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Wendy Mornelli MA.

ICHP, mornelws@buffalostate.edu

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**Office of Temporary
and Disability Assistance**

Effectiveness of Food Preparation Demonstrations

Research Report

10/24/2019

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AND

**The Institute for Community Health Promotion (ICHP)/
Learning, Engagement, and Development Services (LEADS)/
SUNY Buffalo State**

Effectiveness of Food Preparation Demonstrations Research Report

**ICHP/LEADS Research and Report Team: Wendy Mornelli, Greg Korvne, Alban Morina,
Christopher Bosley, John Slaughter, Robert Skutnik, Kelly Marczynski, and Terry Todoroff**

OTDA Collaborators: Paula Marshman, Lisa Irving, Sean Hayes, Shelley Lambert

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Summer-Fall 2019

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Executive Summary

To encourage SNAP recipients to make healthier choices when using their SNAP benefits, the New York State Office of Temporary and Disability Assistance's (OTDA) SNAP-Education (SNAP-Ed.) Program provides food preparation demonstrations through subcontract organizations. The demonstrations are intended to teach SNAP-Ed. recipients how to make low-cost recipes featuring fruits, vegetables, whole grains and low-fat dairy products. The health benefits of the recipes are discussed, and methods to select fruits and vegetables are highlighted. Nutritionists conduct these demonstrations at locations such as community centers, churches, food pantries, retail stores, and farmers markets.

The Institute for Community Health Promotion/Learning, Engagement and Development Services (IHP/LEADS) conducted the Effectiveness of Food Preparation Demonstrations study during the summer of 2019. The purpose of the study was to examine whether the food preparation demonstrations are cost efficient and effective in promoting healthy food choices. Additionally, the study evaluates how well the demonstrations uphold objectives of SNAP Ed., which supports evidence-based nutrition education. The following represent major findings and recommendations that resulted from the study.

Findings:

- 70% of respondents said the food they usually eat is different than the food prepared in the demonstration.
- Although the food was different, 96% of participants shared that they liked the food prepared in the demonstration.
- 94% suggest they learned the skills needed to make the recipe at home.
- 96% suggest the demonstration will help them make healthier meals.
- 37% reported that they did have hands-on practice during the demonstration. Within the respondents that said they did not get hands-on practice, 54% fell within the age group of 60 years or older.
- 96% stated they learned about the health benefits of the recipe.
- 99% believed the ingredients used in the demonstration were available where they normally shop.
- 97% perceived the recipe as affordable, although only 45% stated that they were told the cost of recipe.

Recommendations:

- Carefully consider all ingredients for the food preparation demonstrations. Use only low-fat dairy and healthy substitutions, little or no salt and healthy alternatives to other potentially unhealthy ingredients (e.g. low-fat yogurt instead of mayonnaise) should be emphasized.
- In addition to discussing how to pick out ingredients, including weighing produce, and indentifying when fresh ingredients are 'in-season,' describe how to store ingredients.
- Outlining the cost of all the ingredients, as well as providing an estimate for the cost of the entire recipe or cost per serving, will help people overcome any wariness of purchasing food items that are different from what they usually buy or perceive to be cost prohibitive.
- Increase the focus on the health benefits of whole grains and low-fat dairy.
- Increase hands-on practice during food preparation demonstrations for as many SNAP-Ed. participants as possible to build confidence and skill as well as increase motivation toward diet related behavior change.
- Always avoid using waiting areas as demonstration sites. Food demonstrations should always be conducted in a space conducive to learning, client participation, and food preparation.



Comprehensive Research Report

Background

Based on recommendations by the Committee on National Statistics (CNSTAT), an arm of the National Research Council, food insecurity is defined by the US Department of Agriculture as a household-level condition of limited or uncertain access to adequate food. Furthermore, low income households eligible for the Supplemental Nutrition Assistance Program (SNAP) are among those with a higher rate of food insecurity than the national average (ers.usda.gov). Additionally, research suggests that food-insecure populations are less likely to incorporate fruits and vegetables into their diets and are more likely to choose unhealthy food and beverages (Walker et al., 2010).

To encourage SNAP recipients to make healthier choices when using their SNAP benefits, the New York State Office of Temporary and Disability Assistance's (OTDA) SNAP-Education (SNAP-Ed.) Program provides food preparation demonstrations through subcontractors/vendors. The demonstrations are intended to teach SNAP-Ed. recipients how to make low-cost recipes featuring fruits, vegetables, whole grains and low-fat dairy products. The health benefits of the recipes are discussed, and methods to select fruits and vegetables are highlighted. Nutrition educators conduct these demonstrations at locations such as community centers, churches, food pantries, retail stores, and farmers markets.

Currently, two types of food preparation strategies are to be used in SNAP-Ed.: 1) Food preparation demonstrations are to occur with class participation, and a sample of the prepared food is to be provided, and 2) food preparation demonstrations can be provided by the instructor without any class participation, and a sample is to be provided to the observers of the demonstration when the first strategy is not feasible. In the past, a food sample was provided in some SNAP-Ed. classes without a demonstration of how to prepare the meal, but SNAP-Ed. no longer supports providing a sample without a demonstration of how to prepare the meal.

Purpose of the 2019 Effectiveness of Food Preparation Demonstrations Study

In conjunction with the New York State Office of Temporary and Disability Assistance (OTDA), the Institute for Community Health Promotion/Learning, Engagement and Development Services (IHP/LEADS) conducted the Effectiveness of Food Preparation Demonstrations study during the summer of 2019. The purpose of the study was to examine whether the food preparation demonstrations are cost efficient and effective in promoting healthy food choices. Additionally, the study evaluates how well the demonstrations uphold objectives of SNAP-Education, which supports evidence-based nutrition education.

Specific questions addressed by this study are:

- Do the demonstrations adhere to SNAP-Ed. guidelines, including using healthy ingredients and making low-cost recipes?
- Do the demonstrations result in an increased consumption of fruits, vegetables, whole grains, and low-fat dairy products by the SNAP-Ed. recipient population?

Target Population

Adults (aged 18 or older) were eligible to participate in the study if they were residents of WNY Counties, were receiving SNAP benefits or were SNAP-eligible, and had attended one of 34 food preparation demonstration classes across the WNY region. It is estimated that over 300 eligible adults across the region attended these demonstrations. Of note is that all demonstration attendees were there voluntarily, although some had been referred by caseworkers (9% of respondents of 222 who answered) and medical providers (5%). Non-referred attendees may have viewed advertisements about the demonstration classes posted at site locations, such as social service offices or food pantries.

In terms of vulnerable subjects, neither pregnant women nor intellectually disabled persons were precluded from being in the study, as they experienced no more risk (i.e., minimal) than any other subject. Note that no judgement was made as to intellectual ability for purposes of inclusion or exclusion in the study. The only exclusions were those who were unable to read English or Spanish well enough to participate.

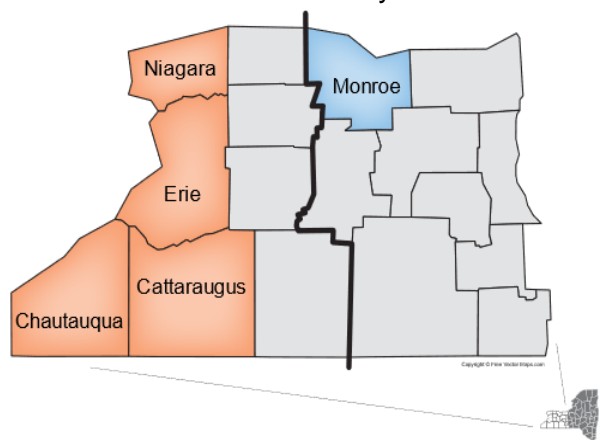
Of the target population outlined above, the resulting study sample was comprised of 236 adults (designated by N=236) who met the eligibility criteria and consented to complete a survey after their demonstration class was over.

Methods and Procedures

The study included an initial survey, administered in-person, immediately after the food preparation demonstrations and a 30-day follow-up survey administered via an email that included a link to a web-based survey. IHP/LEADS staff served as the survey administrators.

Initial surveys were collected during the month of June in 2019. Survey collection sites included libraries, food pantries, community centers, senior centers, housing complexes and other public gathering venues where food preparation demonstrations occurred in the Western New York area.

The following image depicts the counties where surveys were collected.



Note: More detailed maps are in the appendix.

Immediately following a food preparation demonstration, survey administrators verbally gave a scripted introduction. Next, they distributed and read a consent statement aloud to potential respondents. (A Spanish version of the consent form was available for non-English speaking respondents.) Subjects were assured that their responses would be confidential, that participation was completely voluntary, that they could quit taking the survey at any point, and/or refuse to answer any question with which they were uncomfortable. No compensation for participation was provided.

Prior to taking the initial survey, subjects were asked if they would participate in the follow-up survey approximately 30 days after the demonstration. They were asked to (voluntarily) record their email address on a form, or indicate that they are refusing, have no email account, and/or have no internet access.

Surveys were then distributed to willing participants. (A Spanish version of the survey was available for non-English speaking respondents.) Subjects were asked to record the three-digit number on the top of their survey and keep it for use on the follow-up survey. Respondents were assured that all responses would be kept confidential; no identifying information was collected. General demographic data was collected only for the purposes of defining characteristics of the survey sample in the form of group data.

For each of the 34 classes, researchers recorded observations they made during the food preparation demonstration, and while initial surveys were being completed.

In terms of the follow-up survey, consenting participants who provided email addresses were sent an email that included a link to the follow-up web-based survey about 30 days after the demonstration and initial survey. A brief consent statement was included in the email to remind participants of their rights as subjects. They were asked to enter the three-digit number from their initial paper survey into the web survey. Participants were assured that this did not result in them to being personally identified in any way; it simply linked their initial survey responses with their follow-up responses. The web survey link did not track identifying information; computer IP addresses were not collected.

Data Analysis

All results in the following section were evaluated using crosstabulation techniques, which allow for comparisons of one variable (e.g., age range categories) with another (e.g., categories of how likely one is to do something). Statistical significance means that the relationship found between one variable and another would only have been due to chance five percent of the time. In other words, one can be 95% confident that a statistically significant result represents a true relationship between the two variables.

STUDY RESULTS



Sample Size

The initial target sample size was 175 surveys. This was exceeded for initial survey responses. 236 initial surveys were collected from 34 demonstrations during June 2019. Therefore, the total sample size (N)= 236.

Participant Demographics



Gender:

 (female)	66% of survey participants
 (male)	31% of survey participants

In the interest of being inclusive, other gender identity choices such as ‘transgender female,’ ‘transgender male,’ ‘not listed’ and ‘prefer not to answer’ were offered for selection in the survey. One respondent chose Transgender Female, and three chose ‘Not listed.’ Of those who chose “Not listed, two specified “both male and female.” The third person did not specify. Additionally, one person selected ‘prefer not to answer.’ Overall, 214 (n=214) people provided information about their gender.

Age:

176 participants provided an exact age, where 221 were willing to designate an age range. The average age of survey respondents was 53.84 years. The youngest respondent indicated he/she was 18 years old. The oldest respondent indicated he/she was 94 years old. Age ranges of survey participants are detailed in the chart below.

[%=percent of respondents; n=number of respondents]

Age Range	(%)	(n)
18-24 years	6%	14
25-34 years	12%	27
35-44 years	15%	33
45-59 years	21%	46
60 years or over	46%	101
Total	100%	221

It is important to note that the June 2019 food preparation demonstration schedule in Western New York was more focused on groups of older adults, therefore two-thirds of respondents reported being over the age of 45.

Racial/Ethnic Background:

[%=percent of respondents; n=number of respondents]

Racial/Ethnic Background	(%)	(n)
African American	19%	41
White	65%	141
Hispanic/Latinx	2%	5
American Indian	1%	2
Asian	1%	3
More than one race	8%	18
Other	1%	3
Prefer not to answer	3%	6
Total	100%	219

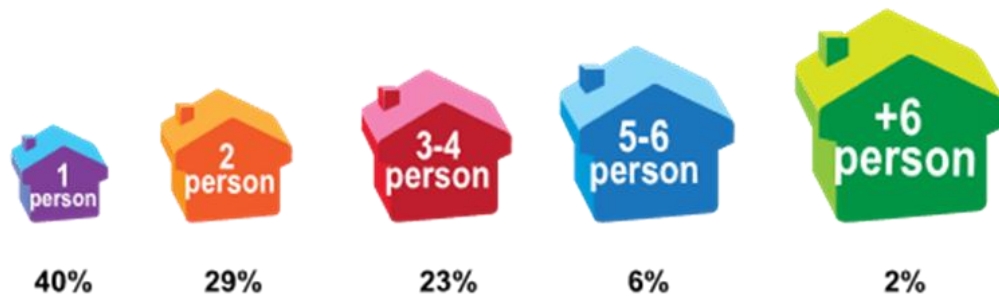
Of the 219 respondents who answered this question, three selected “Other,” two did not specify their racial or ethnic background, and the other stated he/she is Pakistani.

Children in the Household:



26% of survey respondents (55 people) had children (under the age of 18) living in their household. 214 people provided information as to whether children resided with them (n=214).

Size of Household:



Percentage of respondents living in the above size household
Note: 214 people identified how many people live in their household (n=214)

Military/Veteran in Household:



14% of survey respondents (31 people) are or have an active military member or veteran in their household.

Note: 218 people provided information about an active military member or veteran in their household (n=218).

Locations of Participants' Residences:

Most participants identified their residence by ZIP code (n=214). Fifty-three ZIP codes were represented across five counties in the sample.

[%=percent of respondents; n=number of respondents]

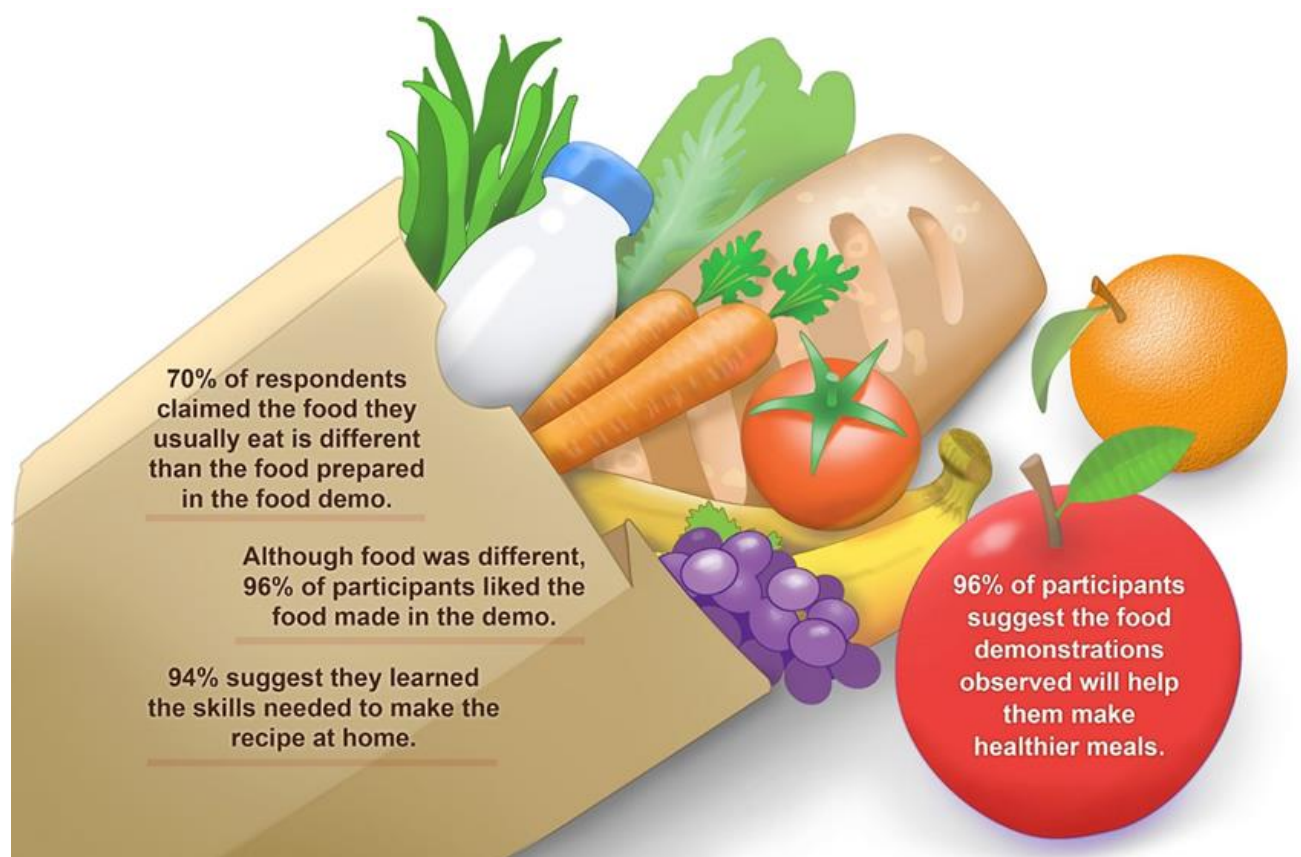
ZIP Code	City/Town	County	(%)	(n)
14043	Depew	Erie	2.3%	5
14072	Grand Island	Erie	2.3%	5
14094	Lockport	Niagara	4.7%	10
14120	North Tonawanda	Niagara	7.0%	15
14150	Tonawanda	Erie	2.8%	6
14203	Buffalo (downtown)	Erie	3.3%	7
14204	Buffalo (southeast)	Erie	2.8%	6
14206	Buffalo (east) & Cheektowaga	Erie	1.4%	3
14207	Buffalo (northwest)	Erie	2.3%	5
14209	Buffalo (central)	Erie	1.9%	4
14211	Buffalo (east)	Erie	1.9%	4
14212	Buffalo (east)	Erie	.9%	2
14213	Buffalo (west)	Erie	3.3%	7
14214	Buffalo (northeast)	Erie	1.4%	3
14215	Buffalo (northeast) & Cheektowaga	Erie	3.7%	8
14217	Kenmore/Tonawanda	Erie	1.4%	3
14220	Buffalo (south)	Erie	2.8%	6
14223	Tonawanda	Erie	.9%	2
14224	West Seneca	Erie	2.3%	5
14225	Cheektowaga	Erie	1.4%	3
14301	Niagara Falls (central)	Niagara	2.3%	5
14303	Niagara Falls (south)	Niagara	.9%	2
14304	Niagara Falls (east)	Niagara	4.7%	10
14305	N. Falls (north) & Town of Niagara	Niagara	3.7%	8
14605	Rochester (central)	Monroe	1.9%	4
14620	Rochester (south)	Monroe	3.3%	7
14701	Jamestown	Chautauqua	11.2%	24
14712	Bemus Point	Chautauqua	.9%	2
14720	Celoron	Chautauqua	.9%	2
14733	Ellicott	Chautauqua	1.4%	3
14740	Gerry	Chautauqua	2.8%	6
14750	Lakewood	Chautauqua	1.9%	4
14760	Olean	Cattaraugus	2.3%	5
14772	Randolph	Cattaraugus	1.9%	4
Total			90.9%	195

Note: 19 ZIP codes had *less than 0.5%* of survey respondents residing in those ZIP codes (with each representing one individual respondent). Those ZIP codes were not included in the chart above. 9 of those ZIP codes are within Erie County (14026, 14055, 14201, 14208, 14210, 14221, 14226, 14227, 14228), 1 falls within Niagara County (14092), 5 are in Monroe County (14580, 14607, 14609, 14611, 14619), 3 are in Chautauqua County (14710, 14724, 14782), and 1 is in Cattaraugus County (14753).

Participant Feedback:

Overall Feedback:

In general, it appears people liked the food preparation demonstrations. Out of 218 responses, 29% rated the demonstrations as good and 66% rated the demonstrations as excellent. Out of 211 responses, 94% of respondents indicated that they would attend another demo. Additional data is included in the image below.



Note: Number of people who weighed in on: the difference in food (n=199), liking the food (n=208), thought they were taught skills needed to make the food (n=208) and that the demo would help them make healthier meals (n=231)

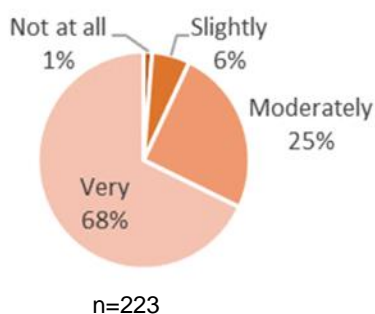
In response to the follow-up survey, seven individuals stated they were taught the skills and given the information needed to make the recipe at home. Three of those individuals made the recipe at home. The other four stated they had been too busy to make the recipe.

Perspectives Before and After Food Preparation Demonstrations:

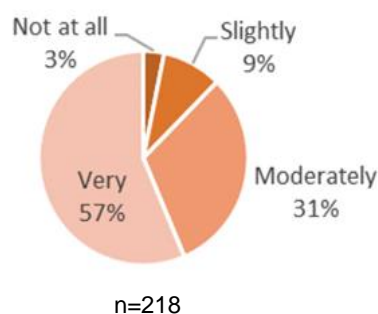
Perspectives on Fruit



Respondent's perceptions of the importance of eating **fruit** *prior to* the food preparation demonstration.



Respondent's perceptions of the likelihood of including **fruit** in meals *after* the food preparation demonstration.



93% of those who responded stated they believed, before the demonstration occurred, that eating fruit is moderately to very important. When asked if they intended to include fruit in meals after the demonstration, 88% percent of those who answered stated they were moderately to very likely to include fruit in their meals. The lower response may not reflect the effectiveness of the food preparation demonstrations. It is possible, given the challenges people find in eating healthy, that while respondents know the nutritional value of eating fruit, following through with eating more fruit is not likely to occur.

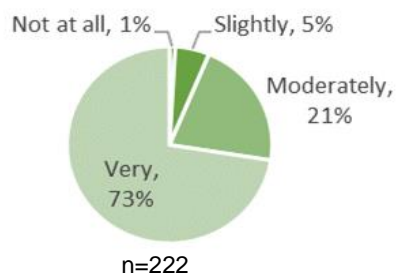
Only ten people completed the follow-up survey. Seven of them said they are eating more fruits than they had been before attending the demonstration. Three of the people that completed the follow-up survey indicated they made the recipe from the demonstration at home. All three stated they are moderately to very likely to make other meals that include fruit.

Furthermore, more people residing in urban areas tended to view fruits as less important than those who live in rural areas (see maps in appendix).

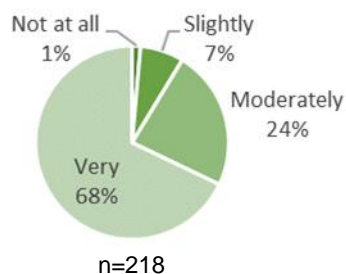
Perspectives on Vegetables



Respondent's perceptions of the importance of eating **vegetables** *prior to* the food preparation demonstration.



Respondent's perceptions of the likelihood of including **vegetables** in meals *after* the food preparation demonstration.



Similar to responses related to perspectives on eating fruit, 94% of those who responded stated they believed, before the demonstration occurred, that eating vegetables is moderately to very important. 92% of those who gave their perspective said they were moderately to very likely to include vegetables in their meals after the demonstration. The slightly lower response may not reflect the effectiveness of the food preparation demonstrations. It is possible that while respondents know the nutritional value of eating vegetables, making a commitment to eating more vegetables is not likely to occur.

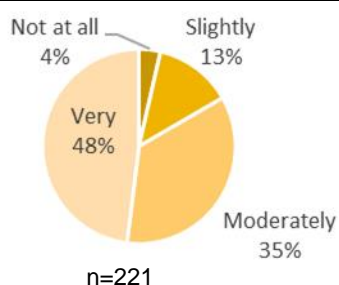
As mentioned earlier, only ten people completed the follow-up survey. Like the responses related to eating fruit, seven people said they are eating more vegetables than they had been prior to attending the demonstration. Three of the people who completed the follow-up survey indicated they made the recipe from the demonstration at home. All three stated they are moderately to very likely to make other meals that include vegetables.

Additionally, people residing in urban areas tended to view vegetables as less important than those who live in rural areas (see maps in appendix).

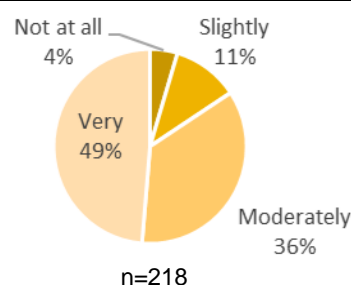
Perspectives on Whole Grains



Respondent's perceptions of the importance of eating **whole grains prior** to the food preparation demonstration.



Respondent's perceptions of the likelihood of including **whole grains** in meals **after** the food preparation demonstration.



83% of those who responded stated they believed, before the demonstration occurred, that eating whole grains is moderately to very important. This is at least 10% fewer than those identifying the importance of fruits and vegetables. When asked if they intended to include whole grains in meals after the demonstration, 85% percent of those who answered stated they were moderately to very likely to include whole grains in their meals. Study results suggest that the food demonstrations may have had a slight positive impact on people's intentions about including more whole grains in their meals.

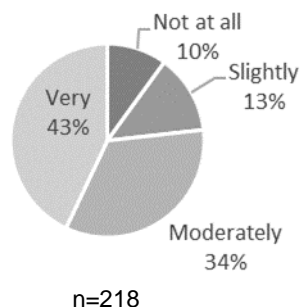
However, only two out of the ten people who completed the follow-up survey said they are eating more whole grains than they had been before attending the demonstration. Three of the people who completed the follow-up survey indicated they made the recipe from the demonstration at home. All three stated they are moderately to very likely to make other meals that include whole grains.

Also, people residing in urban areas tended to view whole grains as less important than those who live in rural areas (see maps in appendix).

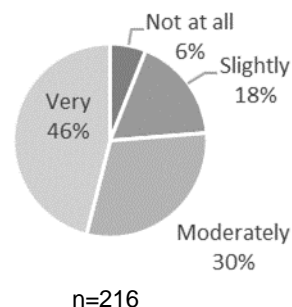
Perspectives on Low-fat Dairy Products



Respondent's perceptions of the importance of eating low-fat dairy products **prior to** the food preparation demonstration.



Respondent's perceptions of the likelihood of including low-fat dairy products in meals **after** the food preparation demonstration.



77% of those who responded stated they believed, before the demonstration occurred, that eating low-fat dairy products is moderately to very important. 76% of those who responded indicated they were moderately to very likely to include low-fat dairy products in their meals after the demonstration. This data suggests that low-fat dairy is of least importance to respondents and they are less likely to include low-fat dairy in meals than fruit, vegetables, and whole grains. This was true for urban and rural residents.

While not statistically significant, four out of the ten people who completed the follow-up survey said they are eating more low-fat dairy products than they had been before attending the demonstration. Three of the people who completed the follow-up survey indicated they made the recipe from the demonstration at home. All three stated they are moderately to very likely to make other meals that include low-fat dairy products.

Specifics About the Food Preparation Demonstration Experience:



Recipes Made:

Commonly identified recipes included: Apple Coleslaw (9%), Cowboy Salad (8%), Macaroni and Cheese with Broccoli (9%), Pasta Veggie Salad (7%), Raspberry Fruit Dip (6%), Spring Green Fruit Salad (5%), Sautéed Greens with White Beans and Garlic (12%), and Watermelon Cooler Smoothie (3%). Twenty-six participants struggled to identify the name of the recipe when they completed the survey, immediately after the demonstration.

Hands-on Practice During the Demonstrations

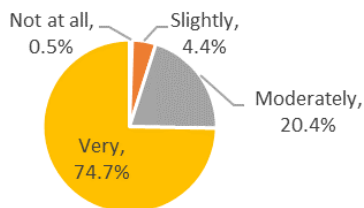


With 202 respondents identifying whether they received hands-on practice during the food preparation demonstration, 37% reported that they did have hands-on practice.

Among those that said “Yes” to getting hands-on practice (n=67), 27% were within the 18-34-year-old age group, 48% were ages 35-59, and 25% were 60 years or older. Within the respondents that said they did **not** get hands-on practice, 54% fell within the age group of 60 years or older. Note that this was a very statistically significant finding in this population. This suggests that the senior participants need to be engaged in more in hands-on participation.

Health Benefits of Recipes

224 people shared whether they were instructed on health benefits of the recipe used during the demonstration (n=224). 96% stated they learned about health benefits from the demonstrator. Also, 225 respondents provided their perceptions on whether they felt the ingredients were healthy (n=225). Results are illustrated in the chart below.



Acquiring Ingredients

With 215 people weighing in, 93% indicated that they were taught how to choose the ingredients for the recipe when they shopped for them. 99% of the 215 people believed the ingredients were available where they usually shop.

Sampling the Dish

99% out of 223 people acknowledged that they received a sample of the food prepared at the conclusion of the demonstration. As mentioned earlier, 96% of the 208 (n=208) respondents who shared their opinion stated that they liked the food made during the demonstration.

Survey Responses Related to Cost and Affordability:



OTDA guidelines require that recipes used in food demonstrations be “low-cost and affordable.” With 207 (n=207) people weighing in, 97% perceived the recipe as affordable.

OTDA guidelines also instruct demonstrators to include “cost per recipe or cost per serving if possible,” in food preparation demonstrations. 45% of the 216 people who provided a survey response related to this issue stated that they were told the cost of recipe. Interestingly, with 34 demonstration events evaluated, in five of the events, responses amongst the participants providing feedback on this issue were evenly split, with half saying they were told the cost, with the other half said they were not. There were only two demonstration events in which 100% of respondents sharing their opinions related to being informed about cost agreed, all stated they were not told the cost.

Researcher Observations



Researchers observed 34 food preparation demonstrations and recorded observations relevant to OTDA demonstration guidelines.

Unhealthy Ingredients:

Considering the guidelines 1) all recipes must support the Dietary Guidelines for Americans and must have minimal sugar, fat, and salt and 2) use of low-fat and non-fat dairy should be maximized, researchers took note of potentially unhealthy ingredients being used in the demonstrations. Possible unhealthy ingredients were noted in approximately one-third of the demonstrations. The chart below provides details related to this issue.

Recipe	Potentially Unhealthy Ingredient	Notes
Mac n' Cheese with Broccoli	Cheese (not low-fat), macaroni	Unknown to researchers if macaroni was whole grain or vegetable-based
Sautéed Greens and White Beans with Garlic	Salt	Two out of three researchers who saw this recipe noted salt as a potentially unhealthy ingredient. Researchers are not aware of what would be viewed as minimal salt.
Pizza and Black Bean brownies	Cheese (not low-fat), crust/bread, Chocolate	Researcher did not specifically note unhealthy ingredients, yet it seems noteworthy to comment on the ingredients in this report.
Tofu Scramble	Cheese (not low-fat), salt	Researchers are not aware of what would be viewed as minimal salt.
Apple Coleslaw	Mayonnaise	While some demonstrators used yogurt for this recipe, at least one used mayonnaise and told participants that yogurt would be a healthier option.
Cucumber Tomato Salad	Feta Cheese	
Raspberry Fruit Dip	Sugar	Researchers are not aware of what would be considered minimal sugar.
Mexican Fiesta Rice	Cheese (not low-fat)	
Pasta Vegetable Salad	Cheese (not low-fat), pasta	Unknown to researchers if pasta was whole grain or vegetable-based
Peanut Butter Protein Balls	Peanut Butter	Researchers are unaware if the peanut butter used was high in salt, oil and/or sugar.

Other Observations Specific to the Demonstration:



All the demonstrators discussed health/nutrition benefits related to ingredients.

For 24 of the 34 demonstrations observed, researchers reported the time it took to complete the demonstration being observed. The mean number of minutes for food preparation demonstrations was 20 minutes (ranging from 5-30 minutes). This adheres to the guidelines of preparation times of 30 minutes or less.

Researchers reported that some degree of hands-on participation occurred in half of the 34 demonstrations (n=17). They noted that *some* participants had hands-on practice in 11 demonstrations and *all* participants had hands-on practice in 6 demonstrations. Demonstrators elicited participation in other portions of the class with a variety of engaging activities. One example is that colorful sheets of paper were passed around the room for participants to write down fruits and vegetables of that color.



In 22 (65%) of the demonstrations, researchers observed that demonstrators informed people of the cost of some ingredients. Cost per serving or cost to make the entire recipe was rarely shared.

A written copy of the recipe used in the demonstration was provided in 33 out of 34 classes/events.

Observations Related to Classes/Events:

Specific lesson topics were noted for 12 events. Topics included fruits and vegetables (in 7 out of 12 classes/events), whole grains (in 2 out of 12 classes/events), fiber (in 1 out of 12 classes/events), Leafy greens (in 1 out of 12 classes/events) and protein (in 1 out of 12 classes/events).

Handouts with nutrition information were distributed in 31 out of 34 classes/events.

In terms of class/event size, the mean number of participants in each class/event was 10 (ranging from 2 to 26 people).

Researchers reported that 20 respondents struggled in some way with completing the survey. For nearly half of those who struggled, it was because English was their second language. Swahili was the primary language for many of them. Given that they struggled in understanding the survey, it is likely that they found it challenging to understand the demonstration. Others struggled with the survey due to health reasons (e.g. could not see the survey well due to vision impairment, cerebral palsy made it difficult to write answers, etc.) and they were assisted by researchers.

Summary of Data Analysis and Related Recommendations

Study Aim #1: *Do the demonstrations adhere to SNAP-Ed. guidelines, including using healthy ingredients and making low-cost recipes?*

Some of the policy guidelines are: 1) all recipes must support the Dietary Guidelines for Americans and must have minimal sugar, fat, and salt and use of low-fat and non-fat dairy should be maximized, 2) all recipes must consist of 10 ingredients or less, 3) demonstrate how to select and store the fruits or vegetables highlighted in the recipe, and 4) communicate the health and obesity prevention benefits of the recipe.

Regarding the first guideline, recipes used for the food preparation demonstrations included a variety of fruit, vegetables, whole grains, and low-fat dairy products. It should be noted, on the other hand, that in approximately one-third of the demonstrations, researchers identified the use of potentially unhealthy ingredients. Cheese (not low-fat), salt, sugar, mayonnaise, pasta, chocolate, bread/crust and peanut butter were used in some recipes. Therefore, using low-fat cheese, little or no salt and healthy alternatives for other potentially unhealthy ingredients (e.g. low-fat yogurt instead of mayonnaise) should be emphasized.

Recipes were simple and included less than 10 ingredients, satisfying the second guideline.

Nearly all survey participants (93%, n=215) indicated they were taught how to pick out the ingredients and thought the ingredients they needed would be available where they shop, mostly meeting guideline 3. Some demonstrators discussed when fresh ingredients are 'in-season', and how to determine if produce was ripe. There was rarely discussion about weighing produce or how to store ingredients, so this should be improved upon.

Finally, with respect to the fourth guideline, most demonstrators pointed out the use of healthy ingredients. For example, while demonstrating how to make apple coleslaw, one instructor explained that while coleslaw is often made with mayonnaise, she was using low-fat yogurt to decrease the amount of fat. Correspondingly, 96% of survey participants reported that the demonstrations will help them make healthier meals (n=231) and taught them about health benefits of the recipes (n=224). Also, 75% of respondents felt the ingredients used in the

demonstrations were very healthy (n=225). Overall, it appears demonstrators adhered to this guideline.

Guidelines for demonstrations also state that recipes used should have preparation times of 30 minutes or less. Analysis showed that the mean number of minutes for food preparation demonstrations was 20 minutes, therefore, demonstrators adhered to guidelines.

According to survey participants, 99% of respondents were offered a sample of food following demonstrations. While 1% of respondents indicated they were not offered a sample, researchers observed all survey respondents being offered a sample. Demonstrators conformed with the guideline of providing a sample of the finished product.

Including cost per recipe or cost per serving, if possible, is part of the recommended protocol for food preparation demonstrations, according to OTDA guidelines. 45% of respondents (n=216) indicated they were told how much the recipe would cost. In 22 (65%) of the demonstrations, researchers observed that demonstrators informed people of the cost of some ingredients. Cost per serving or cost to make the entire recipe was rarely shared. Outlining the cost of all the ingredients, as well as providing an estimate for the cost of the entire recipe or cost per serving, might help people overcome any wariness of purchasing food items that are different from what they usually buy.

***Study Aim #2:** Do the demonstrations result in an increased consumption of fruits, vegetables, whole grains, and low-fat dairy products by the SNAP-Ed. recipient population?*

An analysis of the survey responses shows that participants had a largely positive reaction to food demonstrations. Two-thirds of the study participants rated the demonstration they attended as “Excellent.” Over 90% (n=208) felt the demonstration taught the skills needed to make the recipe at home. Additionally, over 95% liked the food that was prepared (n=208), indicated they learned about the health benefits of the recipe (n=224), and felt the demonstration will help them make healthy meals (n=231).

70% (n=199) of respondents indicated the food was either “a little” or “quite a bit different” from what they usually eat. That suggests participants would have to change their shopping and eating habits to incorporate the food prepared at the demonstration into their diet. In a positive light, over 95% participants liked the food (n=208), 97% felt the recipe was affordable (n= 207), and 99% (n=215) felt the ingredients are available in the places they normally shop. Those responses indicate that taste, cost, and food accessibility do not appear to be barriers to adopting healthier eating habits.

The perceived importance of eating fruits, vegetables, whole grains, and low-fat dairy products prior to the demonstration was explored. At that point, 73% (n=222) of survey respondents felt eating vegetables was very important and 68% (n=223) believed consuming fruit was very important. Participants rated the importance of eating both whole grains and low-fat dairy products considerably lower, with 48% (n=221) and 43% (n=218) stating whole grains and low-fat dairy products, respectively, were very important. Also, low-fat dairy was rated by 10% of respondents as “not at all important.” This suggests a greater awareness of the health benefits of fruits and vegetables exists compared to that of whole grains and low-fat dairy.

The study also examined behaviors survey participants intended to have after the demonstration. Results indicated that demonstrations may influence healthy eating. Data showed that more than half of the survey participants indicated they were very likely to include vegetables (68%, n=218) and fruit (57%, n=218) in meals made at home. Like the perceptions of the importance of whole grains and low-fat dairy, respondents indicated they are less likely to make meals that include whole grains or low-fat dairy products than fruit and vegetables. Only 49% (n=221) said they are very likely to include whole grains in future meals and 46% (n=216) said they are very likely to include low-fat dairy products. Only ten people completed the follow-up survey. Seven of them said they are eating more fruit and vegetables, two stated they are eating more whole grains, and four indicated they are eating more low-fat dairy than they had prior to attending the demonstration.

Three out of the seven individuals who responded to this question, made the recipe at home that they saw demonstrated, and all stated they are moderately to very likely to make other meals that include fruit, vegetables, whole grains, and low-fat dairy products.

These results suggest a need for greater emphasis on the health benefits of eating whole grains and low-fat dairy in healthy eating messaging campaigns and healthy food preparation demonstrations.

Techniques that Promote Learning:

While not a stated aim in this study, researchers and OTDA recognize the importance of using educational techniques that promote transfer of learning from the class setting to meal preparations at home.

The founder of adult learning theory, Malcom Knowles, explained since adults are rich resources for learning, greater emphasis can be placed on techniques that tap the experience of the adult learners, such as simulation and skill-practice exercises. He also described that studies on the transfer of learning and the maintenance of behavioral change indicate that learners should rehearse how they are going to apply their learning to their day to-day lives (Knowles, 1980). Providing more opportunities for hands-on practice in the demonstrations may reinforce gained knowledge and skills and lead to a greater likelihood of the participants using them on a regular basis.

In terms of the delivery of the demonstration, 37% (n=202) of respondents indicated they had hands-on practice. Researchers reported that some degree of hands-on participation occurred in half of the demonstrations (n=17). They noted that **some** participants had hands-on practice in 11 out of 17 demonstrations and **all** participants had hands-on practice in the other 6 demonstrations. Demonstrators elicited participation in other portions of the class with a variety of engaging activities.

Handouts explaining various aspects of nutrition and printed copies of the recipes were provided in most classes. These will serve as references when participants make the recipes at home.

Other Notable Observations:

In demonstration guidelines it states, “food demonstrations, and/or the provision of food samples, are prohibited in the ‘waiting areas’ of public health offices, health centers, clinics, and physicians’ offices.” While researchers did not observe any demonstrations or food samples distributed at “health” centers or offices, we did observe at least one in the waiting room of a WIC center. People were not focused on the demonstration. The instructor attempted to get people interested but was not successful. People were focused on their appointment for WIC benefits. The instructor did not complete the demonstration and no surveys were collected from that location. While other nutrition education activities using social marketing tools with ‘core’ nutrition education messages and materials may be helpful in a setting such as the WIC waiting room, it appears that a demonstration is not effective in this type of location.

Guidelines also state that food demonstrations should be conducted at eligible retail food stores, eligible farmers’ markets, or health fairs as a SNAP-Ed. social marketing event. The schedule for the month of June in Western New York did not appear to have many of these locations included. While a few were to occur at mobile farmers’ markets (e.g. veggie wheels) or service provider fairs, nutritionists were unsure of their ability to provide a demonstration at those locations because they had not yet received details about the space they would have at the event, or, in at least one situation, the location failed to get insurance to have the mobile market on-site.

Limitations

Initial data was only gathered during the month of June in 2019 due to timeframes set by SNAP-Ed. of OTDA. They needed a final research report in September 2019. Also, the schedule for June included more events geared toward adults 45 or older. We suggest four to six months of data collection over a wider geographic area if this study is repeated in the future to increase the amount of data and get a more diverse sample pool.

Additionally, the method of using email to gather follow-up survey data did not prove to be effective. It is possible that the older adults in our sample pool do not use email, either at all or on a consistent basis. Seventy-two people provided email addresses; however, three didn’t work, and one respondent was not from New York State. Only ten people completed the follow-up survey. If this study is repeated in the future, with a longer period of time allocated to data collection, we would use various methods to gather follow-up survey data, such as email, phone calls, post-cards, etc., based on study participant preferences.

Further study offers the opportunity to address the limitations and provide additional analysis.

References

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx>

<https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics/>

The Modern Practice of Adult Education: From Pedagogy to Andragogy (revised and updated). MS Knowles - Englewood Cliffs, NJ: Cambridge Adult Education, 1980.

Walker, R., Keane, C., & Burke, J. (2010). Disparities and access to healthy food in the United States: A review of food literature. *Health & Place*, 16, 876-884.

APPENDIX



BUFFALO STATE
The State University of New York

Institutional Review Board

Sponsored Programs Office, Buckham Hall B-206
1300 Elmwood Avenue, Buffalo, NY 14222
Federalwide Assurance ID#: 00007126

INFORMED CONSENT STATEMENT

Effectiveness of Food Preparation Demonstrations

NAME AND TITLE OF RESEARCHER: Dr. Kelly Marczyński, PhD

Department/Room Number: Institute for Community Health Promotion/CLASA203

Telephone Number: 716-878-6137

Email: marczyk@buffalostate.edu

PURPOSE OF STUDY

The purpose of this research study is to gather opinions about food preparation demonstrations and eating fruit, vegetables, whole grains, and low-fat dairy products.

INCLUSION REQUIREMENTS

You are eligible to participate in this study if you are at least 18 years of age, or older, can read and understand English or Spanish well enough to participate in the survey, and have just attended a class in which a food preparation demonstration occurred.

VOLUNTARY PARTICIPATION STATEMENT

Participation in this study is completely voluntary. If you choose to participate, you can skip any questions you do not want to answer and may stop at any point. There is no penalty if you choose not to participate or stop participating part way through the study.

RISKS AND DISCOMFORTS

The risks associated with participation in this study are minimal and no greater than those encountered in everyday life. Please note that no study is truly “no risk” and the lowest category of risk is minimal. If a question makes you feel uncomfortable, you can skip it.

BENEFITS

You will not directly benefit from, or receive any compensation for, participation in this study. However, your participation may help us understand how food demonstrations can be modified so that all SNAP recipients, or people who are SNAP-eligible, are even better served in the future.

PROCEDURES AND CONFIDENTIALITY

I am going to ask you to supply your email address so that we may contact you for a web-based follow-up survey in about 30 days. The follow-up survey takes about five minutes to complete. You may refuse to give your email address. I will pass out a form on which you can provide your email address or indicate that you decline to do so.

Not having email or internet access does not prevent you from participating in today's survey. The forms with Email addresses will be kept in a locked and secure filing cabinet, separate from any survey data. Paper copies of completed surveys will be stored in a separate locked and secure filing cabinet at the ICHP office, accessible only to trained and authorized research staff.

The email you receive for the follow-up study will include a link to the survey as well as a consent statement. The software used for the follow-up survey does not collect IP addresses of computers and using the link will ensure that your responses are not connected to your email address.

No one, including the research team, can connect your responses (the study data) with your identity for either the survey you will complete today or the follow-up survey. No names or identifying information will be recorded on the initial or follow-up surveys.

All computerized data and any other materials will be stored in password-protected databases accessible only to trained and authorized staff of ICHP at SUNY Buffalo State. Paper copies of completed forms will be stored in secure, locked file cabinets at the Institute for Community Health Promotion, accessible only to trained and authorized research staff.

All data will be retained for at least three years in compliance with federal regulations.

This informed consent statement is yours to keep.

IF YOU HAVE QUESTIONS

If you have any comments, concerns, or questions regarding the conduct of this research, please contact the researcher at the top of this form. If you are unable to contact the researcher, or have general questions about your rights as a participant, please contact Gina Game, IRB Administrator, Sponsored Programs Office/SUNY Buffalo State at gameg@buffalostate.edu.

Food Demonstration Survey

ID Number

Please circle your answer.

1. Have you completed this survey after a different nutrition class?
YES NO
2. Were you referred to this class by a SNAP caseworker or a doctor?
YES, BY A CASEWORKER YES, BY A DOCTOR NO

Please write out your answer to question 3 (below).

3. What meal or snack was made during today's demonstration?

Please circle your answers for the following questions about the food demonstration you saw today.

4. Do you think the demonstration taught the skills that would be needed to make this recipe at home?
YES NO
5. Did you get hands-on practice during the demonstration?
YES NO → SKIP TO 6
- 5a. Did you get enough hands-on practice?
YES NO
6. Were you offered a sample of the food?
YES NO → SKIP TO 7
- 6a. Did you like the food?
YES NO
7. Compared with food that you usually eat, was the food prepared today...
(please circle your answer to complete the sentence)
... a little different from what you usually eat,
... about the same, or
... quite a bit different from what you usually eat?
8. Do you think today's demonstration will help you make healthy meals?
YES NO

Food Demonstration Survey

9. Prior to today's demonstration, how important did you think it was to eat...

9a. fruits?

NOT AT ALL SLIGHTLY MODERATELY VERY

9b. vegetables?

NOT AT ALL SLIGHTLY MODERATELY VERY

9c. whole grains?

NOT AT ALL SLIGHTLY MODERATELY VERY

9d. low-fat dairy products?

NOT AT ALL SLIGHTLY MODERATELY VERY

10. As a result of today's demonstration, how likely will you be to make meals at home that include...

10a. fruits?

NOT AT ALL SLIGHTLY MODERATELY VERY

10b. vegetables?

NOT AT ALL SLIGHTLY MODERATELY VERY

10c. whole grains?

NOT AT ALL SLIGHTLY MODERATELY VERY

10d. low-fat dairy products?

NOT AT ALL SLIGHTLY MODERATELY VERY

Please circle your answers to the following questions about the recipe prepared today.

11. Did you learn about the health benefits of the recipe?

YES NO

12. How healthy would you say the ingredients in the recipe are?

NOT AT ALL SLIGHTLY MODERATELY VERY

Food Demonstration Survey

13. Were you told how much today's recipe would cost to make?

YES NO

14. Do you feel that the recipe is affordable to make?

YES NO

15. During today's demonstration, did you learn how to pick out the ingredients for this recipe?

YES NO

16. Do you think the ingredients are available at the places where you normally shop?

YES NO

17. Overall, how would you rate today's demonstration?

POOR FAIR GOOD EXCELLENT

18. Would you consider attending another class that has a food demonstration?

YES NO

Please circle your answers to these questions about yourself.

Note that the answers to the questions will only be used to group responses; no one will be able to identify you. Additionally, if you have provided your email address to us, it cannot be linked to this survey.

Demographics:

1. How many people live in your home?

1 2 3-4 5-6 MORE THAN 6
(if 1, SKIP TO 3.)

2. Are there children under 18 living in your household?

YES NO

3. Which gender do you identify with?

FEMALE

MALE

TRANSGENDER FEMALE

TRANSGENDER MALE

NOT LISTED, SPECIFY _____

PREFER NOT TO ANSWER



Food Demonstration Survey

4. What age range contains your age?

18-24
YRS

25-34
YRS

35-44
YRS

45-59
YRS

60 YEARS
OR OVER

5. If you are willing to provide your exact age, what is your age in years? _____

6. Are you Hispanic or Latino? (Is your ethnic background Mexican, Puerto Rican, Cuban, Dominican, Central or South American?)

YES, HISPANIC

NO, NON-HISPANIC

PREFER NOT TO ANSWER

7. What is your racial background?

AFRICAN AMERICAN

AMERICAN INDIAN

ASIAN

WHITE

MORE THAN ONE RACE

OTHER, SPECIFY _____

PREFER NOT TO ANSWER

8. Are you, or is anyone who lives in your home, an active military member or veteran?

YES

NO

9. What is your zip code? _____

This is the end of the survey. Thank you for participating!



Food Demonstration Survey: 30-day Follow-up Survey

Please answer the following questions about the food demonstration you attended last month.

1. What was your ID number (that you wrote down on your consent form)? _____
(leave blank if you do not recall)

2. Do you recall what recipe was demonstrated?

YES NO → SKIP TO 13

3. What meal or snack was made during the demonstration? _____

4. Did the demonstration teach you the skills you needed to make this recipe at home?

YES NO → What skills were not covered? _____

5. Did the demonstration provide enough other information for you to make the recipe at home?

YES NO → What information do you think was missing? _____

6. Did you make the recipe from the food demonstration at home?

YES NO → SKIP TO 12

7. Would you say the recipe was easy to make?

YES NO

8. In minutes, how long would you say the recipe took you to make? _____ *Minutes*

9. If you had to purchase all the ingredients for the recipe, how much would you say the recipe would cost to make, in dollars? _____ *Dollars*

10. Do you feel that the recipe is affordable to make?

YES NO

11. After making the recipe from the demonstration, how interested are you in making other meals at home that include...

a. fruits?

NOT AT ALL SLIGHTLY MODERATELY VERY

b. vegetables?

NOT AT ALL SLIGHTLY MODERATELY VERY

c. whole grains?

NOT AT ALL SLIGHTLY MODERATELY VERY

d. low-fat dairy products?

NOT AT ALL SLIGHTLY MODERATELY VERY

[if Q11 is completed, skip to 13]



Food Demonstration Survey: 30-day Follow-up Survey

12. Why didn't you make the recipe? (select all that apply) [question 12 is only for those who said NO to question 6]

- a. I've been too busy
- b. I didn't like the taste of the food
- c. It was too complicated to make (*Explain Briefly:* _____)
- d. The ingredients were too hard to find (*Specify:* _____)
- e. The ingredients were too expensive (*Specify:* _____)
- f. It would take too much time
- g. Other (*Specify:* _____)

13. Since the food demonstration you attended, have you been...

- a. making healthier meals than you had been *before attending the demonstration*?
YES NO
- b. eating more fruits than you had been *before attending the demonstration*?
YES NO
- c. eating more vegetables than you had been *before attending the demonstration*?
YES NO
- d. eating more whole grains than you had been *before attending the demonstration*?
YES NO
- e. eating or drinking more low-fat dairy products than you had been *before attending the demonstration*?
YES NO

Please answer the following questions about yourself. Note that the answers to the questions will only be used to group responses; no one will be able to identify you.

Demographics:

1. How many people live in your home?

1 2 3-4 5-6 MORE THAN 6
(if 1, SKIP TO 3.)

2. Are there children under 18 living in your household?

YES NO

Food Demonstration Survey: 30-day Follow-up Survey

3. Which gender do you identify with?

FEMALE

MALE

TRANSGENDER FEMALE

TRANSGENDER MALE

NOT LISTED, SPECIFY _____

PREFER NOT TO ANSWER

4. What age range contains your age?

18-24
YRS

25-34
YRS

35-44
YRS

45-59
YRS

60 YEARS
OR OVER

5. If you are willing to provide your exact age, what is your age in years? _____

6. Are you Hispanic or Latino? (Is your ethnic background Mexican, Puerto Rican, Cuban, Dominican, Central or South American?)

YES, HISPANIC

NO, NON-HISPANIC

PREFER NOT TO ANSWER

7. What is your racial background?

AFRICAN AMERICAN

AMERICAN INDIAN

ASIAN

WHITE

MORE THAN ONE RACE

OTHER, SPECIFY _____

PREFER NOT TO ANSWER

8. Are you, or is anyone who lives in your home, an active military member or veteran?

YES

NO

9. What is your zip code? _____

This is the end of the survey. Thank you for participating!



Food Preparation Demonstration Study
Researcher Observations

Class date _____ Class location _____

Handouts were distributed

Number of participants in
class:

A printed copy of the recipe was distributed

There seemed to be unhealthy ingredients, such as:

There was no demonstration. The food was prepared in advance.

There was class participation in the demo for **some** class members

There was class participation in the demo for **all** class members

How long did the demonstration take? _____

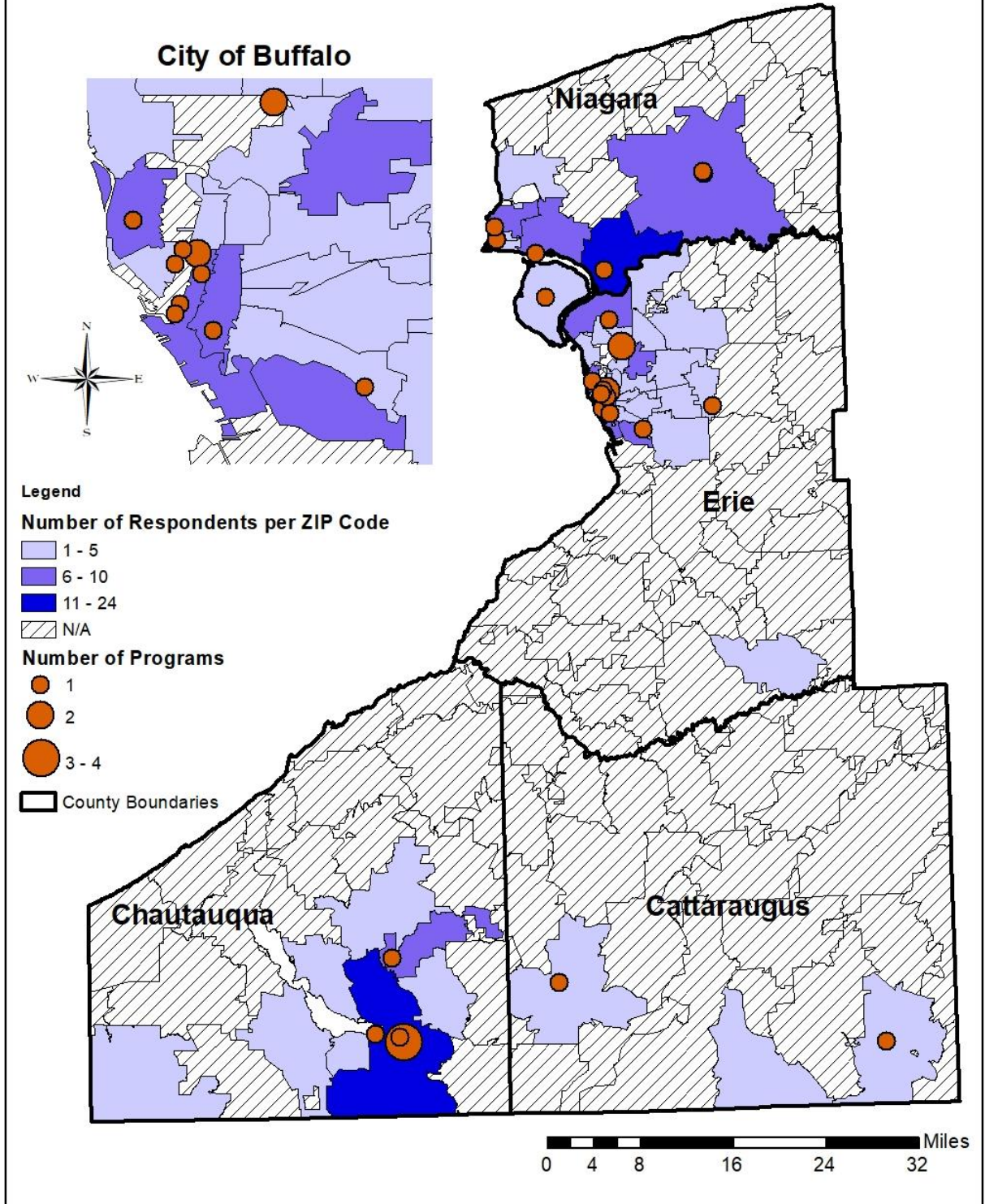
There was discussion of food ingredients related to:

Lesson topic Cost of ingredients Health/nutrition

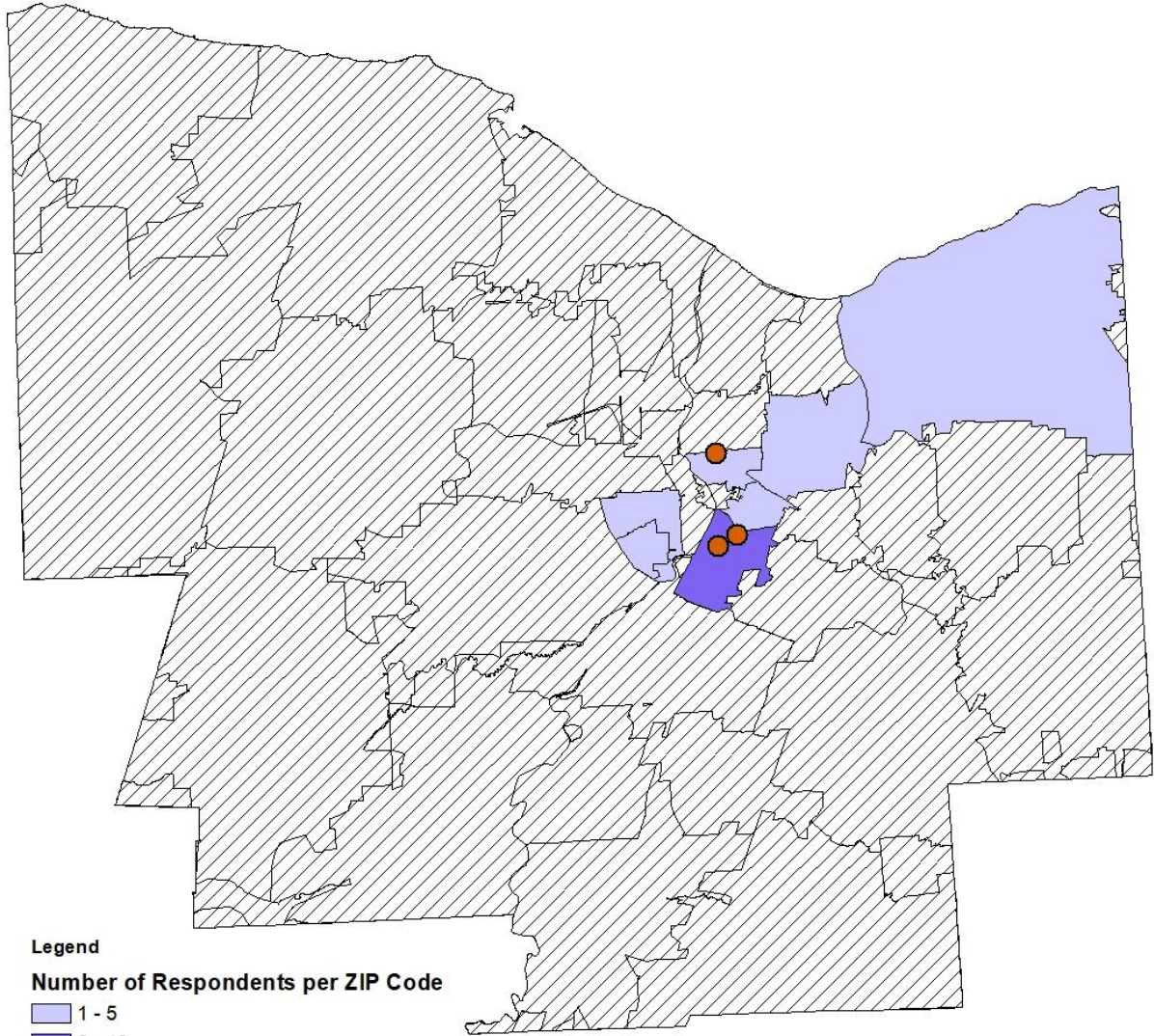
One or more people seemed to struggle with understanding the survey. How many people? _____

Other observations:

Food Demonstrations in WNY Counties by ZIP Code



Food Demonstrations in Monroe County by ZIP Code



Legend

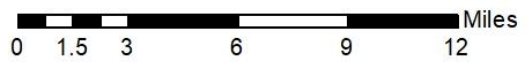
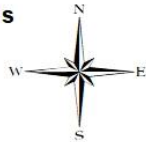
Number of Respondents per ZIP Code

- 1 - 5
- 6 - 10
- 11 - 24
- N/A

Number of Programs

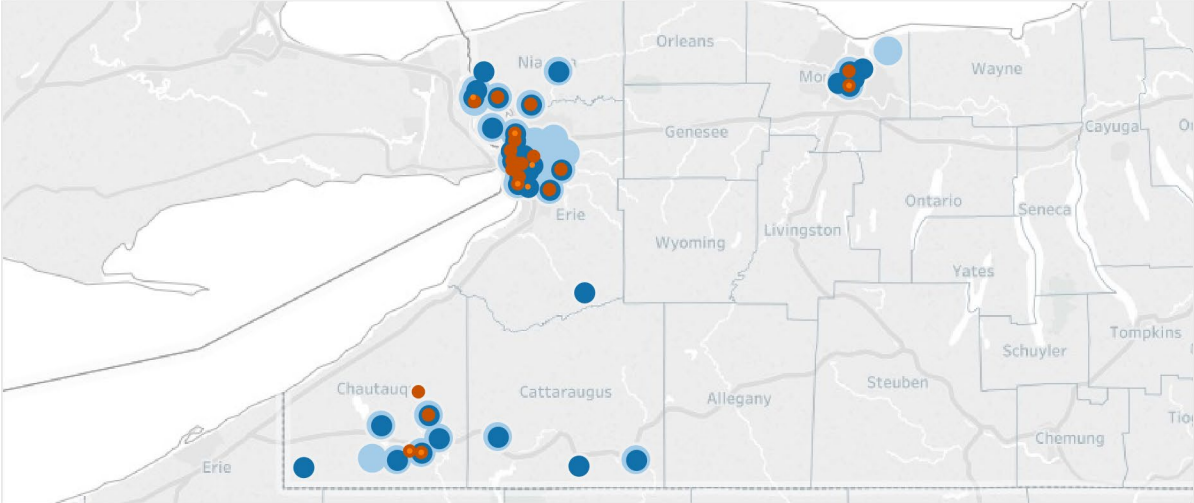
- 1
- 2
- 3 - 4

Monroe County

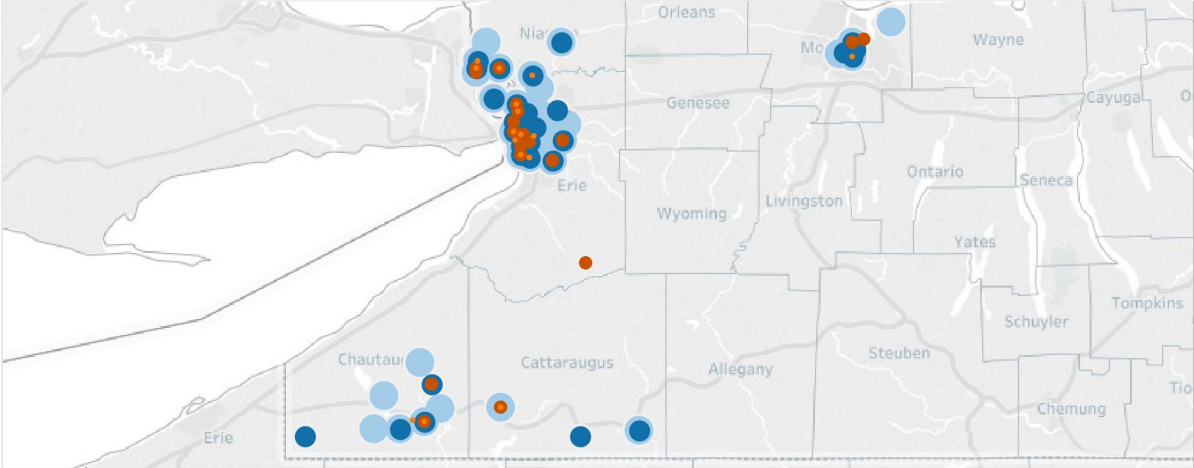


Maps Indicating Crossover Between Location and Perceived Importance of Food Groups.

Prior to today's demonstration, how important did you think it was to eat whole grains?

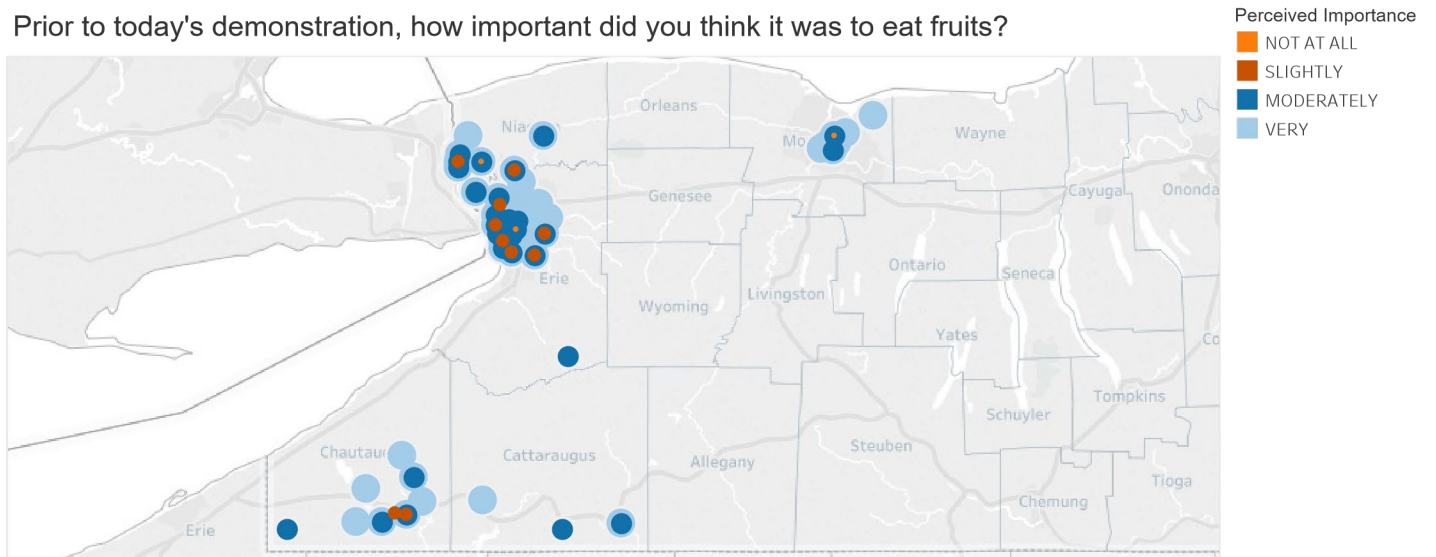


Prior to today's demonstration, how important did you think it was to eat or drink low-fat dairy products?



Maps Indicating Crossover Between Location and Perceived Importance of Food Groups.

Prior to today's demonstration, how important did you think it was to eat fruits?



Prior to today's demonstration, how important did you think it was to eat vegetables?

