An Evaluation of Arkansas' Cooking Matters Program

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Outline of the Presentation

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Literature Review---Definitions

- **USDA's definition for food insecurity and hunger.**
- The U.S. Department of Agriculture (USDA) defines food insecurity as a lack of consistent access to enough food for an active, healthy life.
- Hunger refers to a **personal, physical sensation** of discomfort.
- Food Insecurity--- **a lack of available financial resources** for food for one's household.

Literature Review

Share Our Strength Cooking Matters

- The Walmart is the national sponsor of Cooking Matters.
- Developed in 1993, CM is a six-session course designed for low income individuals who are food insecure to provide them with the knowledge and skills to prepare healthy and affordable meals on a budget.
- Since 2012, through six-week CM's courses and grocery store tours, approximately 13,600 Arkansas families have been taught how to stretch their food dollars and prepare healthy meals while maintaining their budget.
- In 2015, CM was endorsed by the Governor's Healthy, Active Arkansas 10-Year plan that is aimed to improve the health of all Arkansans.

Literature Review
Impact Evaluation of Cooking Matters: Findings from 6 States

1. California
2. Colorado
3. Maine
4. Massachusetts
5. Michigan
6. Oregon

- **10% increased their cooking confidence.**
- **11% decreased their perceived cooking barriers.**

- **Significantly increased the number of dinners cooked at home. (6%; from 5.18 to 5.47).**

- **Increased the frequency with which they chose whole grain options by 8%.**

- **Significant improvement in their healthy food preparation scores 3.63 at baseline to 3.95.**

- **Less worried that food might run out before they had money to buy more (3.01 to 2.65).**

- **Sustained an increase in green salad and non-fried vegetable consumption (5% and 6% over baseline reports, respectively).**

Literature Review---Problem Statement

- In 2014, 567,250 (19.1%) Arkansans were classified as food insecure (Feeding America, 2016).

- Adults who experience food insecurity are faced with many negative health and wellness outcomes such as:
  - overweight/obesity (Adams, Grummer-Strawn , Chavez, 2003)
  - reduction in nutritious meals (Rose, 1999)
  - fair or poor health (Stuff et al. 2004)
  - lower quality of life (Vailas, Nitzke, Becker, Gast, 1998)

Literature Review

Nutrition Knowledge

- Currently access to accurate nutrition literacy is limited for low-income families (Cornish and Moraes, 2015).

Self-Efficacy

- An increase of nutrition knowledge leads to improved attitude and self-efficacy in consuming a healthy diet.

"When you know better, you do better"—Maya Angelou

Dietary Behavior

- Further, evidence shows that as socioeconomic status decreases and poverty increases, availability to supermarkets decreases, and availability to corner stores increases (Bower, 2014).

Methodology

- **Sample**
  - 536 Adult Arkansans
- **Design**
  - Convenience Sampling Approach
  - Pre-Post Test Quantitative Survey Design
- **Instrumentation**
  - Cooking Matters for Adult Surveys 2014-2017
    - Administered to at least 146 sites throughout Arkansas between 2014-2017

Methodology---Operationalization of Variables

Scales	Items	Response Options
Nutrition Knowledge (7 items)	1. Example: How often do you compare prices before you buy food?	Never Rarely Sometimes Often Always Does not apply
	2. Example: How often do you use the "nutrition facts" on food labels?	
	3. Example: How often do you plan meals ahead of time?	
	4. Example: How often do you use a grocery list when you go grocery shopping?	
	5. Example: How often do you eat breakfast within two hours of waking up?	
	6. Example: How often do you eat food from each food group every day? (Food groups include dairy, grains, fruits, vegetables, and protein.)	
	7. Example: How often do you make homemade meals "from scratch" using mainly basic whole ingredients like vegetables, raw meats, rice, etc.?	
Food Insecurity (3 items)	1. **Example: How often do you worry that your food might run out before you get money to buy more?**	Never Rarely Sometimes Often Always Does not apply
	2. Example: How often do you adjust meals to include specific ingredients that are more "budget-friendly," like on sale or in your refrigerator or pantry?	
	3. Example: How often do you adjust meals to be more healthy, like adding vegetables to a recipe, using whole grain ingredients, or baking instead of frying?	
Self-Efficacy (6 items)	1. Example: How confident are you that you can use the same healthy ingredient in more than one meal?	Not at all confident A little confident Somewhat confident Very confident Completely confident Does not apply
	2. Example: **How confident are you that you can cook healthy foods for your family on a budget?**	
	3. Example: How confident are you that you can help your family eat more healthy?	
	4. Example: How confident are you that you can choose the best-priced form of fruits and vegetables (fresh, frozen or canned)?	
	5. Example: How confident are you that you can use basic cooking skills, like cutting fruits and vegetables, measuring out ingredients, or following a recipe?	
	6. Example: How confident are you that you can buy healthy foods for your family on a budget?	

Methodology---Operationalization of Variables

Scales	Items	Response Options
Sugar Sweetened Beverages (2 items)	1. **Example: How often do you typically drink 100% fruit juices like orange juice, apple juice or grape juice? (Do not count punch, Kool-aid, sports drinks or other fruit-flavored drinks.)**	Not at all Once a week or less More than once a week Once a day More than once a day
	2. Example: How often do you typically drink a can, bottle, or glass of regular soda or pop, sports drink, or energy drink? (Do not count diet or zero calorie drinks.)	
Water (1 item)	1. Example: How often do you typically drink a bottle or glass of water? (Count tap, bottled and sparkling water.)	Not at all Once a week or less More than once a week Once a day More than once a day
Fruit and Vegetable (3 items)	1. **Example: How often do you typically eat fruit like apples, bananas, melon, or other fruit?** 2. Example: How often do you typically eat green salad? 3. Example: How often do you typically eat other non-fried vegetables like carrots, broccoli, green beans, or other vegetables?	Not at all Once a week or less More than once a week Once a day More than once a day
Processed and Fast Food (2 items)	1. Example: How often do you typically eat french fries or other fried potatoes, like home fries, hash browns, or tater tots? **2. Example: How many times a week do you typically eat a meal from a fast-food or sit-down restaurant? (Consider breakfast, lunch and dinner.)**	Not at all Once a week or less More than once a week Once a day More than once a day

Methodology---Research Questions

RQ1: Is there a significant difference in pre and post measures of fruit and vegetable consumption?

RQ2: Is there a significant difference in pre and post measures of fast food consumption?

RQ3: Is there a significant difference in pre and post measures of sugar beverage consumption?

RQ4: Is there a significant difference in pre and post measures of water consumption?

RQ5: Is there a significant difference in pre and post measures of nutrition knowledge?

RQ6: Is there a significant difference in pre and post measures of food insecurity?

RQ7: Is there a significant difference in pre and post measures of self-efficacy?

Results---Demographics

	n	%
Gender		
Male	110	20.5%
Female	426	79.5%
Age		
Under 18	18	3.4%
18 - 29	97	18.1%
30 - 39	93	17.4%
40 - 49	83	15.5%
50 - 59	81	15.1%
60 and Over	164	30.6%

Results---Demographics cont.

	n	%
Ethnicity		
White	275	51.3%
Black	211	39.4%
Other	30	5.6
Asian	5	.9%
Pacific Islander	2	.4%
American Indian	6	1.1%
Educational Level		
Less than high school degree	58	10.8%
High school or GED	159	29.7%
Some college	142	26.5%
Two-year college degree	50	9.3%
Four-year college degree	127	23.7%

Results---Demographics cont.

	n	%
Participation in Assistance Programs		
WIC	48	18.7%
SNAP	148	57.6%
Free or reduced-price school breakfast	70	27.2%
Free or reduced-price school lunch	83	32.3%
Free or reduced-price school supper	11	4.3%
Free summer meals	15	5.8%
Head Start	17	6.6%
Food Pantry	86	33.5%

Results - Overall

Consumption	Pretest Scores		Posttest Scores		Wilks' Lambda	F (1, 536)	Eta Squared
	M	SD	M	SD			
Fruits and Vegetables	2.21	1.08	2.41	1.01	.958	23.20***	.042
Fast Food	1.40	.66	1.30	.68	.980	10.95**	.020
Sugar Beverage	1.55	.92	1.44	.88	.981	10.457**	.019
Water	3.28	1.07	3.40	.99	.987	7.26***	.013
Nutrition Knowledge	**2.38**	**.81**	**2.70**	**.74**	**.810**	**125.831*** **	**.190= 19%**
Food Insecurity	2.13	.87	2.32	.75	.942	32.92***	.058
Self-efficacy	**2.95**	**.92**	**3.44**	**.71**	**.774**	**156.413*** **	**.226= 22.6%**

Note: * - denote significant at .05, ** - significant at .01, *** - significant at .001

Results - Gender

Consumption	Male Pretest Scores		Female Pretest Scores		Male Posttest Scores		Female Posttest Scores		Wilks' Lambda	F (1, 536)
	M	SD	M	SD	M	SD	M	SD		
Fruits and Vegetables	1.89	.81	1.98	.76	2.07	.73	2.16	.77	1.00	.003
Fast Food	1.54	.67	1.36	.65	1.47	.73	1.25	.66	1.00	.208
Sugar Beverage	1.80	.90	1.49	.92	1.69	.82	1.38	.89	1.00	.028
Water	3.19	1.12	3.31	1.06	3.25	1.10	3.44	.96	.999	.490
Nutrition Knowledge	2.23	.85	2.42	.80	2.63	.73	2.72	.75	.996	2.161
Food Insecurity	2	.96	2.15	.84	2.21	.69	2.34	.77	1.00	.224
Self-efficacy	2.81	1.06	2.99	.88	3.31	.74	3.47	.70	1.00	.083

Note: * - denote significant at .05, ** - significant at .01, *** - significant at .001

Results - Race

Consumption	White Pretest Scores		Black Pretest Scores		Other Pretest Scores		White Posttest Scores		Black Posttest Scores		Other Posttest Scores		Wilks' Lambda	F (1, 536)
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD		
Fruits and Vegetables	2.02	.79	1.85	.70	2.19	.95	2.16	.77	2.05	.69	2.43	.89	.998	.652
Fast Food	1.35	.63	1.51	.70	1.19	.62	1.25	.63	1.39	.72	1.22	.73	.997	.915
Sugar Beverage	1.39	.93	1.77	.88	1.47	.89	1.29	.93	1.64	.80	1.34	.79	1.00	.037
Water	3.25	1.11	3.32	1.00	3.37	1.07	3.43	.97	3.38	.990	3.35	1.02	.994	1.497
Nutrition Knowledge	2.43	.81	2.26	.77	2.64	.89	2.73	.74	2.61	.71	2.96	.79	.999	.268
Food Insecurity	2.09	.87	2.11	.87	2.36	.87	2.23	.75	2.37	.75	2.59	.77	.995	1.358
Self-efficacy	2.89	.93	3.05	.87	2.85	1.07	3.42	.72	3.49	.68	3.28	.84	.997	.710

Note: * - denote significant at .05, ** - significant at .01, *** - significant at .001

Discussion

- Arkansas' findings reflect the national impact evaluation.
- Everyone benefited from the intervention regardless of sex and race.
- CM transcends across multiple demographic groups.
- CM had the largest effects on **Nutrition Knowledge** (.190= 19%) and **Self-Efficacy** (.226= 22.6%)

Limitations

- Secondary Data.
- There are no three- and six-month follow up data to measure sustainability.
- Groups were not randomly selected.
- Cannot identify CM participants for follow-up interviews and focus groups.

Implications

- Arkansas has an evidence-based nutrition education program that works! Especially important with the threat of deep cuts to SNAP.

- Interest in further research – through focus groups and one-on-one interviews with participants – need for funding.

SHARE OUR STRENGTH'S COOKING MATTERS