Get Cookin': Investigating the Effects of a Six-week Cooking Intervention on Cooking and Dietary Behaviors among Low-income Families

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Abstract

Background and Purpose: Healthy eating practices have been associated with prevention of chronic diseases. There is limited information about strategies for healthy eating practices among families. The current study examined the effectiveness of *Get Cookin'*, a six-week intervention consisting of nutrition education and hands-on cooking and tasting activities among low-income families. **Methods:** Low-income adults participated in *Get Cookin'*, a six-week intervention consisting of nutrition education and hands-on cooking activities. Ninety-six participants completed a retrospective survey which examined their meal planning, budgeting and cooking behaviors, as well as fruit and vegetable consumption. Thirteen graduates of the program participated in focus groups. The Wilcoxon signed ranks test was used to examine pre-to-post changes. **Results:** Participants showed significant improvements in meal planning and budgeting skills. They started cooking meals at home more frequently and increased consumption and variety of healthy foods such as fruits, vegetables and whole grains. Focus groups revealed that participants shared cooking and nutrition information and skills learned with their families. Additionally, participants with diverse backgrounds gained a sense of empowerment to overcome personal challenges to make healthy choices. **Conclusions:** Nutrition education, combined with cooking and tasting activities, appears to have a positive impact on healthy behaviors among low-income families. Further research with a control group would be needed to more definitively understand the effectiveness of the *Get Cookin'* intervention.

Keywords: Nutrition education, cooking skills, mixed method, retrospective survey, focus groups.

Introduction

A complex relationship exists between one's knowledge of healthy eating and adherence to research-based recommendations such as the Dietary Guidelines for America (United States Department of Health & Human Services, 2010) and MyPlate (United States Department of Agriculture, 2014). A recent report shows that food eaten away from home (FAFH) is continuously increasing in the United States (Lin and Guthrie, 2012). Consequently, calories eaten from FAFH have risen over the last few decades from 17.7% in the 1977-1978 report to the current 31.6%. FAFH have been shown to contain higher saturated fat, cholesterol and sodium content and displace more nutrient dense foods prepared from scratch at home (Todd, Mancino, Lin, 2010).

Many Americans share common barriers to eating healthy meals. Among the most prevalent of these are perceived high cost of produce and lack of cooking skills. According to a report by the USDA's Economic Research Service, increases in household income and education were positively associated with money spent on fresh produce (Engler-Stringer, Stringer, Hanes, 2010). A systematic review of the literature found that Americans were likely to improve eating habits following a nutrition education intervention if a cooking lesson was a component (Academy of Nutrition and Dietetics, 2012).

Although there are some encouraging short-term results of some programs to improve healthy behaviors among participants, a disconnect between knowledge and the long-term adoption

of healthy behavior persists (Academy of Nutrition and Dietetics, 2012).

Cooking Classes

Cooking classes combines constructs from Social Cognitive Theory (SCT) (Bandura, 1986) and Experiential Learning Theory (ELT) (Kolb, 1984). Constructs from the SCT (Glanz, Rimer, Lewis, 2008) that can address an intended behavior include: intention to perform a behavior (e.g., intention to cook), environmental factors preventing the performance of the behavior (e.g., lack of time and inconvenience), intrinsic benefits of the behavior (e.g., increased interest and joy of cooking), and previous accomplishment of the behavior (e.g., successful cooking experience in a classroom setting).

ELT is based on the concept that people are more likely to perform an action if they have performed the action previously (Kolb, 1984). This theory consists of four stages including concrete experience, reflective observation, abstract conceptualization and active experimentation. In a cooking course, participants learn the importance of nutrition followed by tasting and cooking demonstrations (concrete experience), participate in discussion, questions, and review during the lesson (reflective observation and abstract conceptualization) and apply their cooking skills and knowledge at home (active experimentation). Previous studies suggest that a cooking intervention program may increase participant self-efficacy to prepare more fruits and vegetables (Condrasky, 2010) and a larger variety of foods (Keller, Gibbs, Wong, Vanderkooy, Hendley, 2004).

Get Cookin'

In 1993, Share Our Strength (formerly Share Our Strength's Operation Frontline) responded to the growing need for cooking and nutrition education for low-income families and initiated an intervention called Cooking Matters. The curriculum utilized culinary and nutrition experts to teach the recommendations of the Dietary Guidelines for America (United States Department of Health & Human Services, 2010) and MyPlate (United States Department of Agriculture, 2014). Lessons and activities taught participants how to improve meal planning, budgeting, and cooking behaviors, while increasing dietary variety practices (Share Our Strength's Cooking Matters, 2014). A more recent needs assessment used online marketing surveys supplemented with random phone interviews of low to middle income families in the U.S (Share Our Strength's Cooking Matters, 2012b). Results revealed that the most common barriers to cooking healthy meals are price and a lack of time, but most families believed that they could work through these barriers to cook more often.

Under the direction of the Network for a Healthy California, the Center for Healthy Communities and in accordance with the Local Food and Nutrition Education contract, *Get Cookin'* was established using the Cooking Matters curriculum as a model for low-income residents of northern California. *Get Cookin'* is taught by community nutrition assistants who are undergraduate and graduate students of a nearby university. Every educator goes through extensive *Get Cookin'* training. Each of the six classes contains an over-arching goal with specific learning objectives and is organized by a class outline including an introduction, nutrition education, cooking and food safety lessons, and group tastings. At the end of each lesson, participants are given a bag of food which includes some of the ingredients utilized in the recipes prepared that day. Participants graduate from the course and receive a certificate of completion if they complete eight of the 12 hours of the series.

The Present Study

There is limited information about the effectiveness of experiential cooking interventions such as *Get Cookin'*. This research aims to contribute to the body of knowledge in this field by combining quantitative information with inductive qualitative analysis. The objective of this study is to examine the impact of *Get Cookin'* on meal planning, budgeting, cooking behaviors and fruit and vegetable consumption among low-income families.

Methods

Study Design

The current study was approved by the Human Subjects Review Board at California State University, Chico. A mixed methods study design of a quantitative survey and three qualitative focus group were used to evaluate the short-term impact of the six-week intervention project.

Participants

Study subjects were CalFresh Program eligible adults (18-60+ years old) who participated in the *Get Cookin'* intervention. The CalFresh Program is federally known as the Supplemental Nutrition Assistance Program (SNAP). Participants who attended at least eight hours (two thirds) of the *Get Cookin'* intervention were considered graduates of the course and were invited to complete a survey and attend a focus group discussion. There were 96 graduates of the course and of them 51 (53.1%) completed the entire 12-hours of class time and participated in the study. Thirty-eight individuals either did not complete eight hours or did not come to the last class of the series. There were no statistically significant differences between those who comprised the study sample and those lost to follow up on demographic characteristics (gender, age, and ethnicity).

Recruitment for participants for the *Get Cookin'* series included flyer distribution at community /school events, health fairs, Women, Infant, and Children (WIC) clinics, and venues that the target audience typically attends. Recruitment efforts also included announcements to partnering organizations such as schools, clinics, a collaborative, and a resource council via email distribution notices, poster distribution, and flier drop offs.

Instruments

Survey. A retrospective pre/post survey was used for this study. Two questions were asked for each behavior being measured at the end of the intervention. The first question was a post-test question; the participants were asked about their behavior after the intervention. The second question, the pre-test question, asked participants about their behavior before the intervention. Swindle and colleagues compared the effectiveness of traditional to retrospective pretest to evaluate the impact of recall bias and stability of the data. They found that there were no significant differences between the two tests (Swindle, Baker, Auld, 2007). A study by Rohs et.al demonstrated that retrospective surveys may decrease response shift bias because participants are provided the opportunity to reflect on their behavior before and after the intervention at the same time and therefore from the same perspective (Rohs, Langone, Coleman, 2001).

Survey items of the current study assessed demographic information including date of birth, sex, education level, race, ethnicity (Hispanic or Latino), household size, number of children younger than five years old, number of children between six and seventeen years old, and if they participate in any of the following low-income government programs: WIC, SNAP, Free or reduced-price breakfast/lunch, Head Start, and a food pantry. A five-point scale (never, seldom, sometimes, most of the time, almost always) was used to measure participant behaviors related to meal planning, budgeting, and food safety. Frequency of including at least three food groups and eat fruits and vegetables was also included in the survey.

Focus groups. A semi-structured guide was developed by nutrition research professionals to enrich understanding of the retrospective survey results, as shown in Table 1. Topics included participants' obstacles to healthy eating with a focus on adequate fruit and vegetable consumption; barriers to planning for and preparing meals at home; and strategies for improving healthy eating patterns. Questions and all consent documents were designed for the fifth-sixth grade reading level to ensure participant understanding. Information gathered from these focus groups complimented and improved understanding of quantitative data by exploring ideas and themes not included in the survey.

Table 1.

Focus Group Questions (n=13)	
Knowledge:	Which ingredient used in the class was new to you? Which cooking or preparation method was new to you (for example: cutting/knife skills, sautéing, cooking quinoa or rice)? What were some of the things you learned from the nutrition education lessons?
Behavior	Comment on the amount of at-home cooking you currently do.
	What considerations do you make when deciding to make ready-made/frozen meals each week versus making meals from scratch?
	Did any information from the *Get Cookin'* classes influence your cooking at home?
	Is there something that keeps you from cooking from scratch more often?
	Comment on how often do you eat out or get take-out.
	Have you bought any of the *Get Cookin'* class ingredients from the grocery store? If yes, please comment about what you did with these ingredients and your opinion about using these ingredients.
	Have you prepared any of the *Get Cookin'* class recipes at home? If yes, please comment on these recipes.
Attitudes	How do you feel about the amount of cooking you currently do at home versus ready-made/frozen or take-out meals? What are your thoughts on cooking from fresh ingredients?
	How did you feel about trying the new ingredients or recipes in class?
	How confident are you (or how good do you feel) about preparing foods at home with the techniques used in the *Get Cookin'* classes? Has your confidence in cooking at home changed? If so, please give an example.
Recommendations	What other nutrition or cooking information would you have liked to receive from this program?
	What advice do you have to improve future classes?
	What could we have done to help you ir confidence? What other comments do you have about the *Get Cookin'* classes?

Data Collection

Quantitative data collection. Demographic information was obtained through the evaluation form that was filled out by participants at the beginning of the intervention. The retrospective pre/post survey was given to participants on the final day of the classes. Attendance was recorded each class to track how many hours each subject received of the intervention.

Qualitative data collection. Three focus groups, comprised of six, four and three per group, were conducted by the first author and trained facilitator with a total of thirteen participants, including five males and eight females. All participants were provided the opportunity to contribute equally and given adequate time to describe their unique experience. Trained community nutrition specialists facilitated discussions in both English and Spanish. Each focus group lasted about 60 minutes.

Data Analyses

Quantitative data collected from the surveys were entered into Microsoft Excel and analyzed with the statistical software, SPSS version 20. Data were considered statistically significant if they had a *P* value of less than 0.05. Distributions of the variables were assessed using descriptive statistics. Continuous variables were skewed; therefore, the Wilcoxon signed ranks test was used to assess significant median changes pre to post- intervention. Outcomes analyzed in these analyses were fruit and vegetable consumption, frequency of cooking healthy meals at home, planning and preparing meals, and general healthy behavior.

Focus group audiotapes were transcribed and translated (when needed) into English. Two trained researchers then independently coded the transcripts and identified themes and subthemes were reviewed until a consensus could be made, as suggested by Pilnick and Swift (2011). Additionally, all participants' responses were considered equal, in that articulate or outspoken participant's responses were not favored over other responses (Pilnick and Swift, 2011).

Results

Participants

Ninety-six participants filled out the retrospective survey. In the total sample there were 76 females (79%) and 20 males (21%). Fourteen participants (15%) were under the age of 30, and 37 (39%) were over the age of 50. Seventeen (18%) had less than a high school degree and 24 (25%) had a college degree. Twenty (21%) were Hispanic or Latino and 57 participants (60%) were recipients of government assistance. The mean household size for participants was 3.85 and the average number of children under five years old was 1.42. The average class size was seven people, as shown in Table 2.

Table 2.

Participant Demographics (n=96)

	n	%
Gender		
Male	20	20.8
Female	76	79.2
Age		
18-29	14	14.6
30-39	22	22.9
40-49	23	23.2
50-59	19	19.8
>60	18	18.8
Education level		
8^{th} grade or less	9	9.4
9^{th} to 11^{th} grade	8	8.3
12^{th} grade or GED	26	27.1
Attend College	26	27.1
College degree	24	25.0
Ethnicity (multiple choice)		
Non-Hispanic White	39	41.5
Hispanic	20	21.3
African American	5	5.3
Asian	11	11.7
American Indian or Alaska Native	7	7.4
Other/2+ races	12	12.8
Participation in programs		
WIC	18	18.8
SNAP (Food Stamps)	19	19.8
Free or reduced-price school breakfast	34	35.4
Free or reduced-price school lunch	36	37.5
Head Start	10	9.6
Food Pantry	6	6.3
No participation	40	42.7
	M	SD
Number of people in household	3.85	1.91
Number of 0-5y children	1.42	0.83
Number of 6-17y children	2.12	1.14

A total of 13 graduates of *Get Cookin'* participated in three focus groups. Of these, four were male and nine female; five had a college degree, nine were non-Hispanic white; while the others three Latino, one Asian, and one African American. The average length of time from the end of the intervention to the focus group was 5.7 months.

Quantitative Survey Results

As shown in Table 3, results show that participants planned meals ahead of time more often while thinking more about making healthy food choices for their families ($p < 0.001$). They reported shopping with a grocery list and reading the "Nutrition Facts" on the food label more often ($p < 0.001$). Participants also planned and cooked meals together with their families more frequently ($p < 0.001$), but did not report eating together more often. Although participants reported comparing prices before buying food more often ($p < 0.001$), there was not a significant change in the frequency that participants ran out of food before receiving more money. Consumption of recommended amounts of fruits and vegetables increased from "sometimes" to "most of the time.' There was a significant increase in the frequency of cooking meals rather than buying take-out or already prepared food, as well the frequency of including at least three food groups in their meals. There was no significant pre-to-post change in food safety behaviors, although the median response indicated that they "seldom" left meat and dairy products out at room temperature for more than two hours and only "sometimes" thaw frozen foods by leaving them out at room temperature.

Qualitative Results

The most common themes that emerged from the focus groups included fresh perspectives on and increased awareness of eating healthy, decreased barriers to cooking at home, cooking with the family, increased dietary variety, and increased perceived empowerment to overcome personal challenges to make healthy choices.

Table 3.

Pre-to-Post Changes in Meal Planning, Budgeting, Cooking and Consumption Behaviors (n=96)

	Pre[a]	Post[a]	p[b]
How often do you plan meals ahead of time?	3.0 (2.00, 4.00)	4.0 (3.00, 4.00)	<0.001*
When deciding what to feed your family, how often do you think about healthy food choices?	4.0 (3.00, 4.75)	5.0 (4.00, 5.00)	<0.001*
How often do you shop with a grocery list?	3.0 (2.00, 5.00)	4.0 (3.00, 5.00)	<0.001*
How often do you use the "Nutrition Facts" on the food label to make food choices?	3.0 (2.00, 4.00)	4.0 (3.00, 5.00)	<0.001*
How often does your family plan meals together?	2.0 (1.00, 3.00)	3.0 (3.00, 4.00)	<0.001*
How often does your family prepare meals together?	3.0 (2.00, 3.00)	4.0 (3.00, 4.75)	<0.001*
How often does your family eat meals together	4.0 (3.00, 5.00)	5.0 (4.00, 5.00)	0.383
How often do you compare prices before you buy food?	4.0 (3.00, 5.00)	5.0 (4.00, 5.00)	<0.001*
How often do you run out of food before you get money to buy more?	2.0 (1.00, 3.00))	2.0 (1.00, 3.00)	0.747
How often do you eat at least 2 cups of fruit a day?	3.0 (2.00, 4.00)	4.0 (3.00, 5.00)	<0.001*
How often do you eat at least 1 ½ cups of vegetables a day?	3.0 (2.00, 4.00)	4.0 (4.00, 5.00)	<0.001*
How often do you make family meals that include at least 3 food groups?	4.0 (3.00, 5.00)	5.0 (4.00, 5.00)	<0.001*
How often do you cook meals instead of buying take-out or already prepared foods?	4.0 (3.00, 4.00)	4.0 (4.00, 5.00)	<0.001*
How often do you let meat and dairy foods sit out for more than 2 hours?	1.0 (1.00, 2.00)	1.0 (1.00, 1.75)	0.416
How often do you thaw frozen foods by leaving them out at room temperature?	2.0 (1.00, 3.00)	2.0 (1.00, 3.00)	0.111

[a] The options of each item including never (1), seldom (2), sometimes (3), most of the time (4), almost always (5). Median and 25th and 75th quartile ranges of each survey items were calculated.

[b] P-values from Wilcoxon signed ranks test.

* Statistically significant difference between pre and post.

Fresh Perspectives on and Increased Awareness of Healthy Eating. Generally, all participants agreed that *Get Cookin'* provided them with a fresh perspective on healthy eating. Many participants (six out of 13) shared the opinion that the intervention was a weekly reminder of the importance of daily choices and brought attention to unhealthy habits. One woman shared her reaction to the class saying:

> *"[Get Cookin'] kind of like shook me up a little bit. So even though (the information from class) was stuff that I already knew, it kind of makes you think about it more when you are coming to a class every single week and you know you're being told ok well this is a good recipe, this is healthy, this is healthy, you know? Stuff you already know but you just never think about it because you are busy in life. So that's one of the things it did for me."(White Female)*

Participants varied in their level of education and level of experience with cooking and meal preparation. The sharing of cooking techniques and meal planning provided rich insights beneficial for less experienced participants. The information presented in the nutrition education portion of class was review to some and new to others. Some participants agreed that grade school was their last time receiving government recommendation information such as MyPlate (previously MyPyramid). Younger participants were familiar with MyPyramid lessons from school and were interested in the new format of MyPlate lessons. One male participant recalled:

> *"I was so out of date that I learned that the food pyramid no longer exists…that was something I grew up with and then to find out that suddenly it was gone and I was like 'oh this is something I should probably know…"(White Male)*

Barriers and Achievements to Cooking at Home. Many of the participants (seven out of 13) talked about having more confidence to cook because of their improved cooking skills. For example, many agreed that knife skills learned and practiced over the sessions were useful as they could prepare foods faster and more efficiently. Others included how to read a recipe and how to cook vegetables using techniques such as roasting, steaming, or baking rather than frying.

Lack of time and convenience were major barriers to cooking at home shared by most of the participants (10 out of 13). Decreased barriers to eating vegetables were attributed largely to cooking recipes in class which used vegetables and techniques that were not time consuming. First-hand experience of how fast and simple it can be to incorporate vegetables into a meal was mentioned as a major benefit to the intervention. One woman described her experience:

> *"For me, it needs to be something quick so I am using more, quicker vegetables like … the spinach. That was wonderful finding that out. So we are eating at home more and when we are at home more, it is healthier because of the information we were given."(White Female)*

Another woman shared her experience overcoming time as a barrier to cooking saying:

> *"(It is) kind of liberating to see that you can make a really good meal with really good ingredients and it doesn't have to take four hours."(White Female)*

The cost of fresh produce polarized the participants as some agreed that the price for fresh produce was more expensive at the local farmer's market than larger grocery store chains. Others argued that the cost of eating out at restaurants was also high. However, some participants found the extra cost of foods eaten away from home (FAFH) worth the convenience and time saved to feed themselves and their families.

Pressure to eat out in the workplace and for social events was mentioned as a common challenge to eating more meals in the home.

> *"In my job I eat out a lot, because part of the nature of (the job) is socialization and so often we're eating out and I really have to say we don't eat in the best restaurants."(White Female)*

Another man experienced the social pressure involved in eating out and stated that for him *Get Cookin'* taught him how to make better choices when he did go out.

> *"I only eat out on special occasions. Now I look for healthier choices when I eat out. I don't eat as many hamburgers or red meat. More chicken or fish." (Hispanic, Male)*

Several participants shared their thoughts regarding food choices available at restaurants as being less healthy than meals cooked at home. Those who admitted to purchasing food away from home shared that they experienced increased awareness of portion sizes and were more careful of hidden fats and sugars that might increase calories.

Lack of confidence to utilize unfamiliar foods and recipes was another common barrier to healthy eating. Regardless of the age or gender of the participant, foods that were eaten during their childhood were still typically staples in their diet. People expressed that they generally repeat recipes that they are comfortable with and use foods that they habitually purchase. One participant recalled:

> "*I could have looked at any of those recipes (before taking the class) and … been like 'I quit.'*

> *Getting us to try them made me feel really confident about making them at home" (White Male)*

Food bags that were sent home after each class became a fun family activity for some of the participants as they either tried to recreate recipes from class or invent new ways to utilize the ingredients.

Many participants (seven out of 13) expressed feeling low confidence before the intervention to make substitutions to recipes while cooking at home. They were intimidated by the need to change recipes to utilize ingredients they already had in the house and would go to the store to purchase specialty items. Participants agreed that the relaxed improvisation of recipes used in class gave them a sense of assurance that they could be more liberal and use recipes as a guide rather than a rigid set of rules while cooking at home.

Cooking with the Family. Family support regarding the foods prepared and eaten at home was an important aspect of the intervention for most participants. The *Get Cookin'* curriculum highlights recipes and cooking techniques that can be easily understood and shared by all ages. Parents of young children were especially surprised by how open their children were to adopting healthier behaviors after learning them in class. Label reading was one skill that was mentioned by many participants as a skill that they could do with their children and practiced utilizing the information on the label to make healthier decisions. One participant shared the impact that the lesson had on her daughter:

> *"After we left the class we went to the store and my daughter was looking at different drinks to see how much sugar was in them…It changed what she would buy and so it was really neat seeing her actually learning and applying that when we were out shopping. She was like 'oh my gosh I can't get this anymore! There's too much sugar in it now.'" (African-American Female).*

Some participants took the class with family members, others came without their families. The intervention may have positively impacted family members as participants returned home each week and shared the information learned from class. One woman commented:

> *"I shared a lot of the information with my daughters and in my family…the idea of portioning, and I liked the information the way they arranged the plates instead of the pyramid you know because it's much more relevant, especially if you're showing a child, for instance. I mean I put those little charts up on my refrigerator at home."(White Female)*

Although family support can influence positive behavior change, some families were resistant to supporting the behavior change. Participants who came to the classes without a family member expressed common difficulties when returning home with unfamiliar foods and cooking methods.

> *"Like the bulgur salad you guys taught us was one of my favorites. I love it but everyone else [in our house] calls it vulgar salad." (White Male)*

Increases in Dietary Variety. Exposure to foods through tastings led to acceptance of these foods and increased curiosity to try other new foods that had not been considered before the class. Generally, participants were surprised when they tasted foods they assumed they disliked and found themselves wanting more.

> *"One was eggplant for me. I [had] never had it and I had always figured I didn't like it [because] it had the word egg in it. I was wrong, it's amazing. I*

> *want to try to figure out so many different ways to cook that with things. It's awesome."(White Male)*

Whether the food was new or just prepared in a new way, the exposure to new foods was seen as a positive learning experience.

Empowerment to Overcome Personal Challenges and Make Healthy Choices.

The focus groups revealed that *Get Cookin'* provided participants with a sense of empowerment to overcome personal health-related challenges. Participants with chronic diseases and disabilities shared profound changes in their lives as a result of the intervention. One woman who has been living with diabetes for much of her life expressed her gratitude to the educators for taking time to teach how to read labels and make substitutions.

> *"I used to eat a lot of the TV dinner because it is quick and it's cheap … I started learning (that) when I went to get something I always read the labels to see if it had too much sugar or too much salt and everything, you know? I'm aware of it so that's good and I really learned a lot from that class nutrition-wise and especially I'm diabetic too so that really helped."(Asian Female)*

Another participant noted:

> *"We had three other people with us in the class and all three of them are diabetics and really struggle with their weight. I'm speaking on their behalf at this point but [we received] really really good information in a real kind of loving way. The teaching style was really accessible and respectful." (White Female)*

Another woman spoke of the diversity of the benefits the intervention provided for her life and for her mentally disabled clients. She spoke on behalf of a participant who has a mental disability and the impact it has had on his ability to make proactive decisions regarding his health. She described an example:

> *"Planning is the big issue … (and) not an easy one because of the disability that he has, but he's really learning … We'll look at pages in the book and we'll go to the store and then maybe once each time he'll pick out something and read the ingredients … and make a choice, so that's a very profound difference … in his life." (White Female)*

Another woman shared the impact that the intervention had on her as a cancer survivor. She was able to find new ways to incorporate more fruits and vegetables and whole grains into her diet to maintain her immune system.

Discussion

There is limited information about specific strategies for increasing the frequency of planning, preparing and eating meals together among families. The current study examined the effectiveness of *Get Cookin'*, a six-week intervention consisting of nutrition education and hands-on cooking and tasting activities among low-income families. Findings from the current study indicate the successes of the *Get Cookin'* intervention, as well as some of the challenges to motivate its participants to change behavior. As indicated by the results of the survey, participants increased their skills and frequency of planning and cooking from home and improved the quality and variety of their diets, but did not make significant changes in eating with their families, budgeting, or food safety. Focus groups with graduates helped provide insights as to which methods of the intervention were most useful to this population.

The utilization of constructs of Social Cognitive Theory and Experiential Learning theories helps explain why the curriculum was successful in inspiring change. Focus groups showed that participants responded well when barriers to cooking at home were addressed in a group of peers. Hands-on cooking and tasting activities of healthy recipes also impacted participants, as they increased self-efficacy to use unfamiliar ingredients. Intrinsic benefits were seen, as they were able to discuss recipes made with classmates and they felt proud of their successes each week. Accomplishment of making the recipes in class combined with take-home food bags also provided participants with an additional opportunity to practice skills learned throughout the week with their families.

Although self-efficacy was not measured in the survey, focus groups revealed that participants gained substantial confidence throughout the intervention which provided them with a foundation to perform new behaviors. A previous formative evaluation study indicated that participants valued experiential learning methods as "more powerful" than other traditional methods (Condrasky. 2010). The SCT supports the premise that learning through increased self-efficacy and repetition of new skills can contribute to the adoption of healthy behaviors (Glanz, Rimer, Lewis, 2008).

Many Americans state that they want to eat more healthfully, but an upward trend toward consumption of food away from home persists, possibly due to the continued belief that eating outside the home is a more convenient and economic option (Lin and Guthrie, 2012). Focus groups revealed that participants of *Get Cookin'* experienced mixed feelings about purchasing FAFH or convenience items because they know that it is less healthy and do not believe any more that it is a more economic option compared to cooking from scratch at home. While they started cooking more often using easy recipes after the intervention, FAFH was still seen as a more convenient and fast way to feed their family during the fast-paced work week. The value of convenience over health in the decision-making process for American families is an important indication of their priorities. A study that evaluated preferences toward different types of ready-made and convenience foods found that people preferred meals that they cooked themselves for taste and nutritional value, but chose to use ready-made meals to avoid stress and have more time to relax and socialize (Costa, Schoolmeester, Dekker, Jongen, 2007). *Get Cookin'* addresses these issues by providing families with fast healthy meals and the skills and tools needed to overcome the mindset that scratch cooking is time consuming. Participants were surprised to see how fast and simple it was for them to make healthy meals. Improvements in their ability to read recipes and make substitutions to ingredients throughout the intervention made cooking less intimidating and a more positive experience. Intrinsic benefits experienced from successes made in the kitchen acted as motivators for them to try new healthy foods and recipes.

Parents of school-aged children want to involve their children in the meal preparation process but are discouraged by having to spend more time supervising the activity and cleaning after (Fulkerson, Kubik, Rydell, Boutelle, Garwic et al., 2011). Despite significant increases of *Get Cookin'* participants to plan and prepare for meals together with their families, the intervention was not successful of increasing frequency of participants to eat meals together.

Get Cookin' participants said they were reminded of the importance of cooking for themselves and their families through the nutrition lessons. They were also able to learn first-hand that cooking can be a good opportunity to bond with children or socialize with peers. Preparing and tasting new foods empowered them with new information and skills that they took home to share with their families. Focus groups also revealed that feelings of guilt remained when they fed their families FAFH and convenience foods instead of cooking for them.

Studies show that exposure to unfamiliar foods increases dietary variety of children (Fulkerson, Kubik, Rydell, Boutelle, Garwic et al., 2011; Schindler, Corbett, Forestell, 2012; Simmons &

Chapman, 2012). *Get Cookin'* parents said they were surprised by the foods their kids would try in the class that they normally would not have eaten at home. The social atmosphere of the classes may foster curiosity of children to try new foods and influence their willingness to maintain an open mind to new flavors and textures.

Many people limit their diet by only eating and cooking familiar foods. Keller and colleagues found that learning to cook with peers created a sense of "camaraderie" among study participants and increased their confidence to prepare and eat a larger variety of foods (Keller, Gibbs, Wong, Vanderkooy, Hendley, 2004). *Get Cookin'* participants were asked to taste all foods prepared in class and think objectively about their perception of the foods. By describing foods to classmates, many were surprised by how many more foods they liked and were motivated to try other new foods.

Low self-efficacy and perceived inadequate cooking skills have been identified as barriers to healthy food choice (Chenhall, 2010). *Get Cookin'* participants were encouraged by the flexible and the relaxed atmosphere the chefs created when making ingredient substitutions in recipes to account for seasonal and low-cost food items.

Finally, findings from the focus groups indicate that the *Get Cookin'* intervention may contribute to small but sustainable behavioral changes among participants. The follow-up focus groups took place about five to six months after the end of the intervention, and participants noted that they were still making dietary practices they had learned from the *Get Cookin'* lessons. While participants also noted remaining challenges related to healthy eating, knowledge and skills through the *Get Cookin'* intervention may help participants sustain their behavioral changes that were observed in the current study.

Limitations

A major limitation to this study is the use of a relatively small sample size of participants who attended the last hour of the series to complete the retrospective survey. In order to be considered a graduate of *Get Cookin'*, participants had to attend at least eight hours of class, but some graduates did not come to the last class of the series and therefore did not complete the retrospective survey. Participants were frequently kept from classes due to the lack of time, childcare, or transportation, which resulted in the discontinuation of the intervention. Although more participants in the focus groups would have been ideal, the focus groups as they were provided rich insights to participant behaviors. Self-reported data collected for this study could have also been a source of bias.

Conclusion

It is widely known that adherence to recommendations provided by health professionals to clients with acute and chronic illnesses remains low. The comprehensive lessons of *Get Cookin'* can be useful for health practitioners to inspire their clients and future generations to follow recommendation to eat a healthier diet. Further research with a control group would be needed to more definitively understand the effectiveness of the *Get Cookin* intervention. Future research should focus on how to broaden the scope of *implementation for programs such as Get Cookin'* to promote cooking from scratch. This intervention can be applied to individuals chronic illnesses such as diabetes or cardiovascular disease, as more frequent involvement in cooking may increase life expectancy as these individuals (Jandorf, Siersma, Køster-Rasmussen, de Fine Olivarius, & Waldorff, 2015).

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