SNEB Journal Club 5:
A Mixed Methods Evaluation of a SNAP-Ed Farmers’
Market-Based Nutrition Education Program

Elizabeth Solomon, MS, RD
Rachel Dannefer, MPH, MIA
NYC Health Department
February 29, 2016
Learning Objectives

List key considerations when planning farmers’ market nutrition education programming

Understand best practices for successful implementation of farmers’ market nutrition education programming.

Explain the methods and results of the mixed-methods evaluation of the SNAP-Ed program described during the webinar

Identify strengths and weaknesses of various methods for evaluating farmers’ market based nutrition education programming.
Agenda

- Context
- Program history
- Program implementation
- Key considerations and best practices
- Overview of 2012 evaluation
- Other related evaluations
- Questions
Poverty, Race, and Fruit and Vegetable Consumption in New York City

Sources: Neighborhood poverty (based on zip code) defined as percent of residents with incomes below 100% of the Federal Poverty Level, per American Community Survey 2007-2011. Population (based on zip code) defined as percent of non-Hispanic black and Hispanic residents, per 2010 Census. Fruit and Vegetable Consumption– DOHMH, Community Health Survey 2013.
Stellar Farmers’ Market History

- **Launch:** 2009 at 6 farmers’ markets (2015 at 20 markets)

- **Funding:** USDA Supplemental Nutrition Assistance Program (SNAP) - Education via New York State Health Department

- **Goal:** to increase consumption of fruits and vegetables of SNAP-eligible New Yorkers
Stellar Farmers’ Market Implementation

- **What:** free bilingual food workshops for adults at farmers’ markets
  - Just Say Yes to Fruits and Vegetables curriculum
    - Facilitated discussion/workshop activities
    - Culinary demonstration
    - Tasting
- **When:** from July- November
  - 4-6 times per market day
  - 30-40 minutes per workshop
- **Who:** team of three
  - Nutritionist, bilingual educator, culinary educator
  - Part time, seasonal staff
Stellar Farmers’ Market Workshop

- **Facilitated discussion/workshop activities**
  - Topics Include: MyPlate, Stretching the Food Dollar, Nutrition Facts Labels, Storing and Freezing, Food Safety

- **Culinary demonstrations**
  - Feature: seasonal fruit or vegetable
  - Demonstrate: recipe, food safety, knife skills
  - Discuss: involving children, adapting to culture, applying lesson topic

- **Give away**
  - Tasting
  - Handout
  - Recipe
  - $2 Health Bucks Coupon
Stellar Farmers’ Market Reach 2015

- 26,200 direct participants in over 1,600 workshops
- 15,618 indirect participants
- 41,818 total - over 2,000 participants per day
<table>
<thead>
<tr>
<th>Key Considerations</th>
<th>Best Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Target audience</td>
<td>• Consider languages</td>
</tr>
<tr>
<td>• Partner organizations</td>
<td>• Facilitated discussion</td>
</tr>
<tr>
<td>• Logistics</td>
<td>• Onsite tastings</td>
</tr>
<tr>
<td>• Storage</td>
<td>• Culturally appropriate</td>
</tr>
<tr>
<td>• Water</td>
<td>• Food safety</td>
</tr>
<tr>
<td>• Space</td>
<td></td>
</tr>
<tr>
<td>• Noise</td>
<td></td>
</tr>
<tr>
<td>• Farmers</td>
<td></td>
</tr>
</tbody>
</table>
Future Considerations

- Locations
- Quality versus quantity
- Capacity building
- Settings
Stellar Farmers’ Markets Evaluation

- Mixed methods evaluation in 2012
  - Surveys with participants and a control group
  - Focus groups

- Aimed to measure the impact of Stellar on participant attitudes, self-efficacy, and behaviors related to fruits and vegetables (FV)
Data Collection

- Three study groups:
  - Two+ class group
  - One class group
  - Control group of market shoppers (0 classes)
- Surveyed in last week of August 2012 at 18 markets
- Self-administered survey, available in English and Spanish
- Respondents were 18+ and received 3 Health Bucks for participating
Survey

- Survey assessed produce consumption, attitudes toward eating FV, self-efficacy to prepare and consume FV, Stellar participation, and demographics
- Developed survey through review of relevant literature and program goals
- Surveys were pretested at several markets in both English and Spanish before finalizing
Analyses

- Hypothesis: as class attendance increased, so would positive behaviors, attitudes, and self-efficacy related to produce preparation and consumption
- Bivariate analyses were used to examine differences in outcomes across study groups
  - For FV consumption, 0 and 1 class groups were combined
- Regression analyses controlled for age, race/ethnicity, education, and gender
- In regression, number of classes treated as a continuous variable (range 0 to 6) to test for a dose-response relationship between Stellar class attendance and positive outcomes
Survey Sample

- 2,063 respondents
  - 736 in 2+ class group
  - 656 in the 1 class group
  - 671 in the control group
- 84% of respondents were female
- 68% were Hispanic/Latino, and 16% were black
- 45% had less than a high school education
- Control group respondents were significantly more likely to be white, younger, and to have higher levels of education than the other groups
- Respondents in the 2+ class group were significantly more likely to be female
  - Median number of classes taken was 4
FV Consumption was Significantly Higher in the 2+ Class Group

*Difference between 0/1 Classes vs. 2+ Classes was statistically significant, P < 0.001
Participation in Stellar Was Associated with More Positive Attitudes Towards Eating FV

*Difference between 0 Classes vs. 1 Class Group was statistically significant, P < .05
**Difference between 1 Class Group vs. 2 or More Class Group was statistically significant, P < .001
Self-Efficacy to Prepare & Eat Produce Was Significantly Higher among the 2+ Class Group

- 5 items assessed confidence to:
  - Prepare recipes with FV
  - Serve two vegetables as part of dinner daily
  - Eat one cup of a vegetable as part of lunch daily
  - Eat three cups of vegetables on most days
  - Eat different types of FV most days

- Averaged responses to create a scale with possible values from 1 to 4, where 4 represented highest self-efficacy and 1 was the lowest

- 2+ class respondents had significantly higher scores than the other groups, 3.39 vs. 3.27 ($P<.0001$)
Focus Groups

- Participants were 18 years+ were recruited from list obtained at Stellar workshops.
- Lasted 90 minutes, participants received $100.
- The interview guide covered eating and food shopping behaviors, shopping at farmers' markets, program impacts and recommendations for improvement.
Focus Groups

- 5 focus groups with 49 participants
  - 3 in English, 2 in Spanish
- 79% were female
- 63% were Hispanic and 23% were black
- Education
  - 30% - less than a high school education
  - 32% - high school graduates
  - 38% - at least some college
Focus Groups

- Transcripts were reviewed to develop codebook of key themes
- All transcripts were coded in Atlas.ti
- Key outcome areas:
  - Knowledge
  - Attitudes
  - Behavior
  - Health
Knowledge

Nutrition knowledge:

- [Pear is] the fruit with the most fiber. I didn’t used to eat pear. Now I eat a lot of pear, and my kids. [Female, FG5]

Exposure to new FV:

- [I] had never thought about eating squash until I took the nutrition class. [Female, FG2]

New ways to prepare familiar produce:

- Before you were scared of mixing a fruit with a vegetable, and we learned that you can mix. [Male, FG4]
- I also thought that when you say vegetables, it’s always something hot. They have taught me how to prepare anything. I can take any cold—celery, anything—and make a salad out of it. [Female, FG3]
Attitudes

Healthy food can taste good and be easy to prepare:

- **Male:** There's some things that they make where it's no cooking involved, and it's really nutritious and easy. **Female:** And it's fun. It's actually fun. [FG2]

- ...You have parents that have children and they’re like, “I don't want that!” But when she finishes making a salad [...] the kids love it. You would be surprised. [Female, FG3]
Behaviors

Changes included purchasing more produce, shifting from prepared to fresh foods, and shopping more strategically:

- My kids, the youngest—I didn't know that she liked to eat raw corn. [At the classes] she ate onions. She ate corn. And then I saw that my daughter really liked vegetables, and I didn't used to keep the vegetables. [Female, FG5]

- [The class] told me how to buy in season, so I know when price-wise it’ll be too much or not. [Female, FG1]
Behaviors

Behavior change was reinforced by family members, and participants in every group had made Stellar recipes:

- *It's just an amazing way to start learning how to cook, especially interacting with your children in the kitchen. Isn't anybody watching the TV or playing video games. I'm like, "Let's make this. Go get the recipe book." I got the loose-leaf book with all of their recipes in there.* [Female, FG 2]

- *Very [easy to make]. They tell you the amount, the quantities, and they tell you the price, “It’s going to cost you this.” It’s very clear.* [FG5]
Health

Participants noted improved health for themselves and family members:

- This program changed my life. [...] In my house, it used to be a lot of pancakes and hotdogs. That I took out of my house. I was very fat. It changed my life. [Female, FG5]
Strengths & Limitations

Limitations
• Respondents were self-selected; those taking classes may have started out with more positive attitudes and behaviors
  • Aimed to address this by recruiting control respondents from the same farmers’ markets where we surveyed class participants; most (69%) said they were likely to attend a Stellar class in the future
  • Outcomes remained significant in regression analysis

Strengths
• Large sample size
• Mixed-methods design
  • Findings from focus groups and surveys supported each other
Related Evaluations

2014 Farmers’ Markets for Kids Evaluation
• Surveyed 212 parents of children participating in workshops using retrospective pretest-posttest survey
• After taking classes, children’s FV consumption and attitudes toward FV improved

2016 Evaluation of Farmers’ Markets Programming: Nutrition Education and Health Bucks
• Longitudinal evaluation to compare participant outcomes when Stellar is combined with Health Bucks, compared with these programs offered in isolation, compared to a control group of shoppers at markets offering neither intervention
Thank you

• Thanks to coauthors Alyson Abrami, Rebecca Rapoport, Pathu Sriphapanlop, Rachel Sacks, and Michael Johns.
• Thanks also Catherine Luu, Brett Wyker, Beth Bainbridge, and Shannon Farley.

• For more information contact:
  • Rachel Dannefer, rdannefe@health.nyc.gov
  • Elizabeth Solomon, esolomo1@health.nyc.gov