

Cooking Classes and Healthy Eating Behavior

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ABSTRACT

Too many college students do not understand how to properly or safely prepare healthy meals, even if they desire to eat healthier. The lack of ability to prepare meals, often leads students to make unhealthy, convenient food choices. This study was designed to determine if involving South Dakota State University students in healthy cooking classes would improve their aptitude to eat healthfully and practice food safety. A series of three cooking classes were provided to students focusing on simple, healthy recipes with supplemental instruction on food safety and nutrition. Goals for participants were evaluated by a pre and post survey. The healthy cooking classes significantly increased participant ability to put together ready-made ingredients to make a complete meal, ability to prepare dishes from basic ingredients, cooking confidence, and nutrition knowledge. The classes were not effective at increasing ability to cook convenience foods and ready-meals, frequency of cooking, frequency of healthy food consumption, or food safety practices. In short answer response, 83% of participants claim to eat healthier as a result of the classes.

Table 1. Components of each of the three cooking classes

Class	Presentation Information		Cooking Portion	
	Food Safety	Nutrition	Focus	Recipes
1	Cleanliness Handwashing Internal cooking temperatures (beef) Knife skills Cross-contamination	Implications of eating out Making healthy, convenient choices Importance of home cooking	All ingredients found on campus	Beef stir-fry Banana pancakes Apple Sandwiches Cookie dough Greek yogurt
2	Handwashing Internal cooking temperatures (chicken) Leftovers Food storage	Portion control	Simple, health recipes with easily accessible ingredients	Honey baked chicken Roasted vegetables Microwave brown rice Peanut butter banana overnight oats
3	Hand washing Reheating temperatures Sell-by/use-by/best-by dates	Label reading Nutrition facts	Microwave recipes	Spaghetti squash Topped sweet potatoes French toast in a mug Baked apples

Table 2. Participant change in cooking ability, cooking frequency, cooking confidence, frequency of healthy eating, and knowledge of nutrition.

Variable	Mean ± Standard Deviation PRE (n=38)	POST (n=23)	p-value
Ability to cook¹			
Cook convenience foods and ready-meals	4.3 ± 1.0	4.6 ± 0.69	0.162
Put together ready-made ingredients to make a complete meal	4.1 ± 1.0	4.7 ± 0.48	0.016*
Prepare dishes from basic ingredients	3.6 ± 1.2	4.6 ± 0.67	0.006*
Frequency of cooking²			
Prepare and cook a meal from basic ingredients	3.2 ± 1.5	3.4 ± 1.1	0.761
Use ingredients from around campus to prepare a healthy meal	2.5 ± 1.4	2.9 ± 1.1	0.211
Go to the grocery store to purchase fruits, vegetables, or other healthy foods	3.6 ± 1.2	4.1 ± 0.94	0.149
Use your residence hall kitchen and kitchen equipment	3.0 ± 1.5	3.3 ± 1.4	0.535
Confidence of simple cooking skills ³	3.9 ± 1.0	4.5 ± 0.61	0.026*
Frequency of healthy eating⁴			
Taste healthy foods you have never eaten before	3.1 ± 1.2	3.5 ± 1.1	0.310
Eat fruit	4.3 ± 1.0	4.4 ± 1.0	0.874
Eat vegetables or salad	4.2 ± 1.0	4.4 ± 0.73	0.478
Eat whole wheat pasta or brown rice	3.3 ± 1.3	3.5 ± 1.3	0.486
Eat baked, boiled, or mashed potatoes	3.4 ± 1.1	3.3 ± 1.2	0.706
Knowledge of nutrition⁵	2.8 ± 1.1	4.1 ± 1.0	0.000*

¹n=38
²n=23
*Significant at the p≤.05 level
¹ Ranked 1 (no ability) to 5 (very able)
² Ranked 1 (never) to 5 (very frequently)
³ Ranked 1 (no confidence) to 5 (very confident)
⁴ Ranked 1 (never) to 5 (very frequently)
⁵ Ranked 1 (no knowledge) to 5 (very knowledgeable)

Major Outcomes

Figure A. Consume a healthier diet as a result of the cooking classes

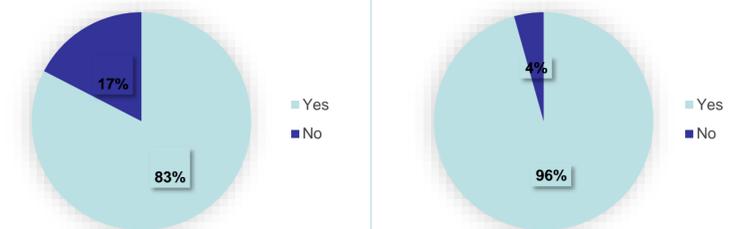
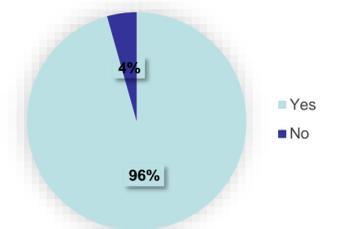


Figure B. Plan to use the learned recipes as healthy meal options



OBJECTIVES

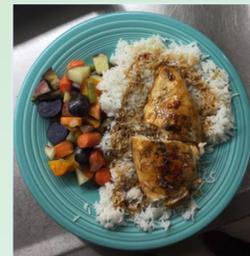
Determine if involving South Dakota State University students in healthy cooking classes would improve their aptitude to eat healthfully and practice food safety.

Increase student ability to cook, frequency of cooking, confidence of simple cooking skills, frequency of healthy eating, knowledge of nutrition, and food safety practices.

METHODS

A series of three cooking classes was taught in the fall of 2016 for South Dakota State students. Each class consisted of four recipes preceded by a presentation on nutrition and food safety. Table 1 outlines each class of the series.

A pre- and post-class survey was used to analyze change in goals for participants. Significant change was measured at the p ≤ 0.05 level. The post-class survey asked for student perceived change in healthy eating and intention to use class recipes as healthy meal options. All survey questions were derived from a survey to assess the impact of cooking intervention. Results were measured on a Likert scale of one (low) to five (high).



RESULTS

Demographics

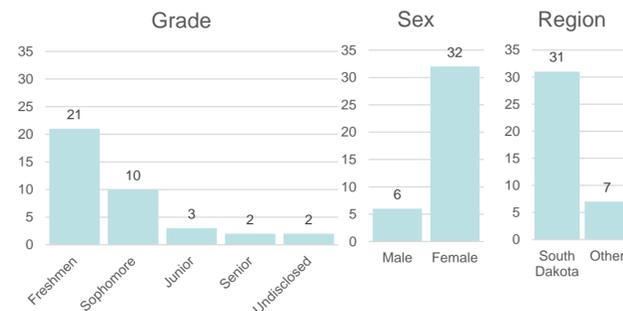


Table 3. Participant change in food safety behavior.

Variable	Mean ± Standard Deviation PRE ¹	POST ^{1†}	p-value
Food safety practices¹			
Eat foods past their 'use by' date	2.36 ± 1.255	3.09 ± 1.192	0.053
Follow the instructions for storage on packaged goods	3.36 ± 1.329	3.86 ± 0.990	0.118
Check that food is piping hot when re-heating	3.45 ± 1.371	3.50 ± 1.225	0.909
Wash fruits and vegetables that do not need peeled before eating	3.55 ± 1.471	3.77 ± 1.152	0.604
Make sure meats are cooked to the proper temperature	3.09 ± 1.342	3.36 ± 1.217	0.427

¹n=38
[†]n=23
*Significant at the p≤.05 level
¹ Ranked 1 (never) to 5 (very frequently)

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HEALTHY COOKING CLASSES

