

Li Lin, MS; Lisa Groshong, MFA; Sonja Wilhelm Stanis, PhD; Jane McElroy, PhD; Charles Nilon, PhD; Stephen Sayers, PhD: University of Missouri; Joseph LeMaster, MD, MPH: University of Kansas School of Medicine

## Background

- Childhood obesity: more than tripled in the past 30 years (NDCHS, 2008)
- Obese youth: more likely to be obese as adults (Ainsworth et al., 2007)
- Youth physical activity (PA): significantly reduce the risk of obesity and obesity related diseases (Dobbins et al., 2009; Goran et al., 1999)



### **Youth Leisure Time PA**

- Youth LTPA: one of the most important dimensions of overall PA (Tudor-Locke et al., 2001)
- Time spent outdoors: associated with observed PA (Klesges et al.,1990; Prezza et al., 2001)
- School playground: an important source of youth PA (Sallis et al., 2001)



# Factors that influence Youth Leisure Time PA

- Safety (e.g., Bedimo-Rund et al., 2005; Roemmich, et al., 2006)
- Access (e.g., Babey et al., 2008; Godbey et al., 2005)
- Influence from parents (e.g., Timperio et al., 2004; Weir et al., 2006)
- Quality of parks (e.g., Loukaitou-Sideris & Stieglitz, 2002; Tucker et al., 2007)



## **Study Purposes & Objectives**

#### Little is known about...

- Children's own perceptions of places for PA
- What children say constrains and facilitates it

The purpose of this study is to explore children's perceptions of places they are active by gathering information about:

- 1) Where children report they go for PA;
- 2) Likes and dislikes about places they go for PA, as well as their school playground specifically;
- 3) Constraints to youth PA.

# Methods Used to Examine Youth Perceptions

Photo-voice allows participants to represent their point of view by taking photographs, discussing them, developing narratives to go with their photos (Wang & Burris, 1994).

Photo-voice makes children experts of their own experience (Burke, 2005).

A small number of studies have used photo-elicitation to gain children's perspectives of places for their PA (e.g., Darbyshire et al., 2005; Pearce et al., 2009; Hume et al., 2005).

### **Methods: Data Collection**

Sample: 80 fifth-grade students (n=35 female; n=45 male) from four local elementary schools in Columbia, Missouri.

Data collection: 10-day periods in April & May 2012

- Youth generated photographs
  - Distributed small digital cameras with instructions & a handout
  - Collected 613 usable pictures
- Semi-structured individual interviews
  - Used youth-generated photos plus general photos of school playground (Duration: 10-40 min, M=15min)

### **Methods: Data Collection**

## Semi-structured individual interviews using youth pictures & our supplied school playground pictures

- Tell me about this picture...
- Where is this?
- What do you do here?
- What do you like about this place?
- Is there anything you don't you like about this place?



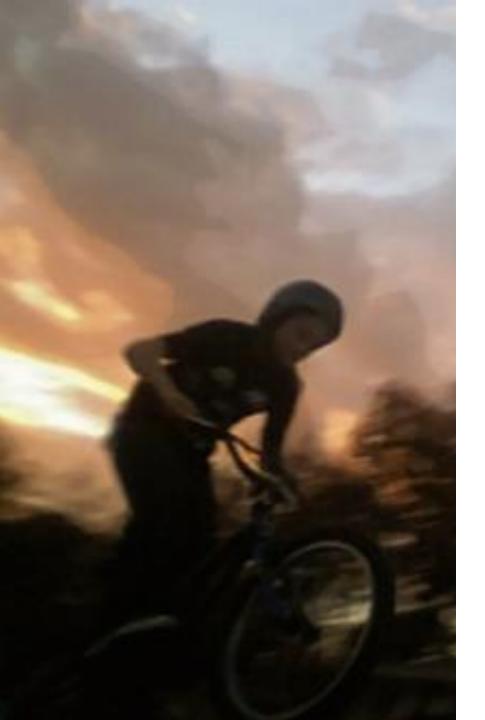
- Where do you usually spend your time during recess? What do you do there?
- What do you think of this part of your playground (last picture - intervention location)
- Are you using it?



## Methods: Data Analysis

Both the pictures and interview transcriptions were dual coded and examined for emergent themes using NVivo 9 software.

- Themes related to places youth engage in PA
- Themes regarding likes & dislikes about places they go for PA, as well as their school playground specifically
- Themes regarding why children don't go to places as much as they would like (constraints)



### **Results Themes**

- Places youth engage in PA
- Likes & dislikes about places they go for PA, as well as their school playground specifically
- Why don't go to places as much as they would like (constraints)

#### School

- Playground (e.g, slide, four square)
- Indoor facilities (e.g., gym, classroom)
- Home Environment
- Neighborhood
- Public Open Space/Parks
- Other Recreational Sites



"That's the basketball court during recess... It made us all really tired and that was only like 30 minutes..."

School playground & recess: Important for youth daily PA

- School
- Home Environment
  - Back yard/front yard (e.g., open space for sports, woods)
  - Indoors (e.g., rooms at home)
- Neighborhood
- Public Open Space/Parks
- Other Recreational Sites



"Playing on the trampoline (in the backyard)."

Photovoice can reveal things that don't show up in other types of data collection (Darbyshire et al., 2005): pets, trampolines, swings, slides, tree houses, pools

- School
- Home Environment
- Neighborhood
  - Street / block / cul-de-sac
  - Friend's house
  - On walk home / bus stop
- Public Open Space/Parks
- Other Recreational Sites



"I ride it around the block and to my friend's house."

Importance of neighborhood for social bonding, space for activity

- School
- Home Environment
- Neighborhood
- Public Open Space/Parks
  - Parks (e.g., playground, play equipment)
  - Nature area (e.g., creeks, trails, trees)
- Other Recreational Sites



"My mom likes to walk so I usually go with her. I walk or I usually bring my bike."

#### Parks & outdoor space:

valuable for youth PA because of relatively easy access and low cost

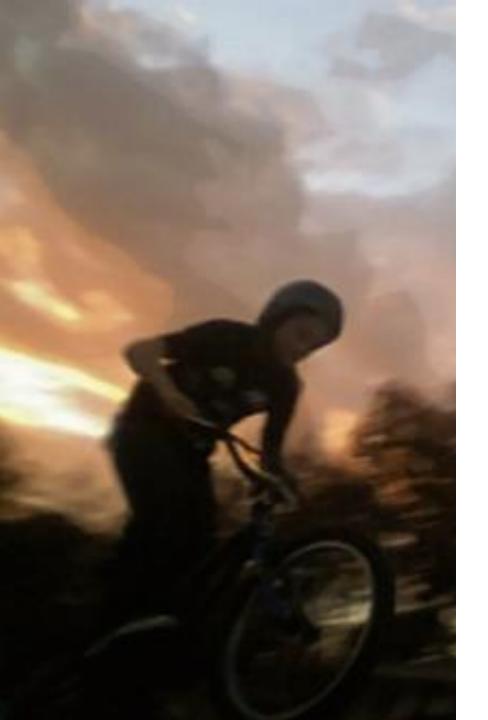
- School
- Home Environment
- Neighborhood
- Public Open Space/Parks
- Other Recreational Sites
  - Indoor (e.g., swimming pool, church)
  - Outdoor (e.g., golf course, amusement park)



"We were at a golf range. It's really close to my house, and I do a lot of golfing during the summer."

#### **Other Recreational Sites**

not typically shown in previous research; however, cost & distance/transport can limit access



### **Results Themes**

- Places youth engage in PA
- Likes & dislikes about places they go for PA, as well as their school playground specifically
- Why don't go to places as much as they would like (constraints)

"We like all the stuff that you can do on this one little equipment area." (Freedom/Choices)



"That we get to like play against each other and like try to defend the ball from each other and stuff."

(Challenge/Competition)



### **Results: Likes**

# Themes from both youth & playground pictures

- Physical Benefits
- Natural Conditions
- Social Interaction
- Freedom/Choices
- Equipment
- Space to Play
- Fun

## Themes from youth pictures, but not playground pictures

- Emotional Connections
- Solitude
- Safety
- Proximity to Play Areas
- Challenge/Competition



### **Results: Dislikes**

## Themes from both youth & playground pictures

- Physical Environment (e.g., playground conditions, natural obstacles)
- Social Issues (e.g., crowding, no one to play with)
- Personal Preferences (e.g., lack of proficiency, boredom)
- Policy/Rules

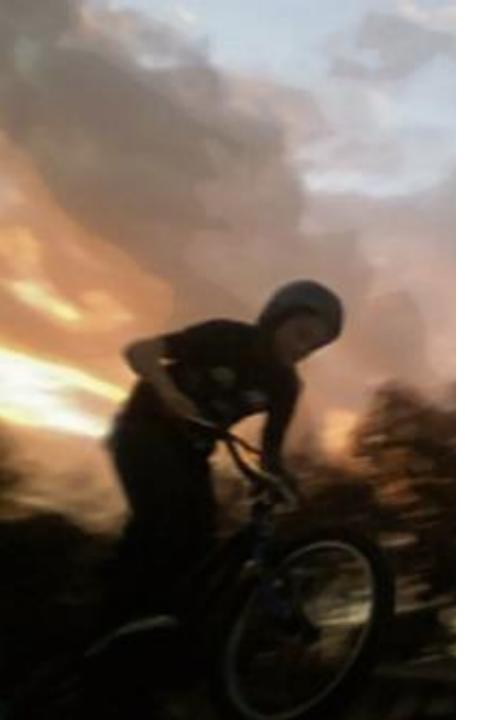
# Themes specific to school playgrounds

- Lack of benches and shades
- Having outgrown playground equipment



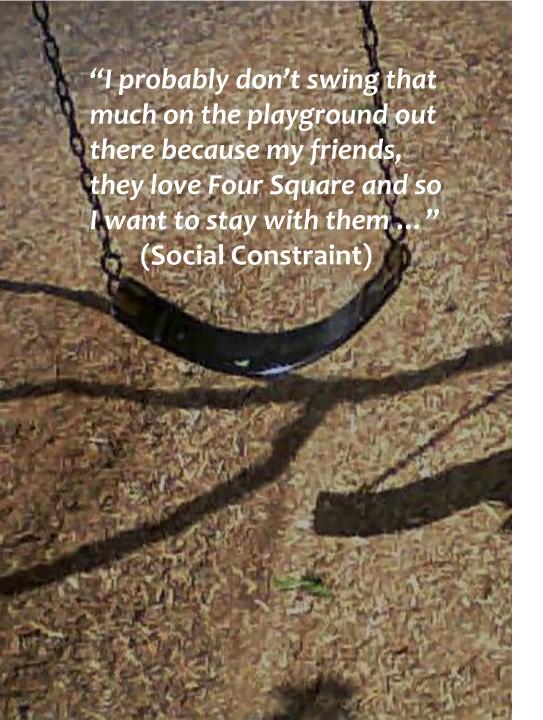
#### Themes emerged as both likes and dislikes

- Nature (e.g., weather, trees )
- Social (e.g., having friends/no one to play with)
- Access (e.g., proximity to play areas)
- Design (e.g., space to play, play equipment)



### **Results Themes**

- Places youth engage in PA
- Likes & dislikes about places they go for PA, as well as their school playground specifically
- Why don't go to places as much as they would like (constraints)



# Results: Constraints

- Physical Constraints
   (e.g., distance, lack of
   equipment, seasonally
   unavailable)
- Social Constraints

   (e.g., peer influence, time conflicts, crowding, not enough supervision)
- Financial Constraints (e.g., cost)



- Children were not using some of the intervention sites (trail, soccer field, disc golf course) created as part of larger study apparently due to restricted access or inconsistent provision of the equipment needed by playground monitors.
- Prompted additional interviews in a follow-up study with playground monitors to learn more about the social dynamics causing this conflict.



## Playgrounds Without Borders

#### **Project Investigators:**

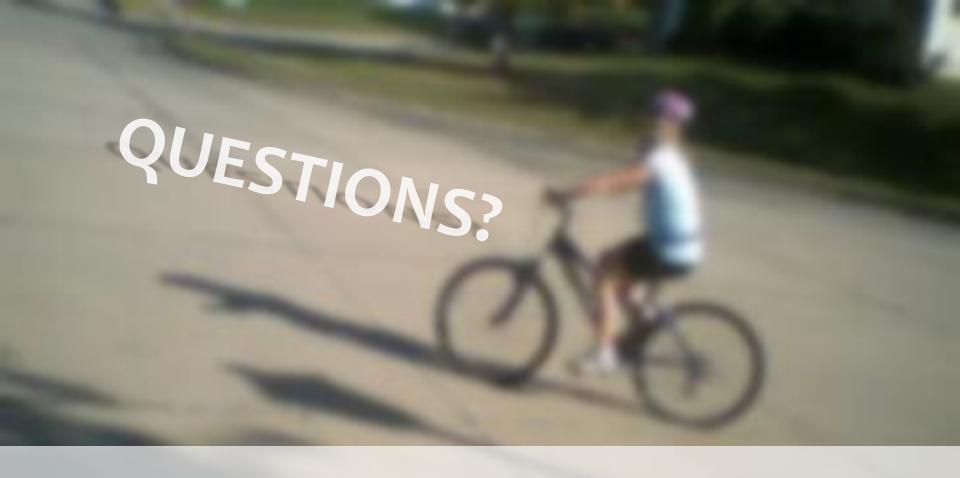
#### University of Missouri

Sonja Wilhelm Stanis, PhD - Parks, Recreation and Tourism
Jane McElroy, PhD - Family & Community Medicine
Stephen Sayers, PhD - Physical Therapy
Charles Nilon, PhD - Fisheries & Wildlife Sciences
Timothy Matiszew, PhD - Geography; Civil & Environmental Engineering
Greg Petroski, PhD - Biostatistics

#### University of Kansas School of Medicine

Joseph LeMaster, MD, MPH, Department of Family Medicine

Funding for this project was provided by Robert Wood Johnson Foundation, Active Living Research Program, Grant #68506.



# **THANK YOU!**

Lisa Groshong: lcg2m5@mail.missouri.edu