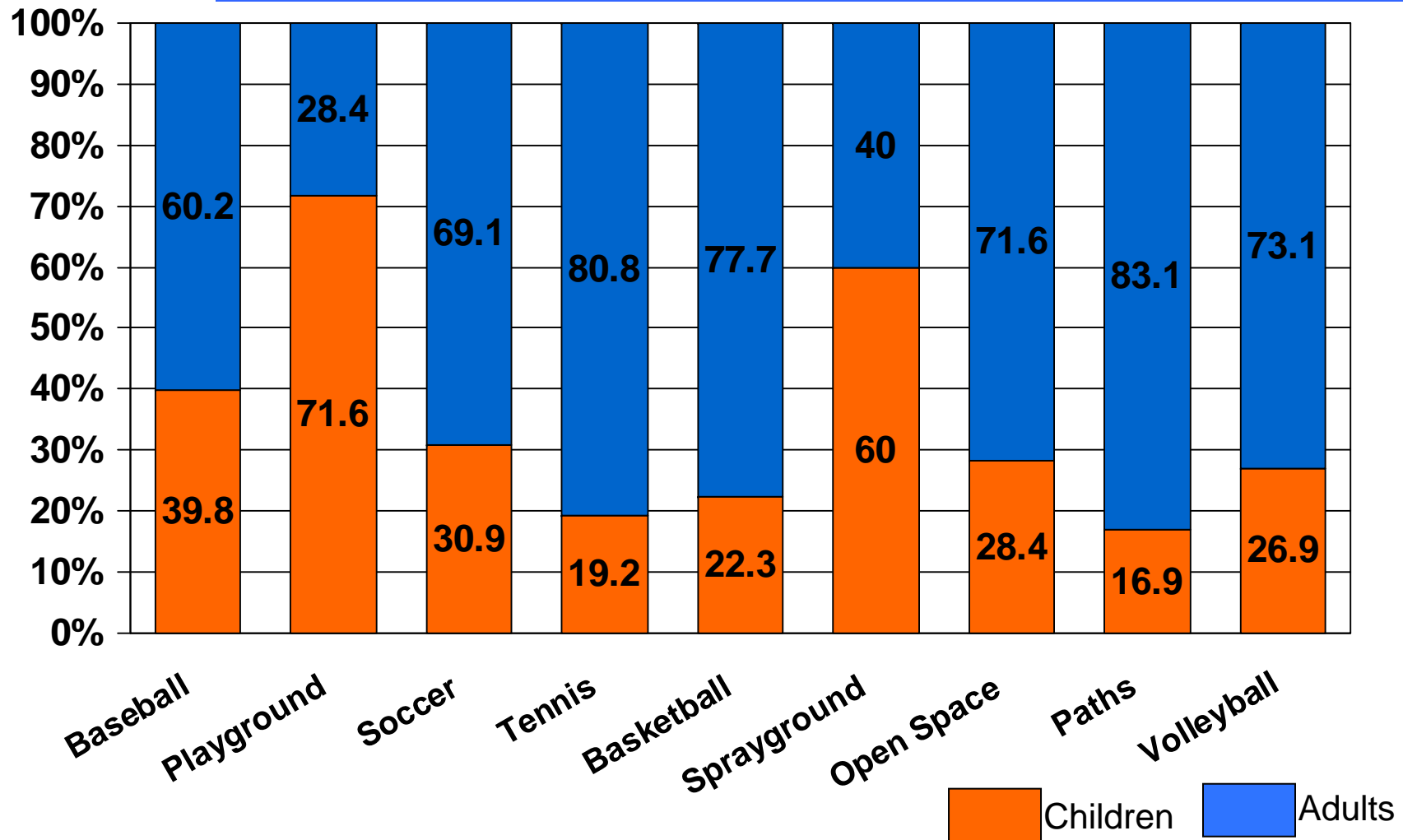


Levels of Physical Activity by Park

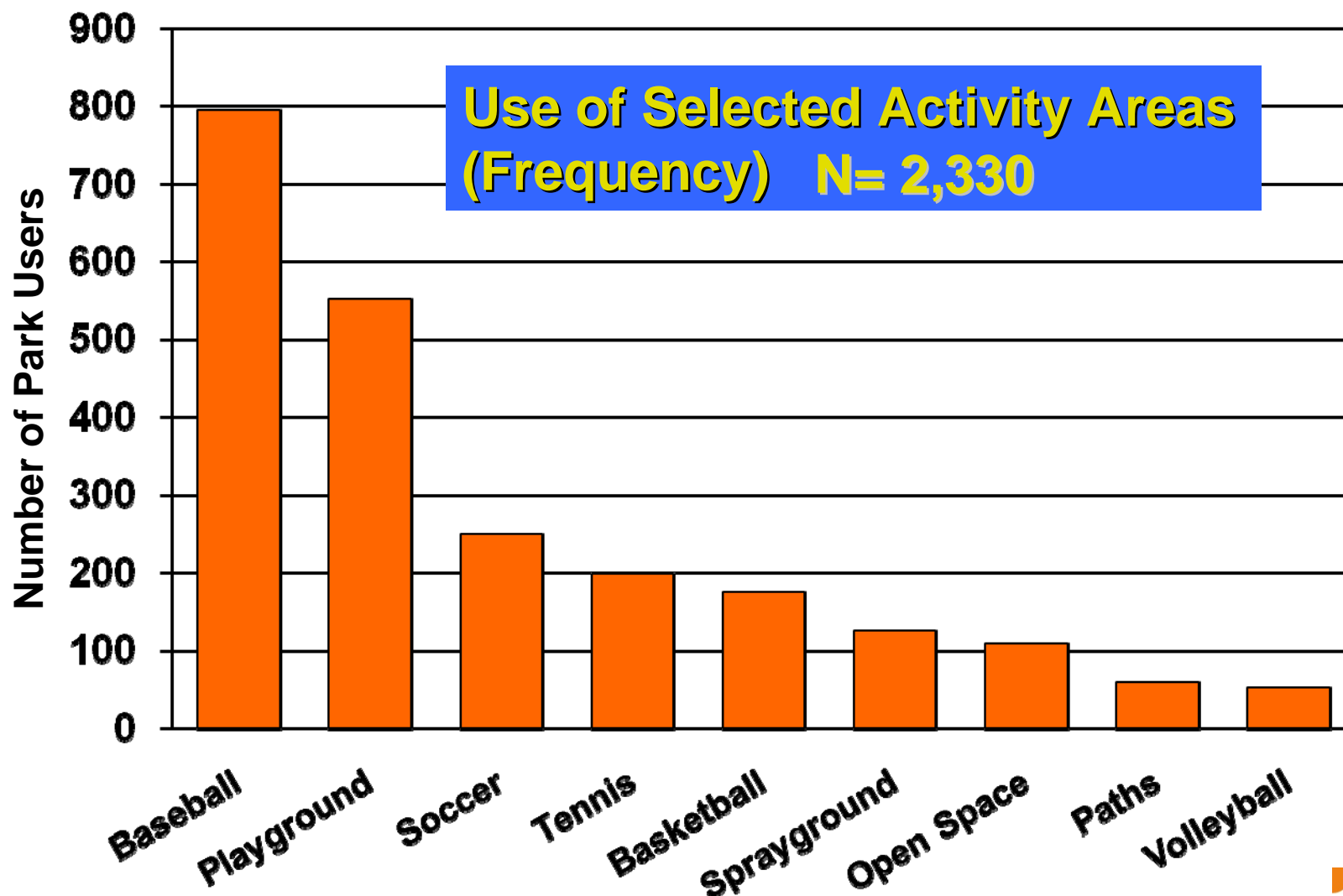


How were Chicago parks used, by age group?

Use of Activity Areas by Age Group (%), N=2,330

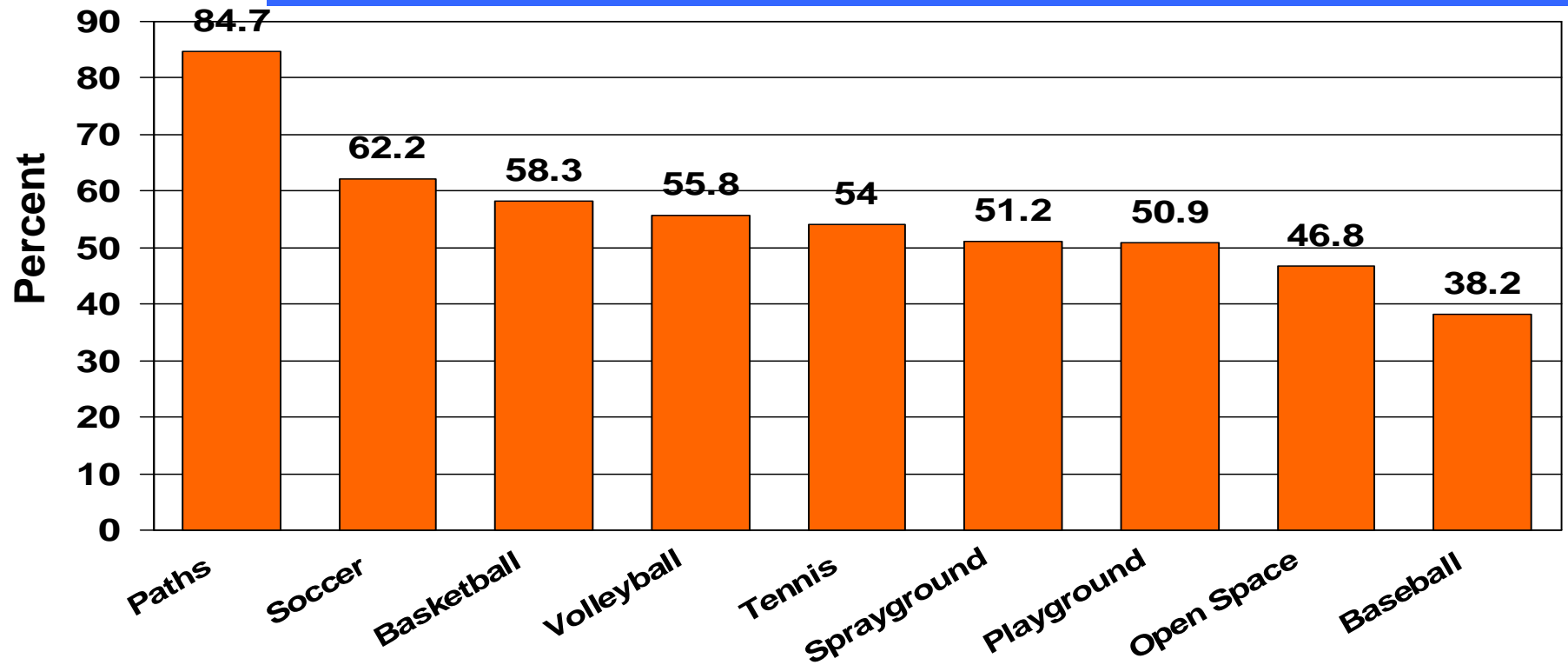


How were Chicago parks used, by activity?



How did Chicago parks contribute to MVPA?

Percent Moderate-to-Vigorous Physical Activity in Selected Activity Zones in 18 Parks (N=2,330)



Parks and recreation areas are beneficial, but...

- Are they equally available? It depends...
- What evidence do we have? Not much.



Humboldt Park/Chicago, 2005

Residents and children and youth of Los Angeles who are Latino or African American have less access to park acreage.

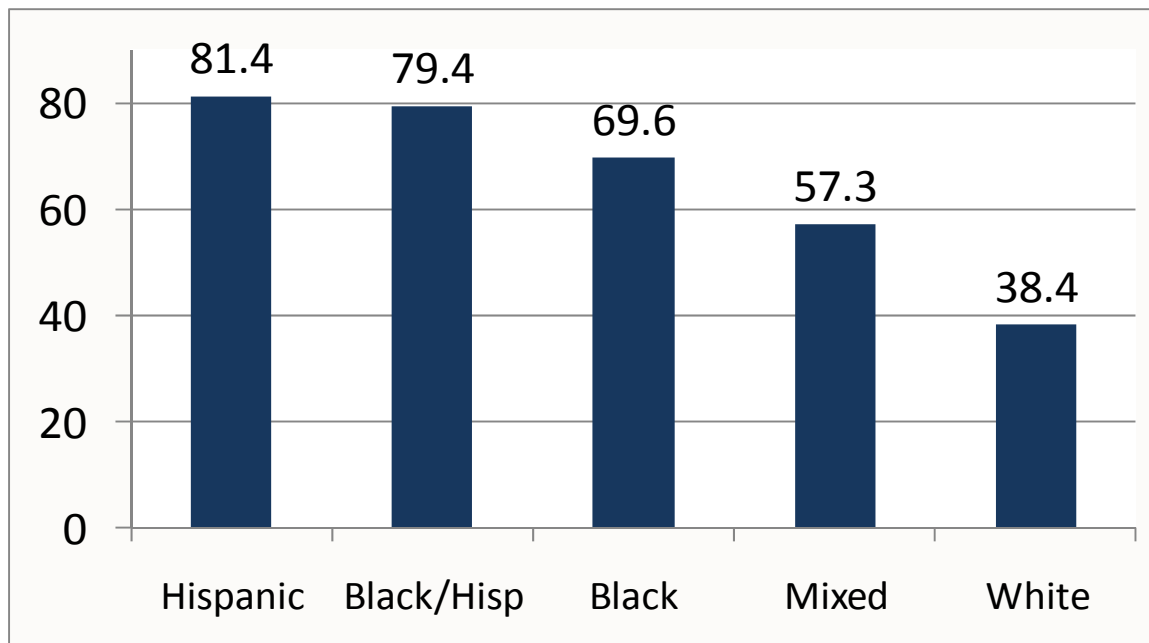
Wolch, J. et al. (2005). Parks and park funding in Los Angeles: An equity mapping analysis. *Urban Geography*, 26, 4-35.



Race/Ethnic %	Park acreage per 1000	
	adults	children
75% Latino	0.6	5
75% Black	1.7	2.9
75% White	31.8	95.7

Recreation facilities are less available... .

Percent of census tracts without a recreational facility park by race/ethnicity

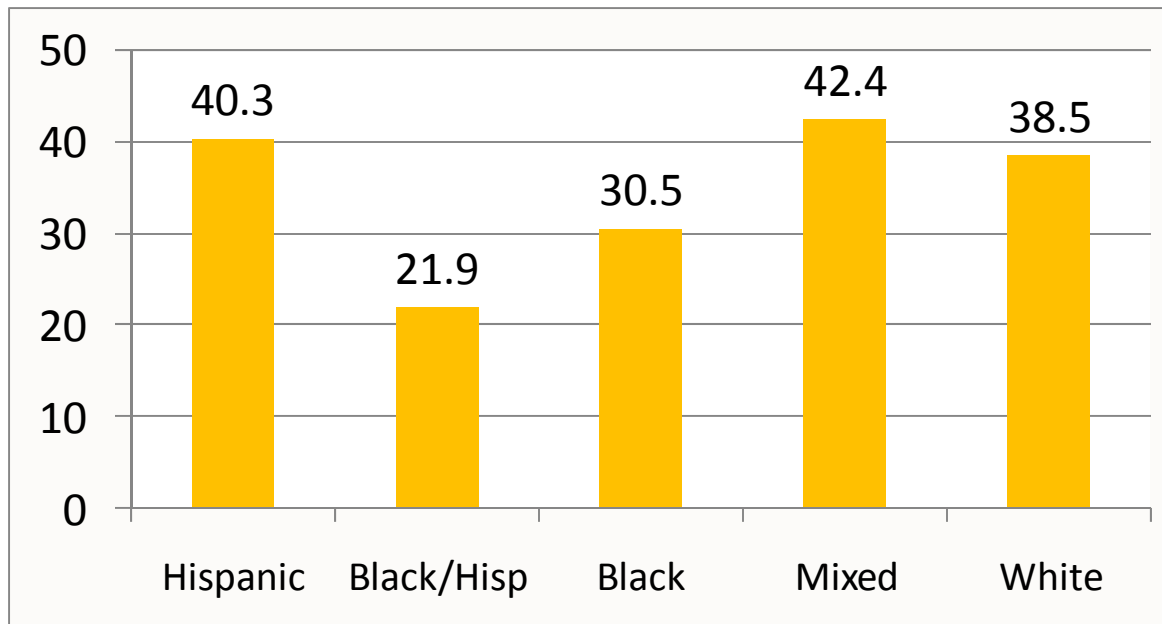


Census tracts in North Carolina, Maryland, and New York.

Moore, L.V. et al. (2008). Availability of recreational resources in minority low socioeconomic status areas. *American Journal of Preventive Medicine*, 34(1): 16-22.

...*parks* are more equitably distributed.

Percent of census tracts without a park by race/ethnicity

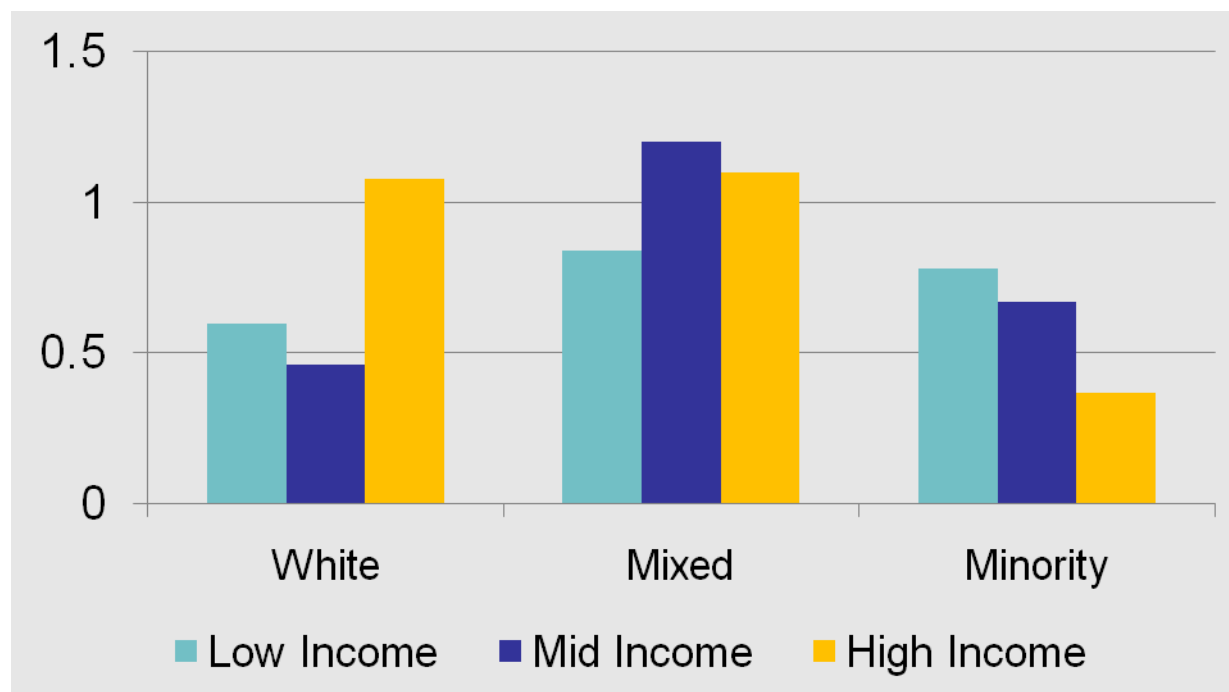


Census tracts in North Carolina, Maryland, and New York.

Moore, L.V. et al. (2008). Availability of recreational resources in minority low socioeconomic status areas. *American Journal of Preventive Medicine*, 34(1): 16-22.

Private recreation facilities and public parks are more equally distributed.

Mean number of parks per block group by race and income



836 census block groups in Howard, Montgomery, Prince George's, and Baltimore Counties

Abercrombie, L.C. et al. (2008). Income and racial disparities in access to public parks and private recreation facilities. *American Journal of Preventive Medicine*, 34(1): 9-15.

Access to safe playgrounds in Boston varies by neighborhood race and youth poverty.

- **Cradock et al. examined 154 playgrounds (geo-coded and rated for safety).**
 - Increased proportion of black residents was associated with decreased safety.
 - Increased proportion of youth living in poverty was associated with increased distance to playgrounds.

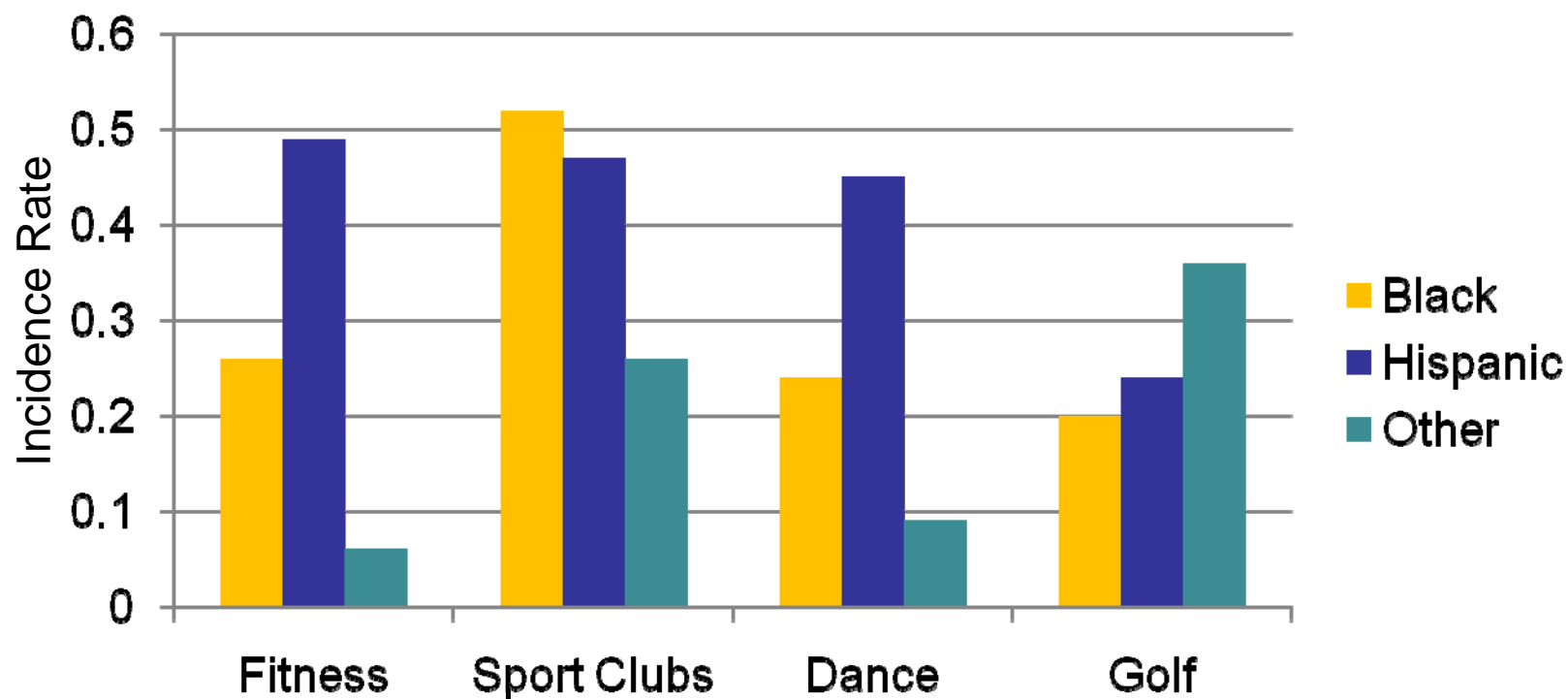
National studies link racial/income to availability of recreation facilities.

Gordon-Larsen, P. et al. (2006). Inequality in the built environment underlies Key health disparities in physical activity and obesity. *Pediatrics*, 117(2), 417-424.

- ***Measured number of PA facilities within 8km of 20,745 adolescents in the US***
- ***Higher SES block groups had significantly greater odds of having 1 or more facilities.***
- ***Low SES and minority block groups less likely to have 1 or more facilities.***

Availability of commercial physical activity facilities in 28,000 US zipcodes.

4 types of facilities were less likely in “minority zipcodes.”



Powell, LM et al. (2006). Availability of physical activity related facilities and Neighborhood demographic and socioeconomic characteristics: A national study. *American Journal of Public Health*, 96, 1676-80.

Research Needs

- Crime, safety perceptions, and park condition influence on park use and PA opportunities.
- More studies on disparities in access to parks and how this influences PA and health outcomes.
- Evaluation of marketing campaigns to increase active park visits.
- Longer term, quasi-experimental designs to evaluate effects of renovations and improvements.
- Evaluation of community partnerships (e.g., joint-use) on facility use and physical activity.

Conclusions

- **Parks and recreation environments can promote physical activity in communities.**
- **Research on specific environmental factors associated with activity is emerging.**
- **More evidence is needed on the nature of disparities in access to parks.**
- **Investments in public recreation and parks is important to public health.**

Thank You!

Myron F. Floyd, PhD
Department of Parks, Recreation
Tourism Management
IPARC Lab
Box 8004
NC State University
Raleigh, NC 27695-8004
Ph: 919-513-8026
E-mail: myron_floyd@ncsu.edu

