The Paradox of Parks in Low-Income Areas: Park Use and Perceived Threats

Deborah Cohen, Bing Han, Kathryn DeRose, Terry Marsh, Laura Raaen, Stephanie Williamson, Thomas McKenzie

Background

Perceived threats within the park are typically thought of as barriers to park use

- Threats might include the presence of apparently homeless persons, gang members, people smoking or drinking, stray dogs, etc.

- Community level social factors – collective efficacy – are also possibly related to park use

- The relative importance and directionality of association is not clear

Objectives

To describe:

1. (a) use of low-income area neighborhood parks, (b) observed potential threats, and (c) their relationships

2. the relationship between park use in low-income neighborhoods and collective efficacy

3. the relationship between parks in low income neighborhoods and mental health

Characteristics of 48 Parks

	Mean (sd)	Range
Acres	8.4 (6.5)	1.5 – 25.8
Population (1-mile radius)	47,300 (17,900)	22,500 – 100,000
Poverty rate	27.0% (8.1)	14.6 – 43.2

Methods

- Baseline data from an RCT that enrolled 48 parks in low income neighborhoods
- Conducted SOPARC at all 48 parks from June 2013-August 2014
- We observed each park 6 days over 6 months on different days of the week and times of day (18 observation hours/park)
- Conducted surveys of park users and local residents living <1 mile from park
- Documented possible threatening situations in the parks

Predictors Studied

- **Threats:** Observations of apparently homeless, intimidating groups, fighting, stray dogs, smoking, intoxicated persons

- **Collective Efficacy:** Survey measures of trust, cooperation, or would help out if there was a problem (based on Sampson's index)
  - *People can be trusted, help each other, get along, would intervene if fight, graffiti*

- **Mental Health:** MHI
  - *How often feel nervous, restless, hopeless, sad, depressed, worthless*

Outcome

- Aggregated number of park users observed
- Controlled for:
  - Park size
  - Poverty
  - Population density

Results

- Observers made 818 visits to the parks and counted over 61,000 park users
- Surveyed 1,445 park users; 1,592 residents

Descriptive Characteristics of Park Conditions

Target areas	Mean (sd)	% of observations
Accessible	26.8 (14.4)	82.8%
With supervised activity	0.7 (1.0)	2.3%
With organized activity	0.4 (0.8)	1.3%

Park Condition	# parks with condition (total=48)	% observations where condition seen
Interpersonal safety issues (gang, intimidating group, conflict)	12 (25%)	2.8%
Intoxicated persons	27 (56%)	8.4%
Smoking	27 (56%)	7.1%
Homeless persons	43 (90%)	49.8%
Stray dogs	7 (15%)	1.6%
Vendors in parks	38 (79%)	30.0%
Vendors around parks	39 (81%)	31.0%
Construction in park	19 (40%)	13.9%

Safety

Perceived park as safe or very safe	mean (sd)
Resident	78.9% (19.6)
User	86.2% (15.3)

But perception of safety was
NOT associated with park use

Collective Efficacy (1-5)	mean (sd)
Resident: Social trust/cohesion	3.0 (0.1)
Resident: Informal social control	2.9 (0.2)
User: Social trust/cohesion	3.0 (0.1)
User: Informal social control	3.0 (0.3)

Mental Health (1-5)	mean (sd)
Resident	4.6 (0.2)
User	4.6 (0.2)

Models Predicting # of Park Users

Model 1	Estimate log (mean)	se	p	interpretation	Estimate log (mean)	se	p	interpretation
Size in acres	0.2254	0.0397	<.0001	25.3%	-0.0131	0.0125	0.2921	-1.3%
% households in poverty	0.0312	0.024	0.1937	3.2%	-0.0051	0.0082	0.5332	-0.5%
1-mi population (10,000s)	0.2623	0.0763	0.0006	30.0%	0.037	0.028	0.1868	3.8%
Vendors in park (y/n)					0.3273	0.0979	0.0008	38.7%
Vendors around park					0.1944	0.0727	0.0075	21.5%
Construction (y/n)					-0.3062	0.1458	0.0358	-26.4%
Homeless persons					0.2457	0.0711	0.0005	27.9%
Interpersonal safety					0.0688	0.1776	0.6982	7.1%
Intoxicated persons					-0.2314	0.1024	0.0238	-20.7%
Smoking persons					0.07	0.0994	0.4815	7.3%
# Accessible target areas					0.0314	0.0044	<.0001	3.2%
# Organized activities					0.2244	0.0591	0.0001	25.2%
# Supervised activities					0.2216	0.036	<.0001	24.8%

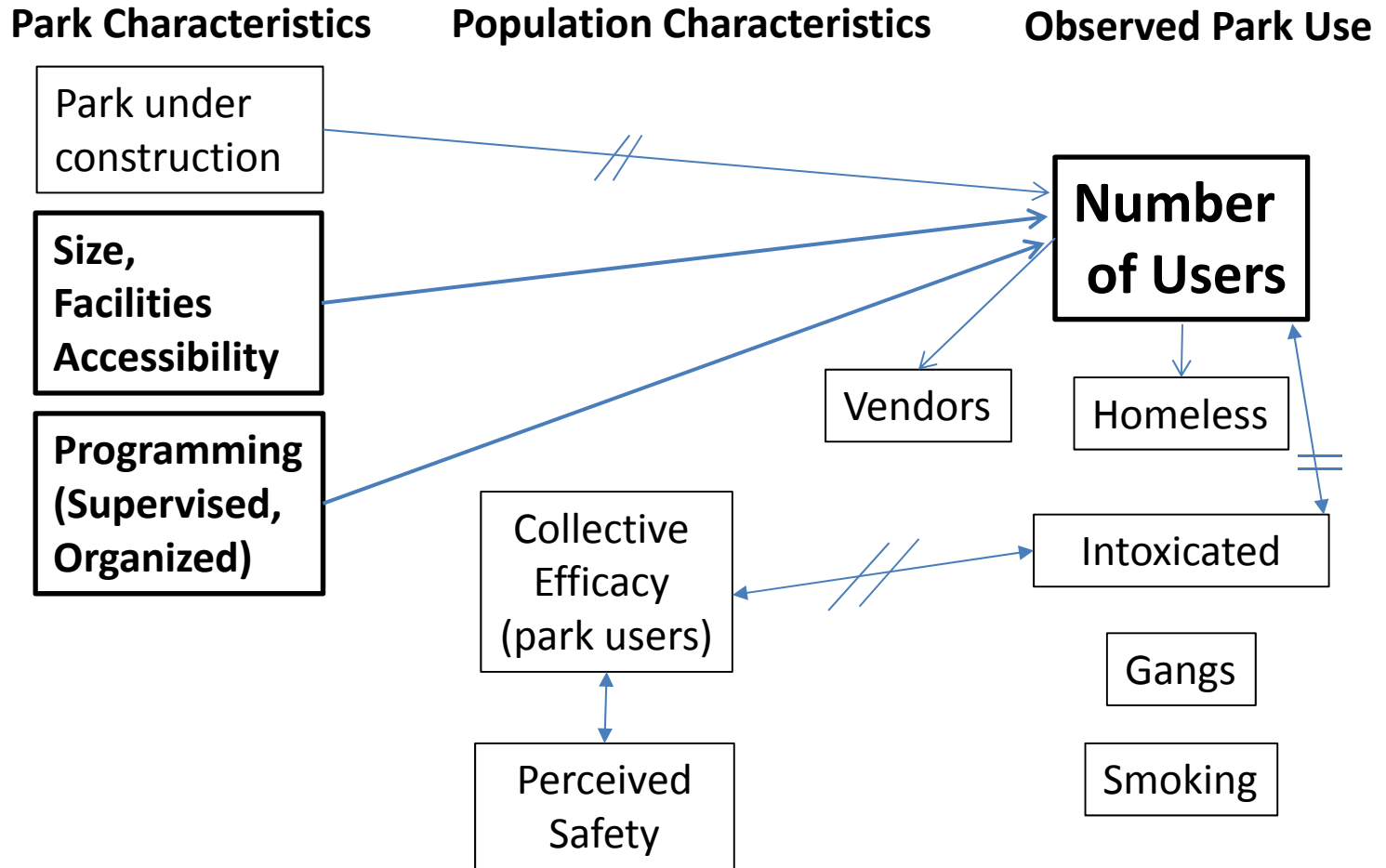## No association with collective efficacy or mental health

Collective Efficacy
(individual level)

Increasing CE by one point is associated with:

- 30% fewer instances of observing intoxicated persons among park users

- 3-4 fold higher perceptions of safety (residents and park users)

Theoretical Model

Park Characteristics   **Population Characteristics**   **Observed Park Use**

Park under construction

Size, Facilities Accessibility

Programming (Supervised, Organized)

Number of Users

Vendors

Homeless

Collective Efficacy (park users)

Intoxicated

Gangs

Perceived Safety

Smoking

Limitations

- As a cross-sectional analysis, it is not possible to know the direction of how parks influence or are influenced by collective efficacy.

- Longitudinal studies may help clarify the relationship.

Conclusion

- Most perceived threats are either positively, or not at all related to park use in low income areas

- Collective efficacy is only indirectly associated with park use, through a negative relationship with the presence of apparently intoxicated persons

- Focusing on programming might be more fruitful than targeting perceived threats