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# Impact of a Community-Based Educational Garden Program on Child and Household Food Choices: A Case Study in Atlanta

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# Impact of a community-based educational garden program on child and household food choices: A case study in Atlanta

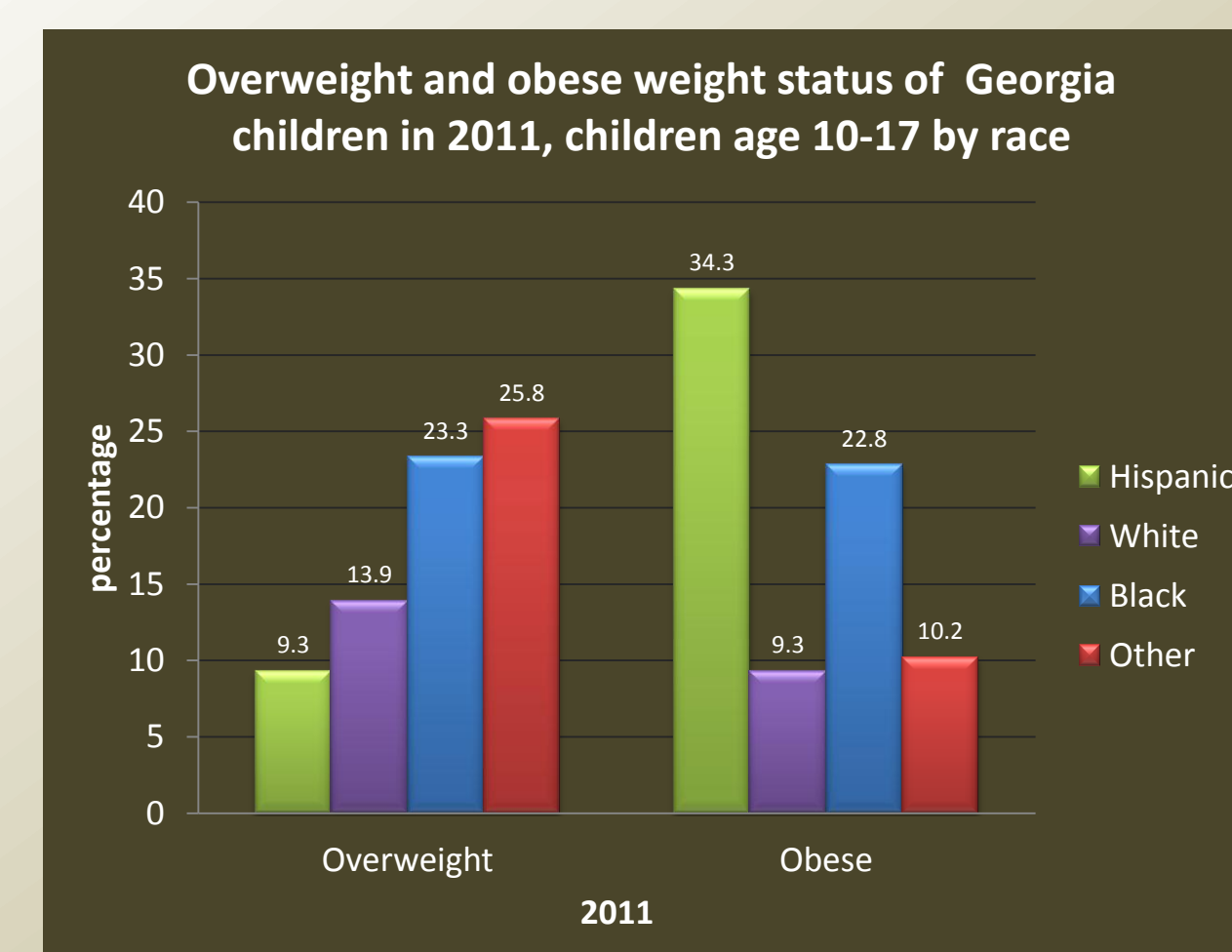
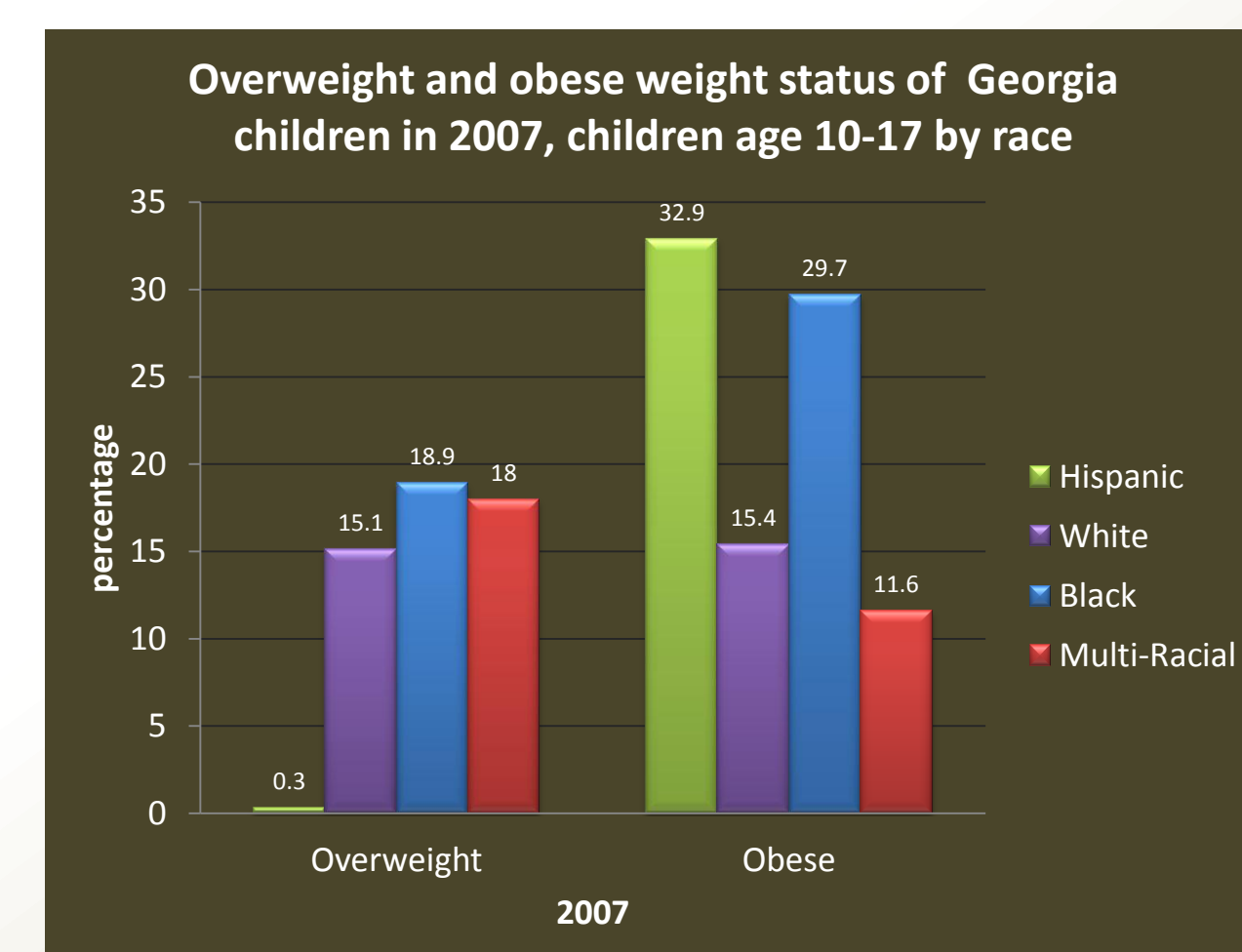


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## Obesity in Georgia

### Childhood obesity is a public health crisis and epidemic in Georgia:

- In 2007, 27% of Georgia high school students were overweight or obese (CDC 2013).
- Within that percentage there are significant racial and ethnic disparities; 35% of black high school students compared to 28% of white high school students were either overweight or obese in 2010 (Georgia Department of Public Health 2011).
- In 2007 Georgia was ranked as the 2<sup>nd</sup> most obese child population in the nation.
- The most recent data from 2011 shows a 5% drop in Georgia's childhood obesity rate; the state now ranks 17<sup>th</sup> in the nation for childhood obesity, 3<sup>rd</sup> for prevalence of overweight children and 10<sup>th</sup> when combining both factors (Georgia Department of Public Health 2013)



## Study Objectives

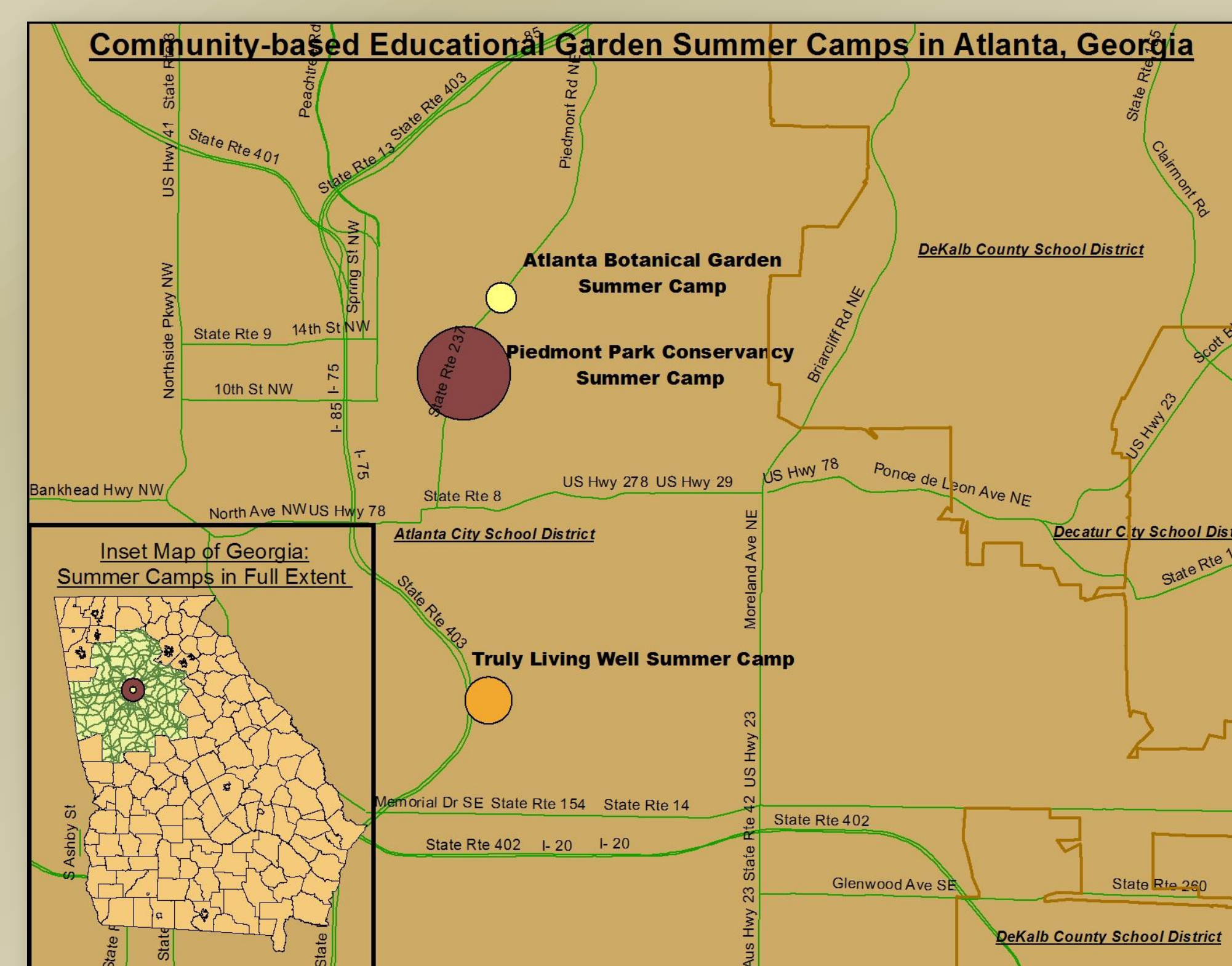
### Using stated and revealed preference methods to assess the short-term and long-term impacts of community based garden programs on:

- Children's knowledge and preferences for fruits and vegetables
- Children's body mass index percentile
- Parent's knowledge and assessment of the importance of fruits and vegetables

## Study Design

### Three participating community-based garden programs in Atlanta, Georgia

- Truly Living Well, Piedmont Park Conservancy, Atlanta Botanical Garden
- 200 camp participants between the ages of 5-15



## Revealed Preference Experimental Market

### Experimental Market Procedures

- Experimental market conducted Pre- and Post-Camp
- Each camper is endowed with 5 market tokens
- Tokens may be used to purchase food items from an experimental market
  - Participants select 1 of the 4 Healthy Options, or
  - 1 of the 4 Less Healthy Options

Healthy Options	Less Healthy Options
Fruit – Blackberries/Blueberries	Cakes/Cookies/Sweets (packaged)
Vegetable – Broccoli	Oatmeal Creme Pies
Fruit – Muscadine/Grapes	Chips
Vegetable – Carrots	Lays
Fruit – Peaches/Pears	Cracker snacks
Vegetable – Chickpeas/Hummus	On the Border
Fruit – Strawberries	Fruit Snacks
Vegetable – Cucumbers	On the Border

## Obesity and Youth Garden Education Programs

### Previous research has indicated that:

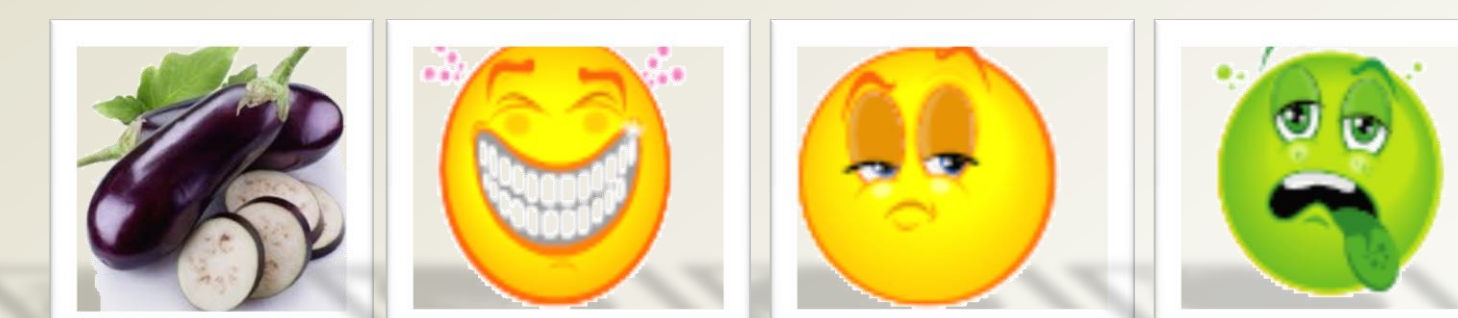
- Deficient amounts of dietary fiber, specifically fruit and vegetables, coupled with high consumption of refined grains and added sugar and a general lack of physical activity are the major culprits linking obesity and related disorders in effected populations, particularly minority populations (Davis et al., 2011)
- Gardening interventions can improve children's knowledge of, preference for, and consumption of healthy foods, whereas educational interventions alone have no effect (Langellotto and Gupta, 2012)
- "Nudging" individual behavior toward self-interest facilitates individuals who behave irrationally to achieve improved outcomes with minimal consequences to rationally behaved individuals (Downs et al., 2009, Unnevehr 2013)
- Gardening programs temporarily make fresh fruits and vegetables more prevalent, appealing and convenient to eat for youth at risk for obesity or associated chronic diseases (Capacci et al., 2012; Langellotto and Gupta, 2012)

## Stated Preference Survey

### Pre-camp, Post-camp, and 6 month follow-up survey:

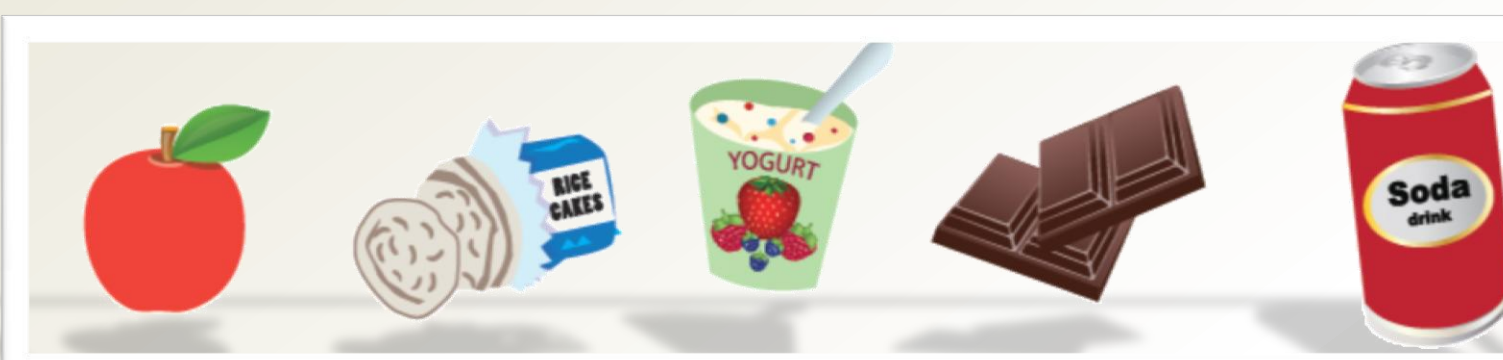
- Food Preference Assessment

Click the smiley face that best describes how you like the following vegetable



- Healthy Food Knowledge Assessment

Circle the three foods that would make the most healthy snack



- Healthy Food Consumption Habits

How often do you eat the following fruit per week?



## Implications

- The study's attention to the parents food decisions pre- and post-camp uniquely address the limited autonomy regarding food choices of youth and the relative success of camps in improving food knowledge, preference and consumption of foods in the household as well as food consumed away from the household
- Including a 6 month survey follow up involving the stated versus revealed preferences uniquely addresses the question of longer term effects of garden interventions on youth food choice

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