Measuring Food Access and Availability in African American Communities: Implication for Intervention and Policy

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Measures of the Food and Built Environments:
Enhancing Research to Policy on Diet, Physical Activity, Weight
Background: “Ghetto Groceries”

- 1960’s to late 1970’s Marketing Literature
  - Examples:
    - Sexton (1971) “Comparing the cost of food to Blacks and Whites—A survey”
    - Sexton (1971) “Groceries in the ghetto”
    - Studivant (1968) “Better deal for ghetto shoppers”
Background: Current Research

- African American Focus
  - Racial Segregation (Morland et al., 2002; Zenk et al., 2005; Powell et al., 2006)

- Traditional/Cultural Foods (Block and Kouba, 2006)

- Formative Research and Community Participation (Lewis et al., 2005; Sloane et al., 2006)
Areas for Consideration:

1. Identifying community-relevant food outlets
2. Defining food environment area
3. Importance of store practices and social ecology
Pilot Studies

- Child Nutrition and Family Study I—CNFS I (Odoms, Zenk, Jarrett)
  - Funded by Consortium to Lower Obesity in Chicago Children

- Child Nutrition and Family Study II--CNFS II (Zenk, Odoms, Dallas)
  - Funded by UIC and NIU

- Food Access Study--FAS (Odoms, Mason, Zhang)
  - Funded by Robert Wood Johnson Foundation-Active Living Research
Approach/Methods

- Geo-ethnography (Matthews, Detwiler, and Burton, 2006)
  - Combining ethnographic data with geographic information analysis techniques (GIS)
  - Individual/Family Level
    - Individual interviews, Food access diaries, Photo-elicitation/Photovoice
  - Community Level
    - Food outlet location/type (administrative), Store/restaurant audits (Zenk et al., 2006), Neighborhood ethnography
Identifying relevant food outlets

- Food Outlets in African American Communities?
  - Interviews and Neighborhood Ethnography
    - Mobile units/stands (ex. Snow cone stands, street vendors)
    - Home stores/restaurants (ex. Candy houses)
    - Non-food outlets (ex. Cab stands)
Stores used by FAS participants (n=29)
Last 7 days and Usual stores

<table>
<thead>
<tr>
<th>% Participants</th>
<th>Food Outlet Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>90%</td>
<td>Limited Assortment Store (ex. Aldi)</td>
</tr>
<tr>
<td>55%</td>
<td>Local/Chain Supermarket</td>
</tr>
<tr>
<td>52%</td>
<td>Independent Grocery Store</td>
</tr>
<tr>
<td>52%</td>
<td>Corner/Convenience Store</td>
</tr>
<tr>
<td>28%</td>
<td>Specialty Store (ex. Meat/Produce Market)</td>
</tr>
<tr>
<td>17%</td>
<td>Drug Store/Pharmacy (ex. Walgreens)</td>
</tr>
<tr>
<td>14%</td>
<td>Dollar/Discount Department Store</td>
</tr>
<tr>
<td>14%</td>
<td>Home/Church-based Store</td>
</tr>
<tr>
<td>7%</td>
<td>Wholesale Club/Warehouse</td>
</tr>
<tr>
<td>3%</td>
<td>Supercenter (ex. Walmart)</td>
</tr>
</tbody>
</table>
Other Locations used by FAS participants (n=29)  
Last 7 days only

<table>
<thead>
<tr>
<th>% Participants</th>
<th>Food Outlet Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>7%</td>
<td>College/University</td>
</tr>
<tr>
<td>7%</td>
<td>Food Pantry</td>
</tr>
<tr>
<td>3%</td>
<td>Laundry Mat</td>
</tr>
<tr>
<td>3%</td>
<td>WIC Food Center</td>
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</tbody>
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Defining Community Food Environment Areas

- What is the best predictor of dietary intake?
  - Administrative neighborhood area (census tract, community area)
  - Individual residential area (residential buffer area)
  - Activity space
  - Actual Use

- What are we measuring?
  - Exposure or Use?
Importance of store practices and social ecology

- Previous studies
  - Not only food quality but store quality (ex. cleanliness)
  - Other issues that may impact food access and choice
    - Store Infrastructure (ex. Plexiglas/security bars)
    - Safety (ex. “hanging out” inside and outside stores)
    - Racial concordance between store owners and consumers
Infrastructure: Plexiglas Barriers
Safety: Inside Store

Last time I was at [x store] the environment wasn’t that good. There was a man walking around the store trying to sell gold chains and the security guard wasn’t trying to do nothing about it. So, that was the last time I was in there…It’s not a real safe environment.

~FAS Participant #10
“10-year-old fatally shot while trying to run home from store after school”
Does Racial Concordance Matter?
Next Steps:

- Understand more about food outlets used
- Role of outlet usage/shopping patterns, individual/family level factors
- Exposure vs. Use
- Other relevant issues: ex. store infrastructure, race/racism, neighborhood/outlet safety
- Focus on measurement to develop solutions
  - Stakeholders in control
  - Measures from other fields
- Objective and perceived food environment