

## **The Impacts of Cooking Programs on Children’s Choice Behaviors & Consumption of Fruits and Vegetables**

### **1. The Impact of Cooking Classes on Food-Related Preferences, Attitudes, and Behaviors of School-Aged Children: A Systematic Review of the Evidence, 2003-2014**

by Derek Hersch, Laura Perdue, Teresa Ambroz, and Jackie L. Boucher (2014)

[http://www.cdc.gov/pcd/issues/2014/pdf/14\\_0267.pdf](http://www.cdc.gov/pcd/issues/2014/pdf/14_0267.pdf)

#### Program Details

- The authors conducted a search on various research databases to find studies involving cooking education programs with children, specifying that studies included in their search involved hands-on cooking interventions.
- The studies included focused on children aged 5 to 12 years old and the interventions took place in a school or community setting.
- The authors focused on eight articles from their search and assessed the impacts of the interventions on students’ food attitudes.

#### Program Outcomes

- Some of the major outcomes found in the intervention groups within these studies included increases in:
  - Cooking confidence
  - Vegetable consumption
  - Self-efficacy
  - Willingness to try new foods
  - Vegetable preferences
  - Fiber consumption

#### Main Findings

- Cooking programs might positively influence children’s food-related preferences, attitudes, and behaviors, although difficult to determine through which practice pathways can we reach this outcome.
- Despite the method of intervention on students, “each program had a significant effect on 1 or more of its participants’ food-related preferences, attitudes, and behaviors...”
- The authors suggest that longer programs can increase such outcomes and create further benefits in children’s food choices and attitudes.

## 2. **Cooking Classes Increase Fruit and Vegetable Intake and Food Safety Behaviors in Youth and Adults**

by Barbara J. Brown, Janice R. Hermann (2005)

[http://ac.els-cdn.com/S1499404606600274/1-s2.0-S1499404606600274-main.pdf?\\_tid=ee5a9cba-aa38-11e4-afe8-00000aacb35f&acdnat=1422812402\\_8da34f785a219fba5711f25e93e2a204](http://ac.els-cdn.com/S1499404606600274/1-s2.0-S1499404606600274-main.pdf?_tid=ee5a9cba-aa38-11e4-afe8-00000aacb35f&acdnat=1422812402_8da34f785a219fba5711f25e93e2a204)

### Program Details

- Oklahoma Cooperative Extension Service developed a program to educate children and adults (12-57 years old) on fruit/vegetable preparation skills, nutrition, food safety practices.
- The program was implemented in 28 counties over a 2-month period.
- There were a total of 602 participants (229 youth, 373 adults).
- The program implemented classes on cooking fruits/vegetables via microwave, stir-fry, baking, steaming, grilling, etc.

### Program Outcomes

- The intervention participants experienced increased fruit intake: 1.1 – 2.3 servings daily for youth; 1.5 – 2.1 servings daily for adults.
- They also experienced increased vegetable intake: 1.4 – 2.4 servings daily for youth; 2.1 – 2.7 servings daily for adults.
- There were significant improvements in food preparation practices:
  - 38% of youth & 11% of adults increased behavior of washing hands.
  - 29% of youth & 8% of adults increased behavior of washing food during preparation.

### Main Findings

- The authors concluded that “Using fruit and vegetable cooking classes as an education approach was effective in increasing fruit and vegetable intake and improving food safety behaviors related to produce. Although improvements were observed for both youth and adults, youth particularly benefitted...”

### **3. Cook it Up! A Community-based cooking program for at-risk youth: overview of a food literacy intervention**

by Heather MC Thomas, Jennifer D. Irwin (2011)

<http://www.biomedcentral.com/1756-0500/4/495>

#### Program Details

- London Community Resource Center developed an 18-month community-based cooking program taught by local chefs and registered dietitian for at-risk youth aimed at improving development of cooking skills and food literacy.
- The program included: visits to community farms/farmers markets to achieve notion of “from gate to plate” and heighten familiarity with local agriculture & bi-monthly 2-hour cooking sessions.
- A total of eight “at-risk youth” (5 girls, 3 boys) at an average age of 14.6 years old completed the intervention.

#### Program Outcomes

- Participants experienced enhanced self-efficacy with cooking.
- The program also helped improve food preparation, selection, storage, and usage.

#### Main Findings

- The authors concluded that the program enhanced the youth’s self-efficacy and provided a unique intervention to improve important food skills.

#### **4. When Chefs Adopt a School? An Evaluation of a Cooking Intervention in English Primary Schools**

by M. Caraher, A. Seeley, M. Wu, and S. Lloyd (2012)

<http://www.ncbi.nlm.nih.gov/pubmed/23201301>

##### Program Details

- A UK program designed to designate professional chefs in schools to teach health, food, nutrition, and cookery.
- The program included three sessions for one class for up to one year.
- Participants included 9-11 year olds in 4 primary schools.

##### Program Outcomes

- The program resulted in “gains in skills and confidence to prepare and ask for the ingredients to be purchased for use in the home.”
- The average cooking confidence score increased from 3.09 – 3.35 in intervention group and no statistical change in control group.
- There was an increase in vegetable consumption post-sessions with chef: 2.24 – 2.46 points among intervention group and no change in control group.

##### Main Findings

- The authors conclude that there is a “need to incorporate evaluation into school cooking initiatives as the findings can provide valuable information necessary to fine-tune interventions and to ensure consistency of the healthy eating messages.”

## **5. Cooking with Kids Positively Affects Fourth Graders' Vegetable Preferences and Attitudes and Self-Efficacy for Food and Cooking**

by L. Cunningham-Sabo, B. Lohse (2013)

<http://www.ncbi.nlm.nih.gov/pubmed/24320723>

### Program Details

- The Cooking with Kids (CWK) school-based food education program was led by trained food educators for mostly low-income, fourth grade Hispanic students.
- A total of 257 students in 12 classes within 4 public schools participated in the program.
- The program included a 1-hour introductory lesson, three 2-hour cooking classes, and three 1-hour fruit/vegetable tasting sessions.

### Program Outcomes

- There were findings of increased vegetable preference particularly among CWK participants and significant improvement among boys with no cooking experience.
- There was more than three times greater increase in self-efficacy among program participants than non-intervention participants.

### Main Findings

- The authors concluded that “CWK significantly improved fourth-grade students’ vegetable preferences, food and cooking attitudes, and self-efficacy toward food and cooking, which are factors important to healthful eating and obesity prevention.”

## **6. LA Sprouts: a Garden-Based Nutrition Intervention Pilot Program Influences Motivation and Preferences for Fruits and Vegetables in Latino Youth**

by Nicole M. Gatto, Emily E. Ventura, Lauren T. Cook, et al. (2012)

<http://www.csgn.org/sites/csgn.org/files/LA%20Sprouts.pdf>

### Program Details

- The LA Sprouts garden-based intervention was taught by trained/certified study staff or graduate students aimed at influencing behavior associated with dietary intake and psychosocial factors.
- There were 104 mostly Latino fourth & fifth grade participants.
- The program included weekly 90-minute interactive classes for 12 consecutive weeks at a community garden for intervention group, while the control group received abbreviated delayed intervention.
- It consisted of a cooking/nutrition component, 45-minute gardening lessons, and visits to farmers markets.

### Program Outcomes

- There were improved preferences for vegetables among intervention participants.
- Among obese/overweight intervention participants, there was a 2.1 point increase in preference for vegetables when compared with control group.
- There was a 16% greater increase in vegetable preferences among intervention group when compared with control group.
- Participants were 54% more likely than control subjects to report that “vegetables from the garden taste better than [those] from the store.”

### Main Findings

- The authors concluded that “the intervention also resulted in increases in reported preferences for vegetables among female participants and in participants who were overweight or obese.”
- Also, they stated that “Results from this pilot study suggest that a cooking, nutrition, and gardening after-school program in a garden-based setting can improve attitudes and preferences for fruits and vegetables in Latino youth...”

## **7. Expanding Children's Food Experiences: the Impact of a School-Based Kitchen Garden Program**

by Lisa Gibbs, Petra K, Staiger, Britt Johnson, et al. (2012)

[http://ac.els-cdn.com/S1499404612005763/1-s2.0-S1499404612005763-main.pdf?\\_tid=5715cb26-aa39-11e4-9fc2-00000aab0f01&acdnat=1422812577\\_f74a18c5f26683c15cb9fdd96d26c29b](http://ac.els-cdn.com/S1499404612005763/1-s2.0-S1499404612005763-main.pdf?_tid=5715cb26-aa39-11e4-9fc2-00000aab0f01&acdnat=1422812577_f74a18c5f26683c15cb9fdd96d26c29b)

### Program Details

- The Stephanie Alexander Kitchen Garden (SAKG) Program was aimed at increasing child appreciation of diverse, healthy foods.
- There was a total of 764 children participating in grades 3-6 (8-12 years old), and 562 parents in 6 intervention and 6 control primary schools in Australia.
- The program included 45-60 minutes in a garden class and 90-minutes in a kitchen class.

### Program Outcomes

- The main themes that emerged were children eating/appreciating new foods, an impact on student engagement and learning, social impacts on broader school community, and the transfer of program impacts to home environment.
- Children in the program-intervention group were more enthusiastic about trying new food, eating more vegetables, and eating less junk food when compared with control group.

### Main Findings

- The authors concluded that “the strength of the findings in terms of children’s increased willingness to try new foods provides preliminary evidence of the success of the SAKG program in achieving its primary objective [children’s willingness to try new foods].”