Mapping Research Project and Reducing Crime Through Collective Efficacy: Identifying Social Control and Social Cohesion in Miami Neighborhoods

Collective Efficacy in Miami Neighborhoods

Overview

- Background
- Defining collective efficacy
- Using maps in social science methodology
- Preliminary findings
- Policy considerations

Background

Two inter-related projects:

- Children's Trust: "Mapping Research Project"
- NIJ: "Reducing Crime Through Collective Efficacy: Identifying Social Control and Social Cohesion in Miami Neighborhoods"
  - Determine levels of collective efficacy in 8 neighborhoods in Miami-Dade County
  - Develop recommendations for interventions and policies based on findings

The Children's Trust
Because All Children Are Our Children

MAPPING RESEARCH PROJECT
JSS

NIJ
National Institute of Justice

Collective Efficacy

In combination, collective efficacy involves:

- Willingness to intervene
- Ability to mobilize social control
- Social cohesion and trust

How willing are residents to take responsibility for what goes on in their neighborhood?

If social control, cohesion and trust among residents is high, then crime and disorder are low.

- **Neighborhoods with a great deal of collective efficacy experience fewer problems of lawlessness and disorder.**

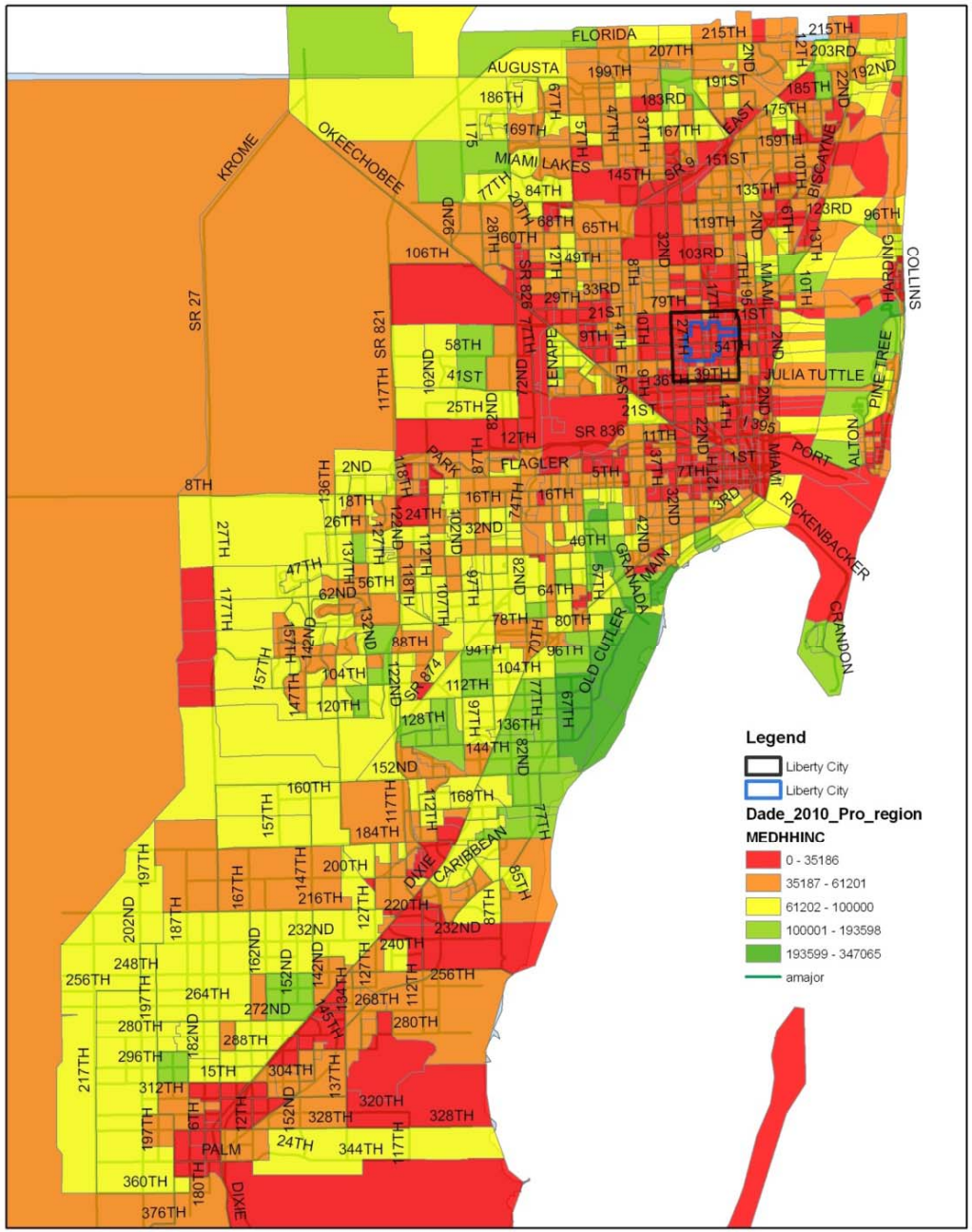
"One of the most important influences on a neighborhood's crime rate is the willingness for neighbors to act, when needed, for another's benefit and particularly for the benefit of another's children."

Felton Earls, 2004

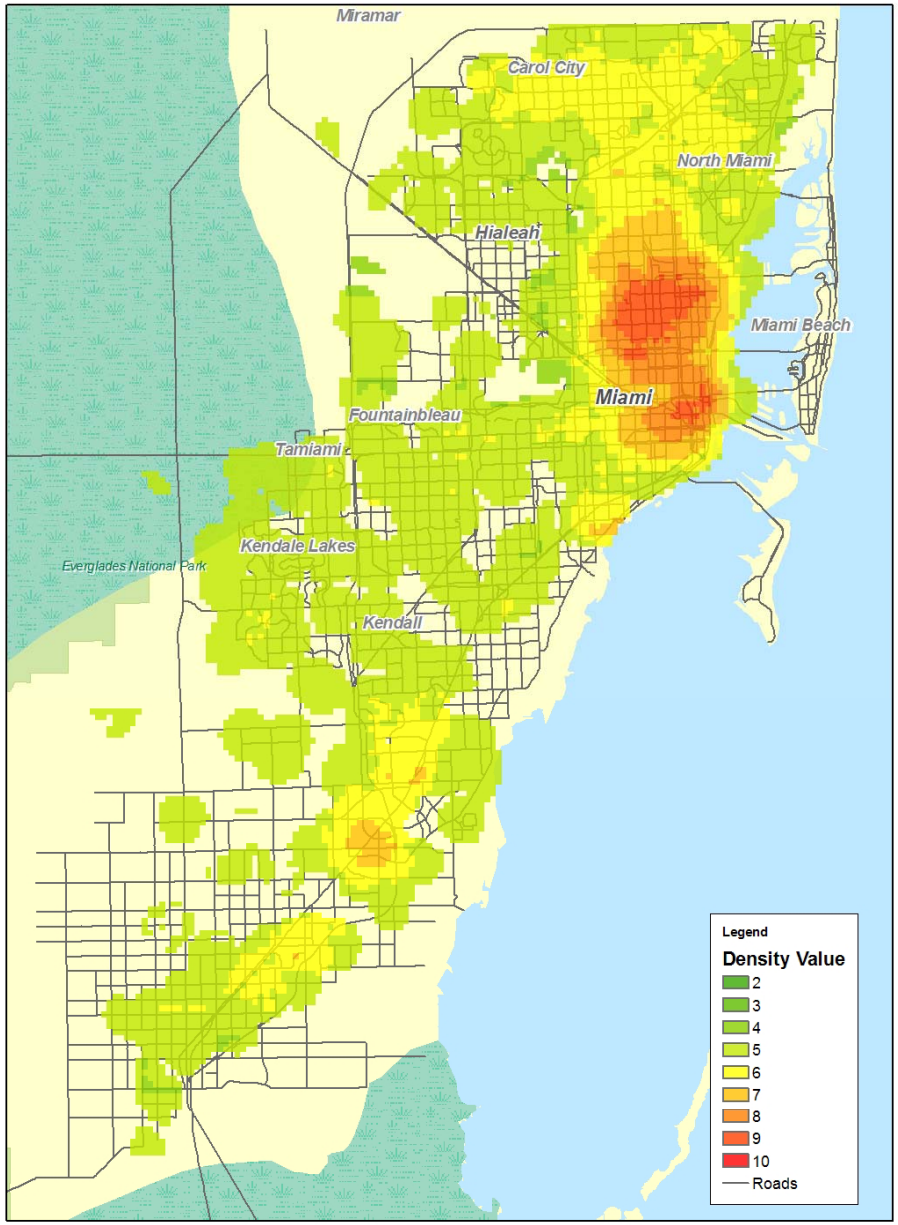
Collective Efficacy in Miami-Dade County

- Determine levels of CE across the county
- Select neighborhoods for:
  - community surveys and
  - systematic social observations
- Examine crime data, demographics, and levels of poverty.
- Use maps to assist with the methodology

Miami-Dade 2010 Median Household Income



Miami-Dade County Violence Index Hotspots

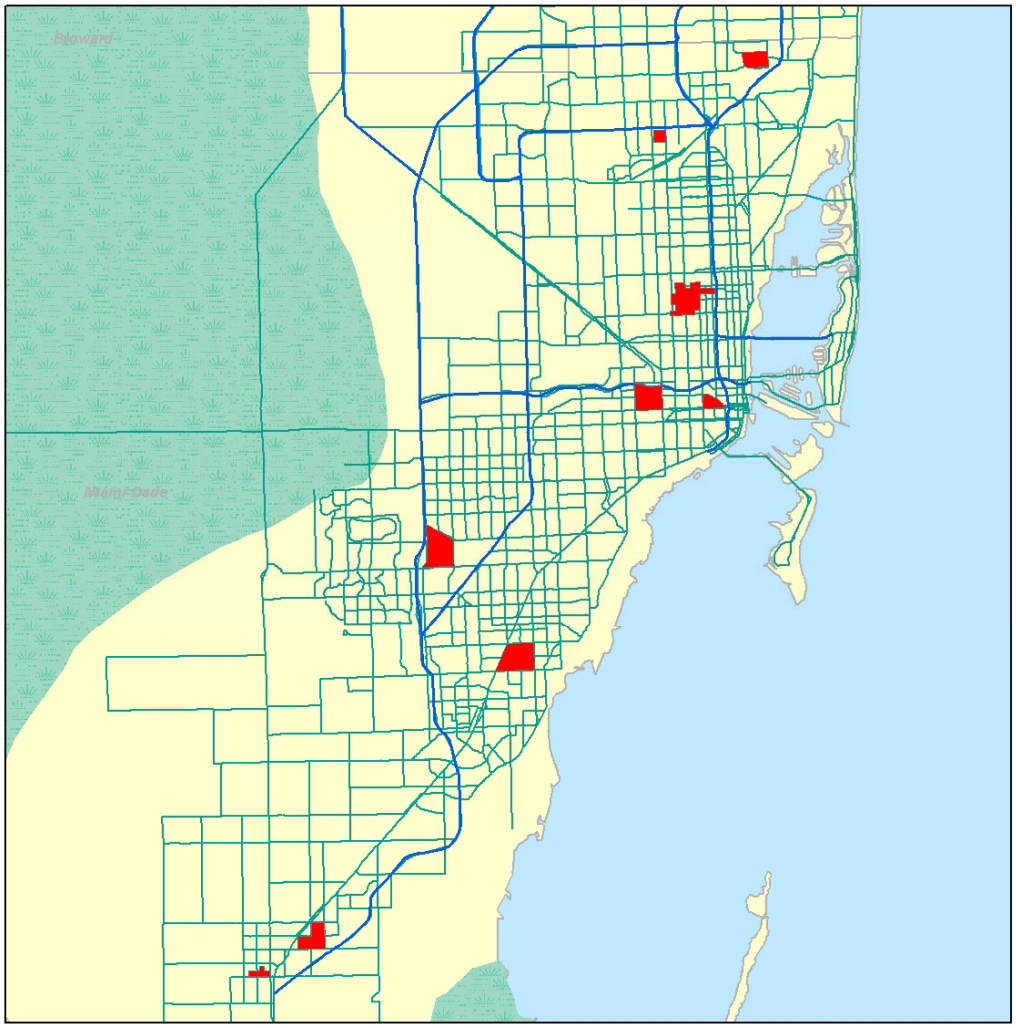


Data Sources:
*Violence Index created with 40% Homicide locations 2004-2006; 40% Agg. Assault/Robbery Calls 2008; 20% Median Household Income 2010
*Median household income provided by MapMart.com based on Census 2000 data and mailable US postal addresses
*Homicide locations provided by Miami-Dade Medical Examiner's Office
*Crime data provided by the City of Miami Police Department and Miami-Dade Police Department

0 2 4 8 Miles

N

Locations for Community Surveys and SSOs



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Intensive Study Areas

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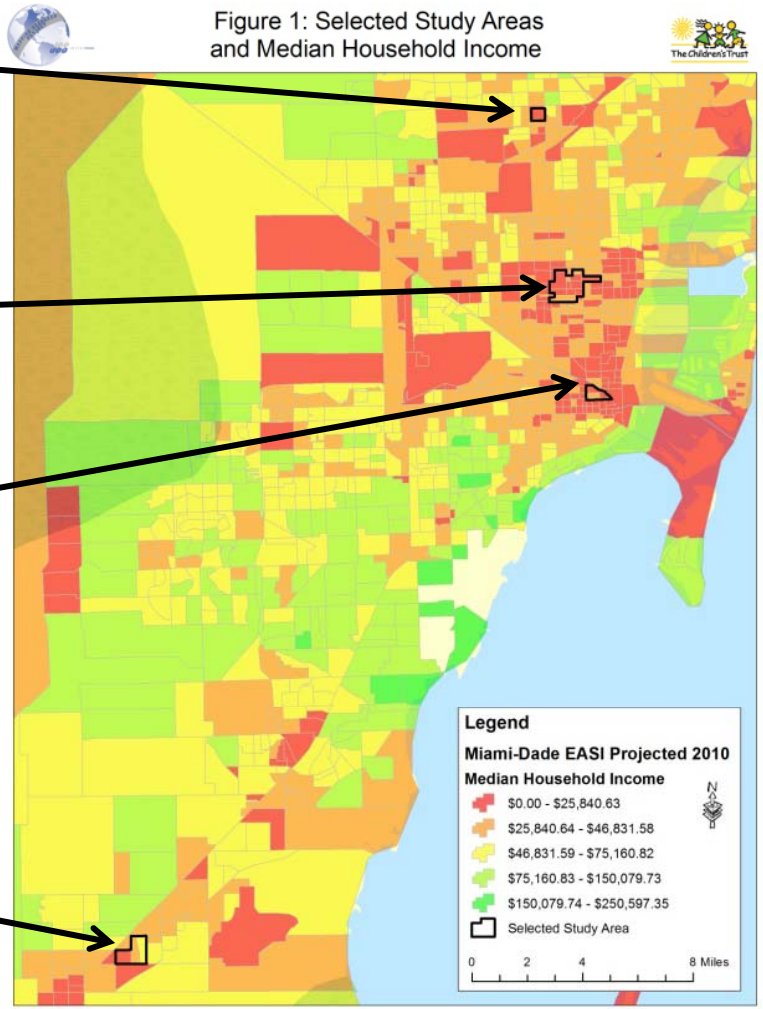
0 3 6 12 Miles

Characteristics of Four Neighborhoods

- Bunche Park in Miami Gardens
  - Residential area with park and elementary school
  - Population of 1,155
  - Mostly African American
- Liberty City/ Brownsville
  - Mixed residential/ commercial
  - Population of 10,731
  - Mostly African American
- East Little Havana
  - Mixed residential/ commercial
  - Population of 9,149
  - Predominately Hispanic
- Seminole Wayside Park
  - Residential area with a park
  - Population of 4,293
  - Hispanic, white



Ecometric Properties of Collective Efficacy

Ecometric Properties of Collective Efficacy

- **Issue**
  - PHDCN collective efficacy scale is commonly used in research on collective efficacy
  - Little research has been done on the properties of this scale and whether the choice of items is optimum
- **Our Research: Find New CE Items**
  - Expanded the scale by adding items similar to the domains of the original scale
    - Willingness to Intervene – 12 items
    - Social Cohesion – 11 items
    - Ability to Mobilize Social Control – 6 items

Ecometric Properties of Collective Efficacy

- **Preliminary Results: New Items of CE**
  - **Factor Structure of Scales and Subscales**
    - EFA suggests single factor solution for all subscales
    - Two-factor solution for original and new CE scale
      - Social Cohesion items load on one factor
      - Willingness to Intervene and Ability to Mobilize Social Control items load on second factor
  - **Reliability of Scales and Subscales**
    - **High internal consistency of all subscales (alpha = .879, .892, .810)**
    - **New scale (alpha = .917) ; Old scale (alpha = .802)**

Ecometric Properties of Collective Efficacy

- Future Steps
  - Confirmatory Factor Analysis to compare single latent variable model to second order latent variable model
  - Item Response Theory models to assess the unidimensionality of collective efficacy
  - Differential item functioning analyses to determine if particular items function differently for respondents according to demographics (potential item bias)
  - Using IRT to select an optimum subset of items based on scale structure and coverage of latent construct

Does Collective Efficacy Function Similarly in Different Neighborhoods?

Does Collective Efficacy Function Similarly in Different Neighborhoods?

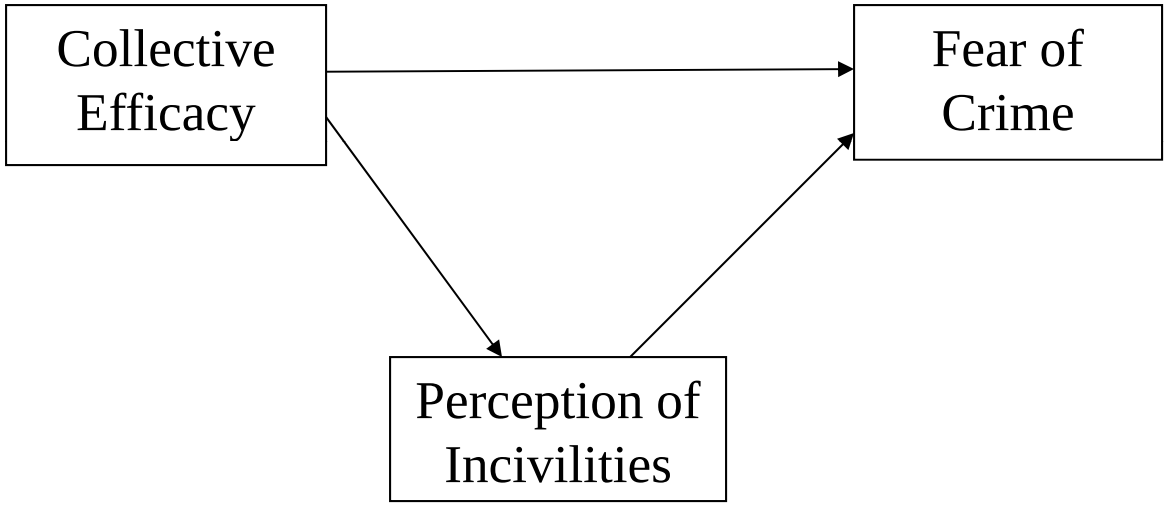
- Issue
  - Substantial research examines collective efficacy as a neighborhood level variable in HLM models
  - Does not consider that collective efficacy could function differently for different neighborhoods
- Our Research
  - Using the responses from the neighborhood surveys
  - Examining the relationship between Collective Efficacy, Incivilities, and Fear of Crime
  - Consider mediating effects within each of the four neighborhoods separately

Does Collective Efficacy Function Similarly in Different Neighborhoods?

- Collective Efficacy – 29 items -- intervene, social control, and social cohesion
- Incivilities – 14 items – dirty/unkempt area, vacant lots, noise, gangs, shootings
- Fear of Crime – 5 items – fear of victimization - (e.g., fear of burglary, assault, drug dealing)

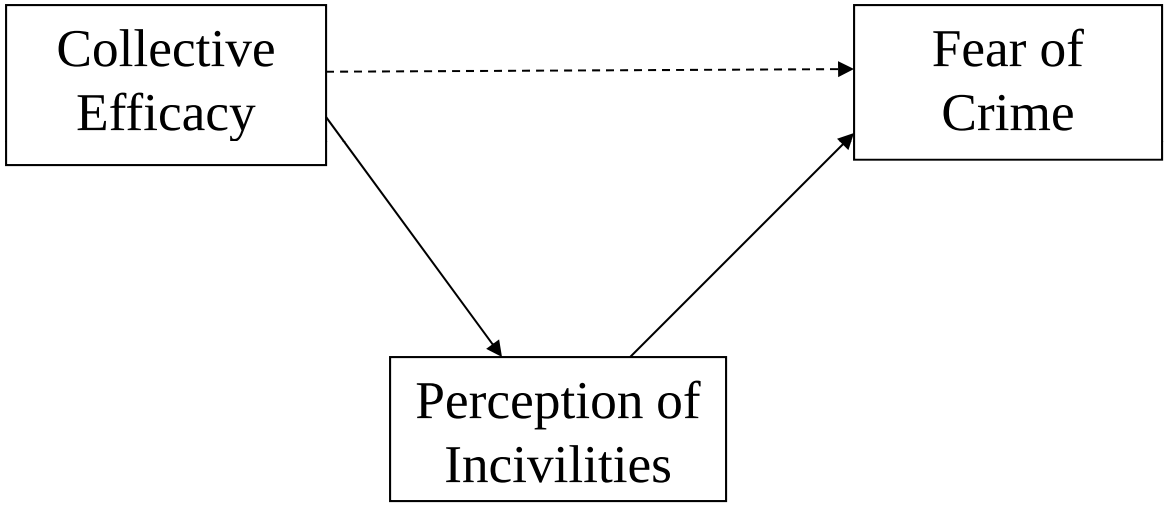
Findings: Liberty City/Brownsville

- Preliminary Results --



Liberty City/Brownsville: Incivilities partially mediate the effect of collective efficacy on fear of crime

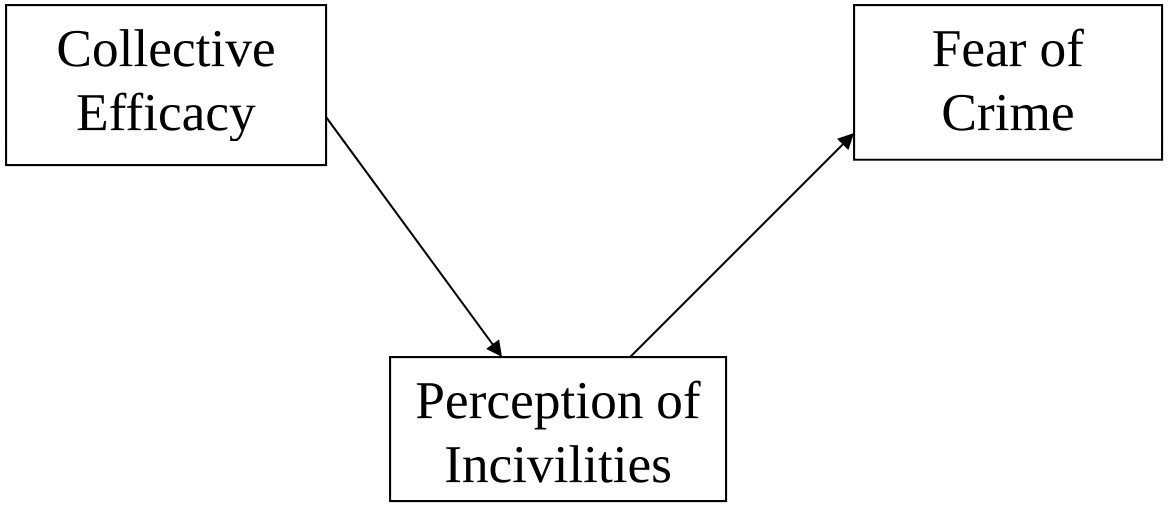
Findings: Bunche Park



Incivilities completely mediates the effect of collective efficacy on fear of crime

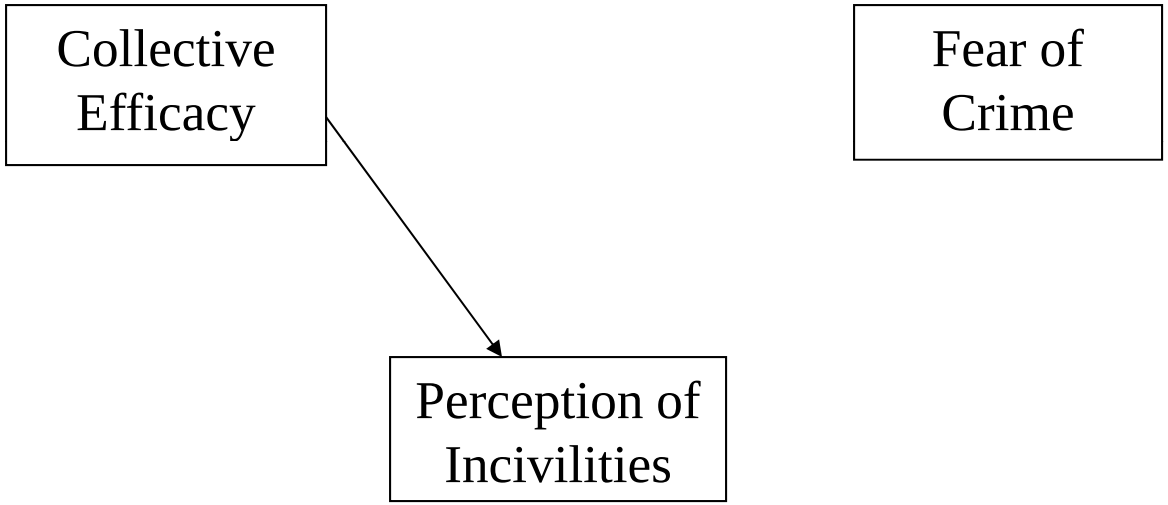
Note: Dashed line indicates that pathway was significant *prior* to Perception of Incivilities being added to the model, but not afterwards.

Findings: ELH



East Little Havana: Collective efficacy never has a direct effect on fear of crime, but incivilities do have a direct effect

Findings: SWP

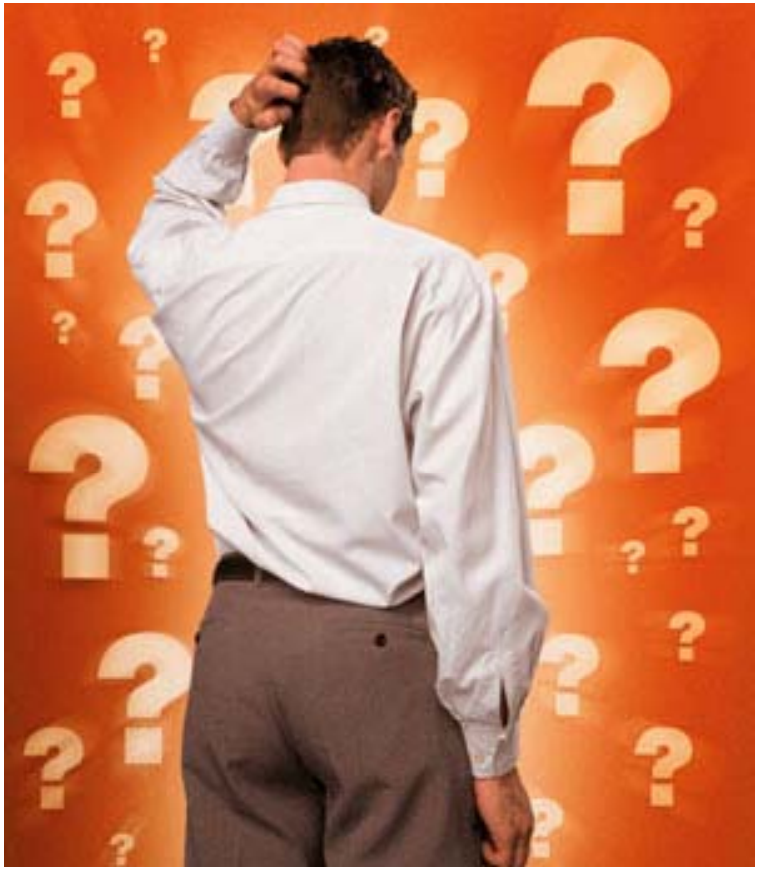


Seminole Wayside Park: Neither collective efficacy nor incivilities have direct effect on fear of crime

Does Collective Efficacy Function Similarly in Different Neighborhoods?

- Future Steps
  - Further refinement of models to incorporate a measurement model for latent constructs
  - Test the model in additional neighborhoods to help identify the variable involved in the interaction
  - Extend the model to consider the relationship between collective efficacy, incivilities, fear of crime, and crime

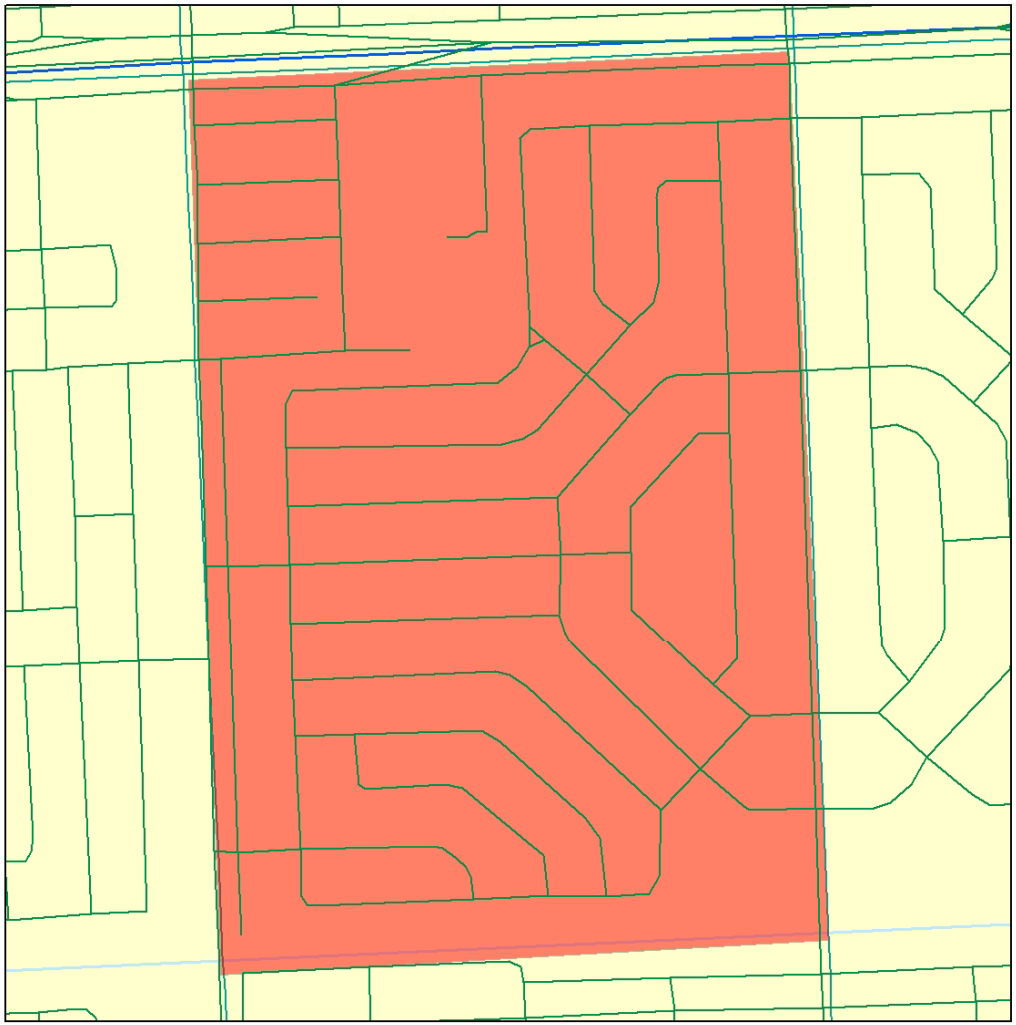
Does Collective Efficacy Vary *Within* Neighborhoods?



Does Collective Efficacy Vary *Within* Neighborhoods?

- Issue
  - Research on CE presumes that the neighborhood is the most important level of analysis
  - Little research focused on within neighborhood heterogeneity of collective efficacy and its influence on crime
- Our Research: Kriging
  - We have geo-coded locations of the respondents to the neighborhood surveys
  - We are treating these surveys as if they represent measurements from an underlying smooth spatial surface
  - Kriging is a method for spatial interpolation that allows for the estimation of this surface – similar to rainfall collection
  - For initial examples, we used the Spatial Analyst package in ArcGIS

Intensive Study Area:
Bunche Park



N

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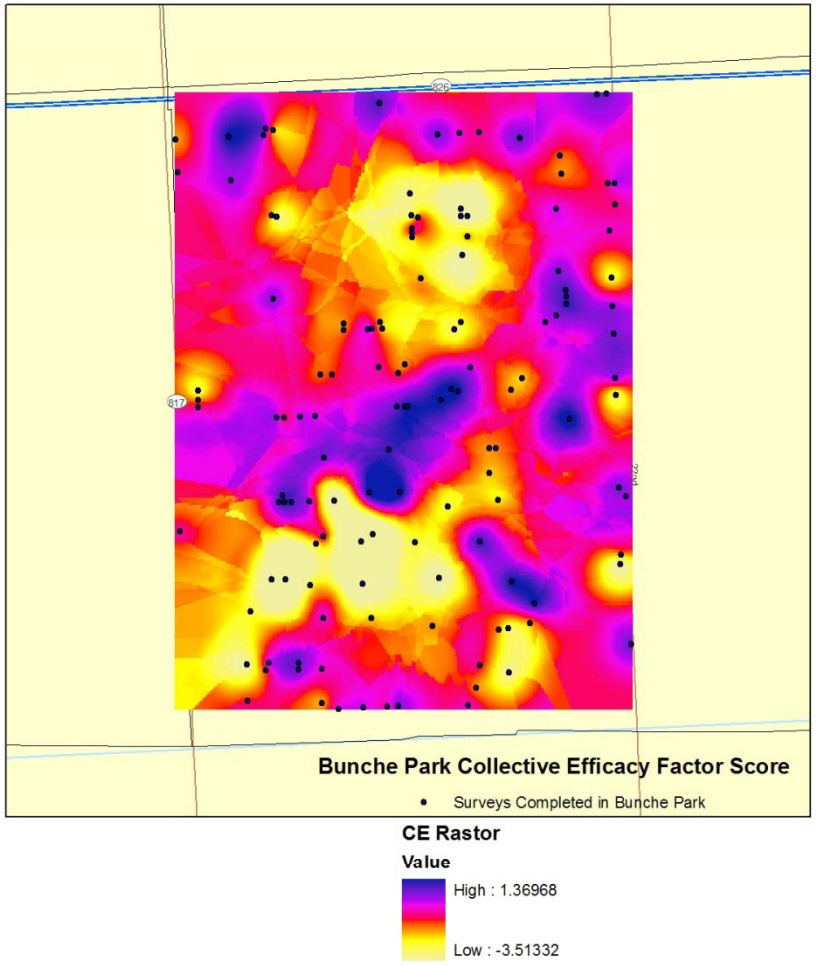
Legend

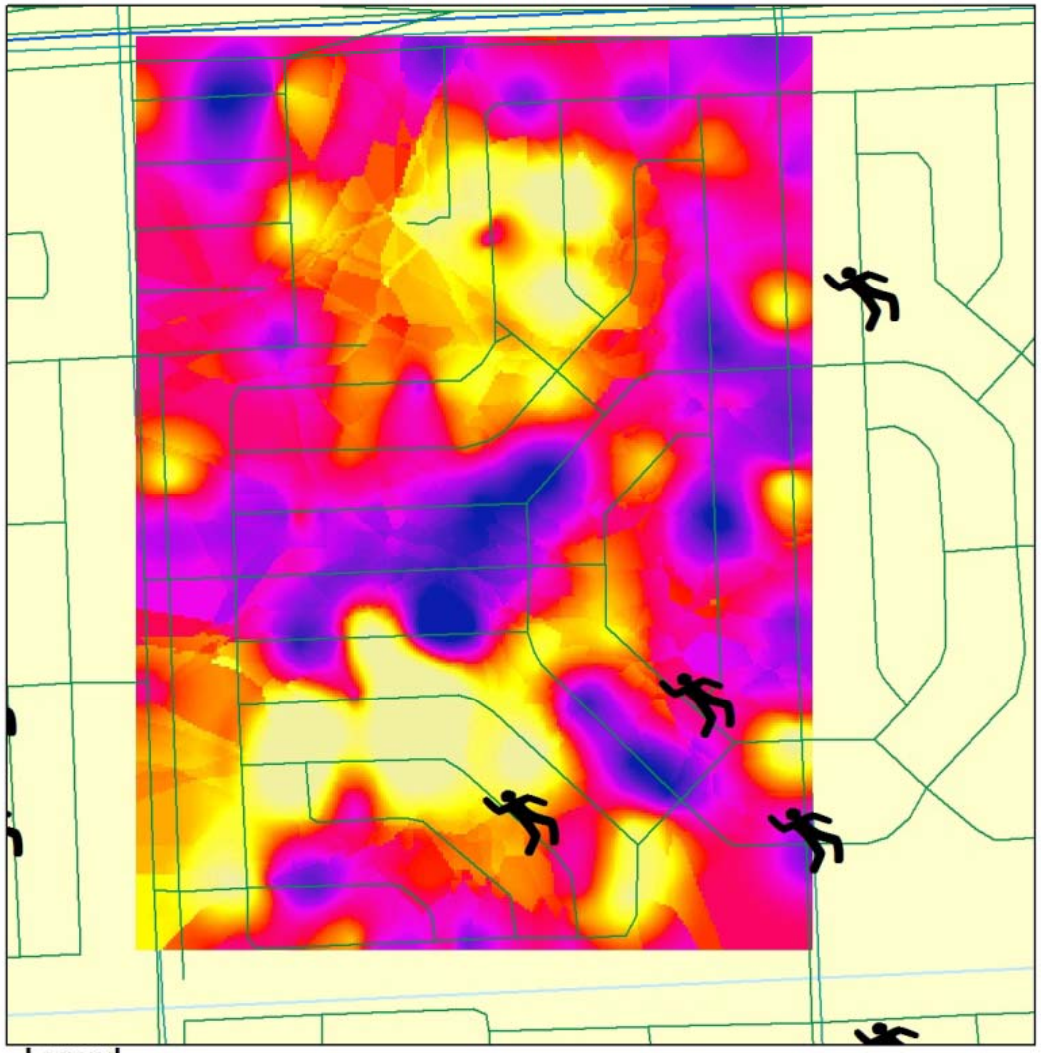
Intensive Study Areas

Does CE Vary Within Neighborhoods?

Kriged Estimate of Collective Efficacy Factor Scores
in Bunche Park



Kriged Estimate of CE Factor Scores with Homicides (2004-2010) in Bunche Park



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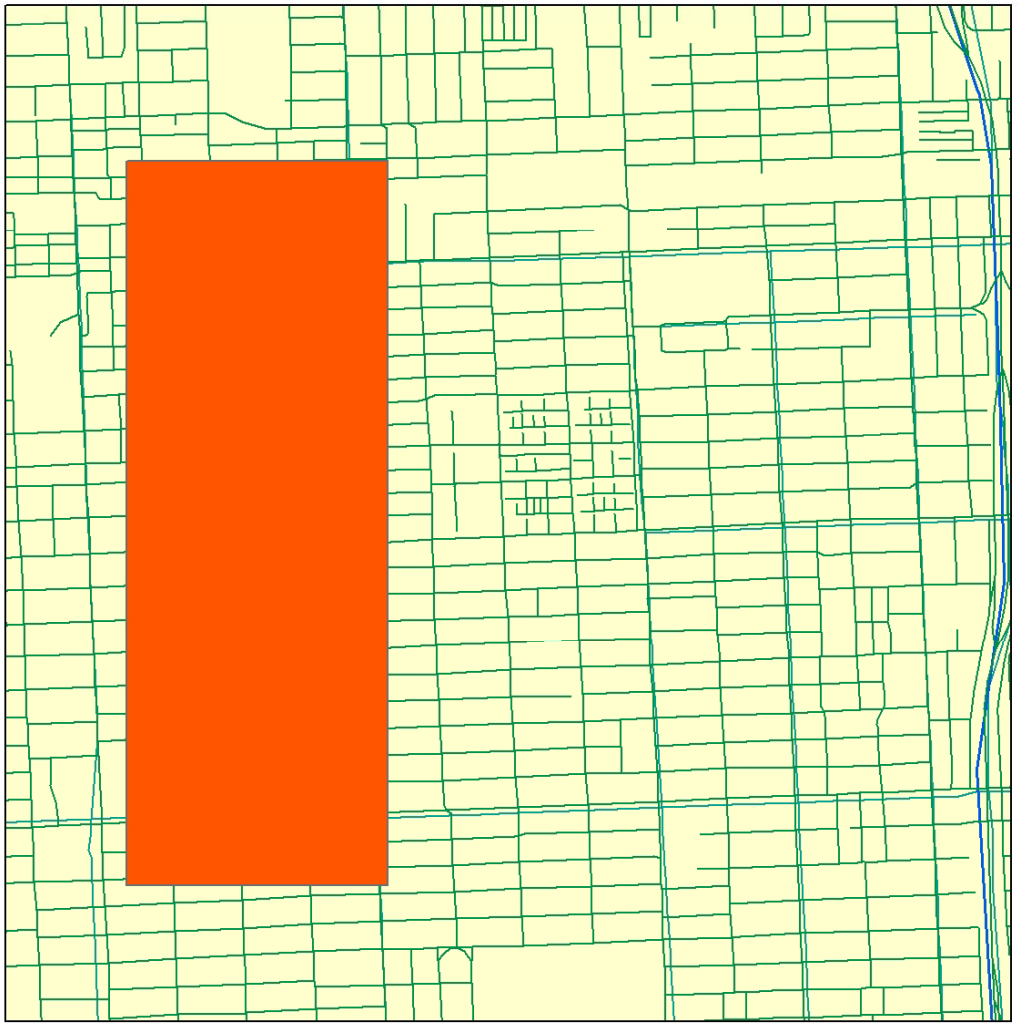
Intensive Study Area:
Liberty City/ Brownsville

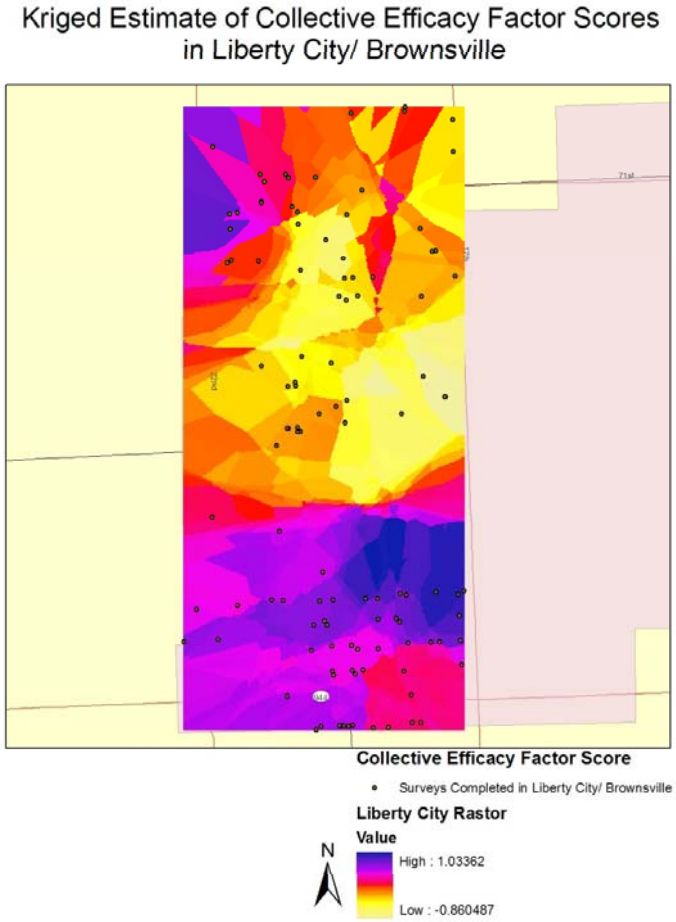


N

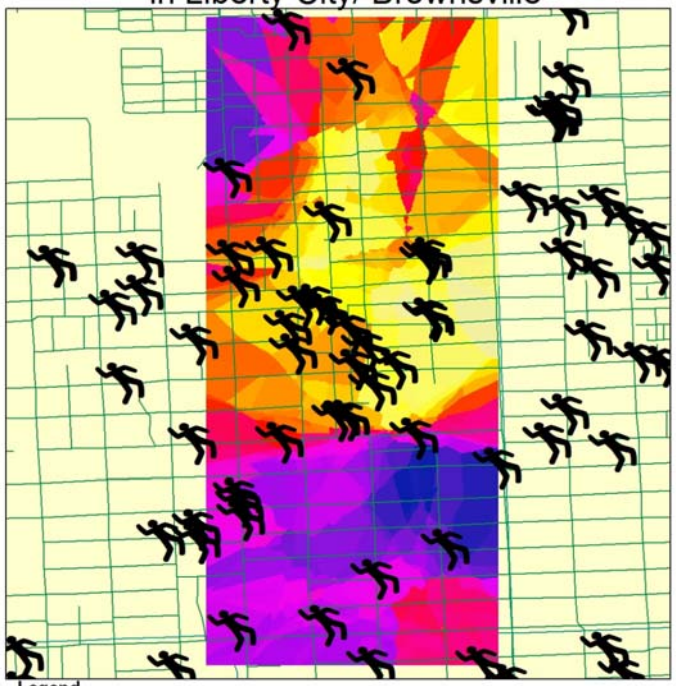
0 0.05 0.1 0.2 Miles

Legend

Does CE Vary within Neighborhoods?



Kriged Estimate of CE Factor Scores
with Homicides (2004-2010)
in Liberty City/ Brownsville



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Value

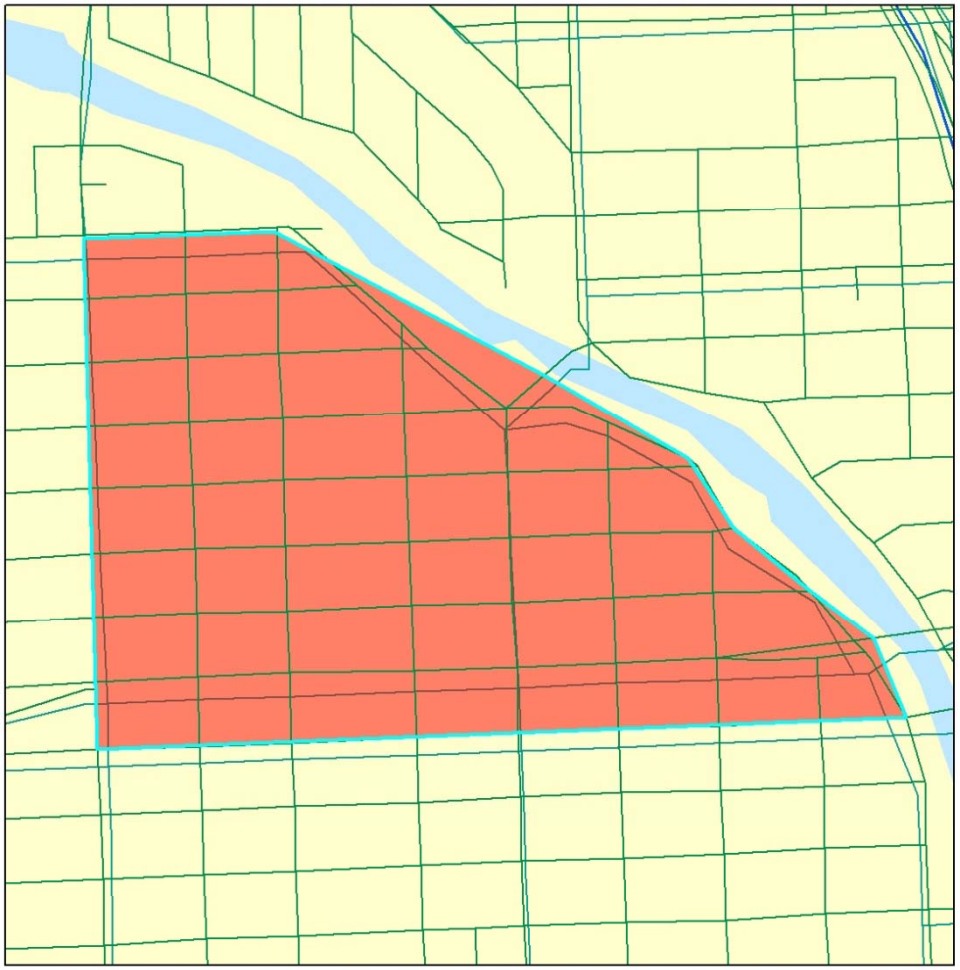
High : 1.03362

Low : -0.860487

N

0 0.05 0.1 0.2 Miles

Intensive Study Area:
East Little Havana



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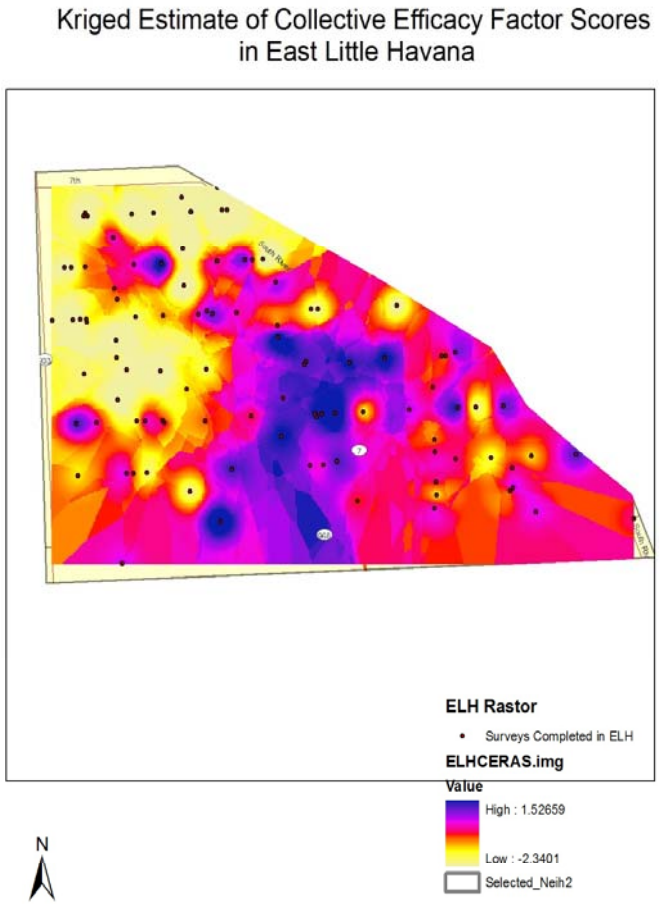
Legend

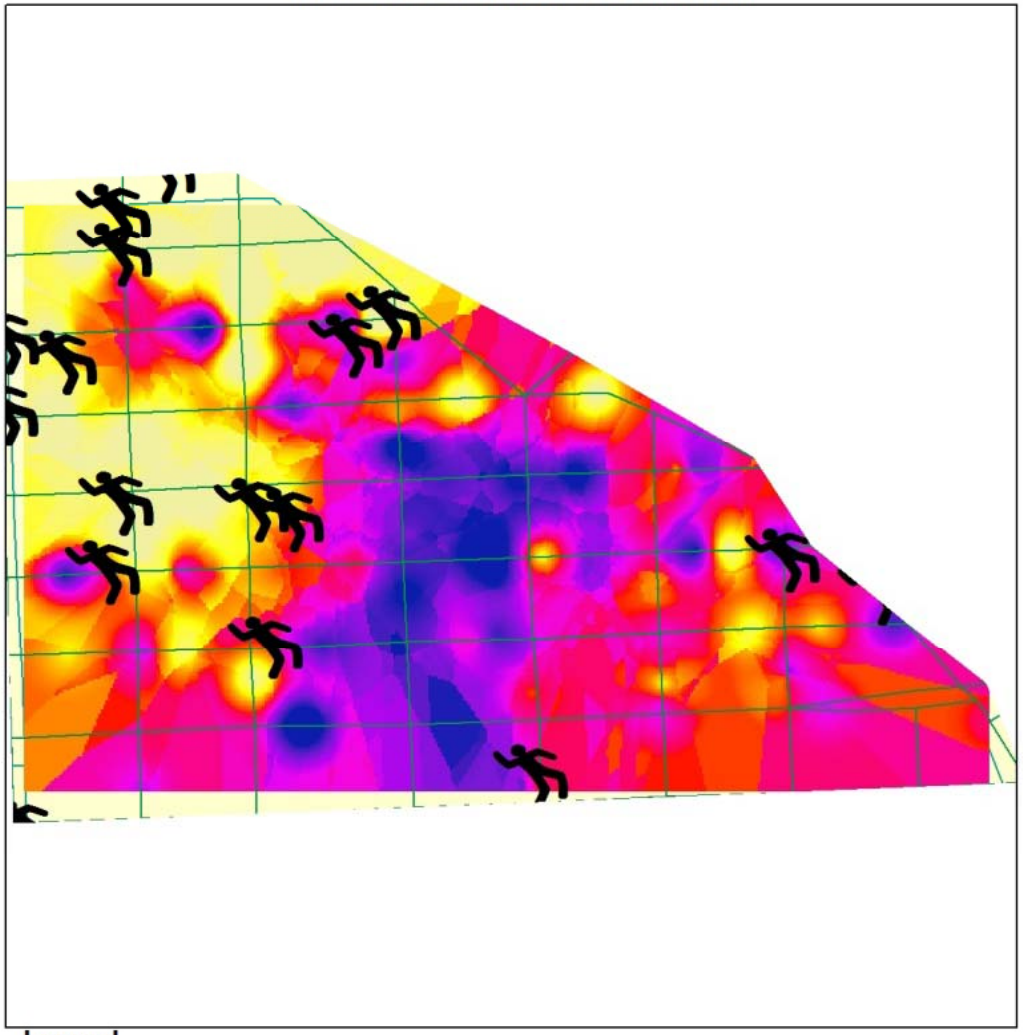
Intensive Study Areas

0 0.04 0.08 0.16 Miles

Does CE Vary Within Neighborhoods?



Kriged Estimate of CE Factor Scores with Homicides (2004-2010) in East Little Havana



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elhrastor

Value

High : 1.52659

Low : -2.3401

N

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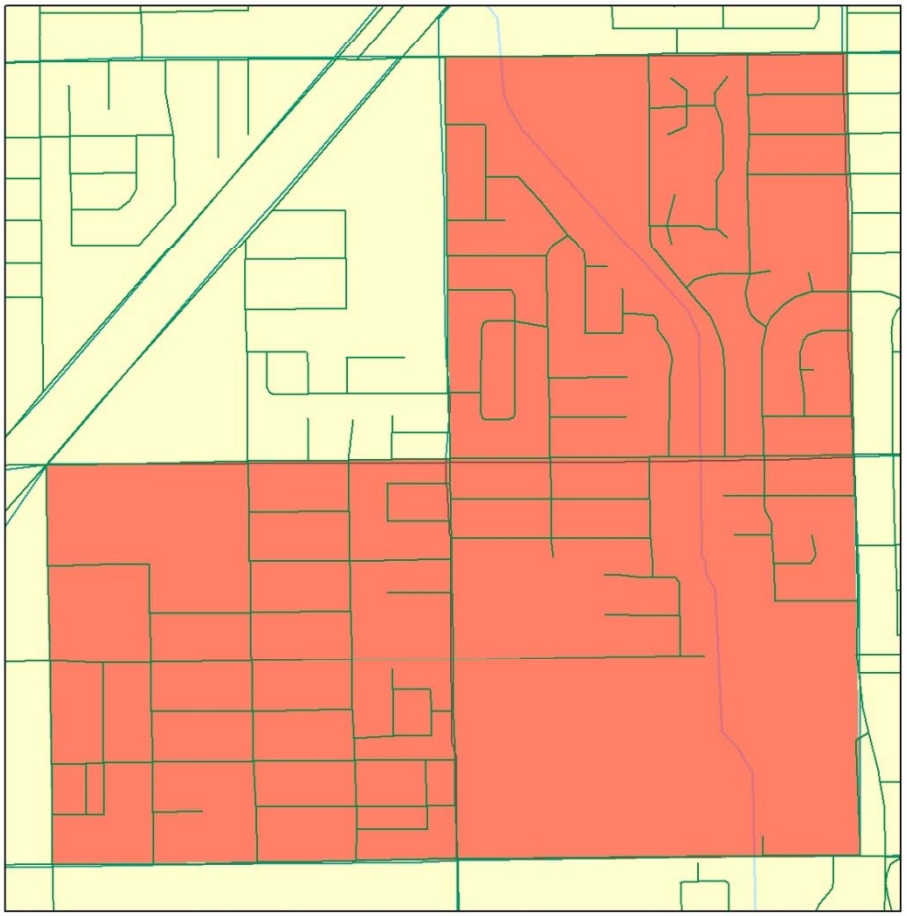
Intensive Study Area:
Seminole Wayside Park



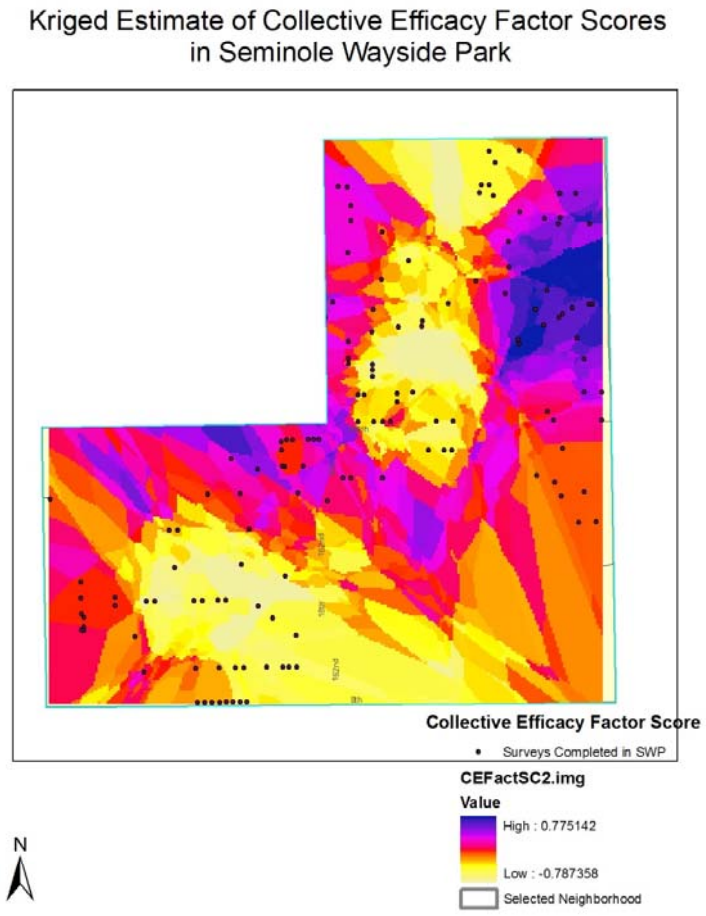
N

0 0.0450.09 0.18 Miles

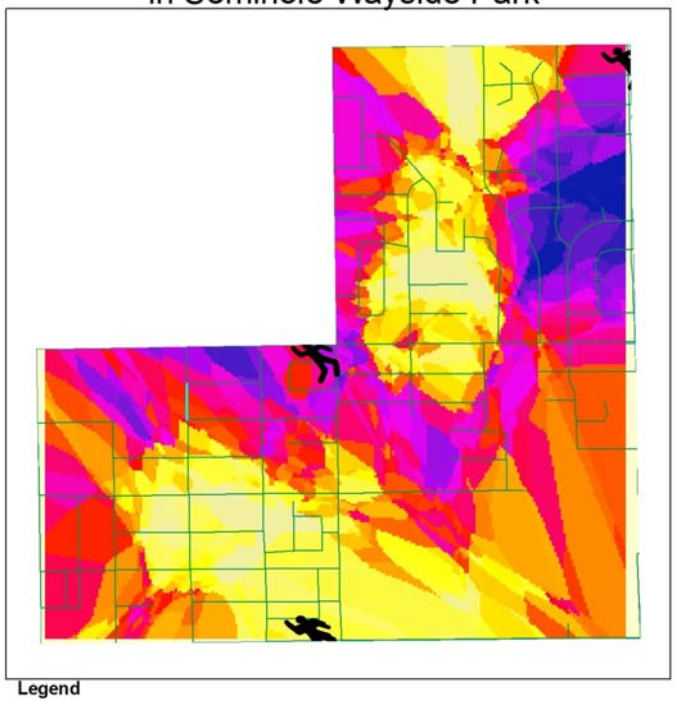
Legend

Intensive Study Areas

Does CE Vary Within Neighborhoods?



Kriged Estimate of CE Factor Scores
with Homicides (2004-2010)
in Seminole Wayside Park



Legend

swprastor

Value

High : 0.775142

Low : -0.787358

N

0 0.0450.09 0.18 Miles

Does Collective Efficacy Vary Within Neighborhoods?

- Future Steps
  - More work on Kriging capabilities for improved interpolation.
  - Understand what causes local variation in collective efficacy and what impact that this local variation has on crime
  - Use Hierarchical Bayesian Spatial Kriging

What are the Consequences of Different Strategies for Measuring Incivilities?

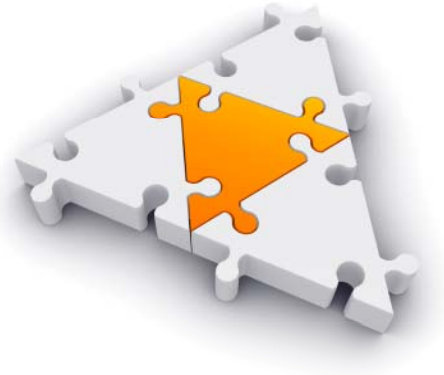
- Issue:
  - Incivilities are important components of neighborhood-level research
- Our Research:
  - We use three separate measures of incivilities:
    - Perceptions of incivilities measured on the community survey
    - Systematic Social Observations of a sample of face blocks within each neighborhood
    - Video taped walkthroughs of a subsample of these face blocks within some neighborhoods
  - Because we sampled the face blocks based on the original sample of survey respondents, we can link these together

What are the Consequences of Different Strategies for Measuring Incivilities?

- Future Research
  - Validate perceptual measure of incivilities
  - Compare perceptual incivilities to the SSOs of face blocks
  - Compare SSO methods (video, walk-throughs)

Important Considerations

1. Research expanded the Collective Efficacy scale
2. Incorporated GIS and geo-coded dat move away from traditional social science methodology
3. Used the Kriging method to visualize findings about collective efficacy
4. Will build upon these methods to find more answers
5. Develop into policy recommendations



- The Mapping Research Project is funded by The Children's Trust & the U. S. Department of Justice
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