AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

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

**Joanna Brown**
M.S. Student
Department of Agricultural and Applied Economics
University of Georgia
jlbro3@uga.edu

**Gregory Colson**
Assistant Professor
Department of Agricultural and Applied Economics
University of Georgia
gcolson@uga.edu

**Nicholas Magnan**
Assistant Professor
Department of Agricultural and Applied Economics
University of Georgia
nmagnan@uga.edu

**Selected Poster prepared for presentation at the Agricultural & Applied Economics Association's 2013 AAEA & CAES Joint Annual Meeting, Washington, DC, August 4-6, 2013.**

*Copyright 2013 by Joanna Brown, Gregory Colson, and Nicholas Magnan. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies*

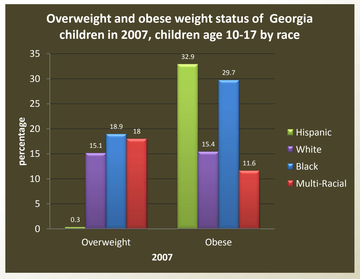
# Impact of a community-based educational garden program on child and household food choices: A case study in Atlanta

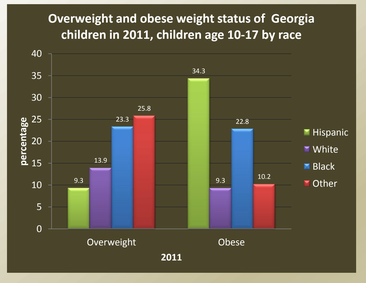
Joanna Brown: University of Georgia::jlbro3@uga.edu, Gregory Colson: University of Georgia ::gcolson@uga.edu, Nicholas Magnan: University of Georgia ::nmagnan@uga.edu

## 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 state with the 2nd 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 17th in the nation for childhood obesity, 3rd for prevalence of overweight children and 10th when combining both factors (Georgia Department of Public Health 2013)




## 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)

## Study Objectives

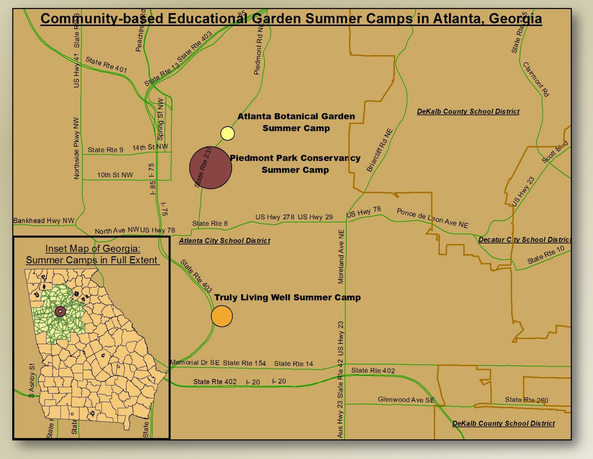
**Using stated and revealed preference methods to assess the short-term and long-term impacts of community based garden programs on:**

- 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

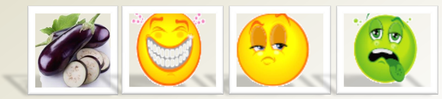



## Stated Preference Survey

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

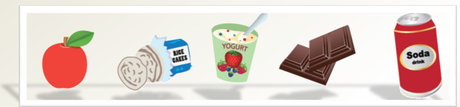
- Food Preference Assessment

  *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?*

## 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 | |
| Fruit – Muscadine/Grapes | Chips |
| Vegetable – Carrots | |
| Fruit – Peaches/Pears | Cracker snacks |
| Vegetable – Chickpeas/Hummus | |
| Fruit – Strawberries | Fruit Snacks |
| Vegetable – Cucumbers | |

## 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

## Acknowledgments

Funding provided by UGA Faculty Research Grants in the Sciences and the support by Truly Living Well, Piedmont Park Conservancy, and Atlanta Botanical Garden are gratefully acknowledged.