

# Current Food Resource Management Skills Predict Interest in SNAP-Ed Education during COVID-19

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## Abstract

**Background:** COVID-19 and related restrictions presented numerous challenges to individuals, communities, and nutrition education programs.

**Objective:** To better understand how nutrition education programs, like SNAP-Ed, might target eligible clients during COVID-19 by assessing interest in nutrition education by baseline behaviors.

**Study Design, Setting, and Participants:** Low-income adults, ages 18+, in Virginia. A cross-sectional online survey using Qualtrics panels was conducted March-April 2020.

**Measurable Outcome and Analysis:** Survey questions included socio-demographic information, questions about food resource management practices (i.e. menu planning, using grocery shopping list, cooking at home,) exercise habits, and access to nutritious foods and physical activity within their community, based on current adult SNAP-Ed evaluation instruments used in Virginia. Descriptive statistics were computed for all survey questions. Chi-square statistics (set a priori at  $\alpha=0.05$ ) were employed to examine associations between interest in programs and current practices.

**Results:** There were a total of 1,408 survey respondents from across Virginia; a total of 1,309 (93.0%) completed all of the questions of interest for this specific study. Results showed that interest in education programs was significantly associated with: SNAP participation within the past 12 months; planning meals before shopping; using a grocery shopping list; and poor mental health status. Trends were noted for cooking the main meal at home and physical activity.

**Conclusions:** The findings characterize individuals with interest in potential SNAP-Ed programs and can be used to help inform and tailor program outreach. Additional research is warranted to examine modality and dosage for interested individuals, in addition to recruitment and retention rates of individuals referred to SNAP-Ed programs from a survey of this nature.

## Introduction

Nutrition education programs, such as SNAP-Ed, that include food resource management education have been found to be effective at improving food security among SNAP participants.<sup>1</sup> The COVID-19 pandemic resulted in dramatic increases in food insecurity, in addition to other challenges with respect to diet, exercise, and overall quality of life,<sup>1</sup> potentially increasing the interest and demand for nutrition education programs, such as SNAP-Ed and EFNEP. The goals of this study were to assess interest in nutrition education programs and to determine what socio-demographic factors and baseline behaviors may predict interest among SNAP-eligible participants.

## Methods

### Setting and Participants

Eligibility criteria included: English proficiency; income eligible for SNAP; 18 years old or older; and resident of Virginia. The survey was administered online via Qualtrics survey software (Orem, Utah, U.S., released 2020), using existing panels. Responses were anonymous. Qualtrics was equipped with a checkpoint system to identify any potential bot entries. The Virginia Tech Institutional Review Board considered the study “exempt.” Informed, voluntary consent was implied by completion of the survey. The survey was administered from March to April, 2020.

### Measures

Survey questions included the following: socio-demographic information; food resource management skills (adapted from the EFNEP adult questionnaire); physical activity level (EFNEP adult questionnaire); number of days of poor mental health (CDC Health-Related Quality of Life); and interest in nutrition education (designed by the survey development team). See Table 2 for questions and response categories.

### Data Analysis

Frequencies and means were computed for each measure. Pearson chi-square analyses were utilized to predict different socio-demographic factors (age, gender, education, income, race, ethnicity, and SNAP participation) and food resource management skills and interest in nutrition education. Multinomial logistic regression was conducted to determine if physical activity and mental health status were significantly associated with interest in nutrition education. All analyses were conducted using IBM SPSS Statistics for Windows (Released 2021, Version 28.0. Armonk, NY: IBM Corp.).

## Results

**Survey Participants.** A total of 1,408 respondents met the requirements for inclusion. A total of 1,309 (93.0%) completed all of the questions of interest for this specific study. See Table 1 for socio-demographic characteristics of survey respondents.

**Socio-Demographic Factors and Interest in Nutrition Education.** A total of 650 respondents (46.2%) indicated interest in nutrition education. Age, race, and participation in SNAP within the past 12 months were the only variables found to be significantly associated with interest in nutrition education ( $p<.05$ ) in interest in nutrition education. Respondents who were older, who reported being white, and had participated in SNAP during the past 12 months had proportionally higher interest in nutrition education than those that did not express interest.

**Table 1: Socio-Demographic Characteristics of Survey Respondents and Interest in Nutrition Education (n=1,309)**

Socio-Demographic Characteristic	n (%) of total sample	Interested in Nutrition Education (n, %)	P-value*	
Age	18-49 years	1,039 (79.3)	<b>488 (75.1)</b>	<.001
	50 years+	270 (20.7)		
Gender	Female	939 (71.7)	474 (71.5)	.750
	Male	352 (26.9)	174 (26.8)	
Education	12th grade or less	456 (34.8)	224 (34.5)	.778
	More than 12th grade	853 (65.2)	426 (65.5)	
Income	≤\$25,000/year	266 (20.3)	143 (22.0)	.559
	>\$25,000/year	1043 (79.7)	507 (78.0)	
Race	White	795 (60.7)	<b>445 (68.5)</b>	<.001
	Black/African American	386 (29.5)	<b>170 (26.2)</b>	
Ethnicity	Hispanic/Latino(a)	108 (8.3)	52 (8.0)	.743
	Not Hispanic/Latino(a)	1201 (91.7)	598 (92.0)	
Current Participation in SNAP (at the time of the survey)	Not participating in SNAP	904 (73.1)	454 (73.2)	.945
	Participating in SNAP	332 (26.9)	166 (26.8)	
Participation in SNAP in Past 12 Months	No participation in SNAP in Past 12 Months	871 (70.5)	<b>421 (67.9)</b>	.047
	Participation in SNAP in Past 12 Months	365 (29.5)	<b>199 (32.1)</b>	

\*Based on Pearson chi-square analysis

**Factors Associated with Interest in Nutrition Education.** Only 245 respondents (18.7%) reported using MyPlate to plan meals and snacks. Based on Pearson chi-square analyses, a higher proportion of respondents who expressed interest in nutrition education indicated an overall higher (mean) frequencies of planning meals before shopping, shopping with a grocery list, and poor mental health days ( $p<.05$ ). Trends were noted for cooking meals at home more frequently and lower physical activity levels ( $p<.10$ ). and See Table 2.

## Discussion and Conclusions

Results of this study indicate that there was higher interest in nutrition education across several socio-demographic factors and baseline behaviors. Language within marketing and recruitment materials could be tailored to build upon these findings to recruit individuals who may be more likely to participate in nutrition education.

**Table 2: Mean Scores for Food Resource Management, Physical Activity, and Mental Health Status and Interest in Nutrition Education**

Domain	Question	Mean (SD) for All Respondents	Mean for No Interest in Nutrition Education (SD)	Mean for Interest in Nutrition Education (SD)	p-value
Food Resource Management (EFNEP adult questionnaire)	How often do you plan your meals before you shop for groceries? [1=never; 2=sometimes; 3=often; 4=usually; 5= always]*	2.90 (1.23)	2.85 (1.25)	2.94 (1.21)	.017
	How often do you shop with a grocery list? [1=never; 2=sometimes; 3=often; 4=usually; 5= always]*	3.24 (1.34)	3.16 (1.38)	3.32 (1.29)	.007
	How often do you cook dinner (your main meal) at home? [1=never; 2=sometimes; 3=often; 4=usually; 5= always]*	3.54 (1.12)	3.48 (1.13)	3.60 (1.10)	.094
Physical Activity (EFNEP adult questionnaire)	In the past week, how many days did you exercise at least 30 minutes? [number. Range: 0-7]**	2.51 (2.10)	2.54 (2.13)	2.48 (2.07)	.061
Mental Health Status (CDC Health-Related Quality of Life)	How many days during the past 30 days was your mental health not good? [enter number]**	9.30 (1.45)	7.90 (9.64)	10.73 (10.58)	<.001

\*based on chi-square with response categories collapsed (1=never and sometimes; 2=often, usually, and always)

\*\*based on multinomial logistic regression

Additional research is needed to determine the best way to target recruitment efforts for existing programs to individuals more likely to participate. This could be important for maximizing resources currently being used to target individuals less likely to participate.

**Limitations.** This study was cross-sectional and limited to SNAP-eligible audiences and is therefore not generalizable to a larger population. This smaller study consists of a subset of data from a larger study designed to assess food security status during COVID-19. Forced responses were included in the survey for socio-demographic questions and food security questions, but the remaining questions, including the items of interest in this study, were optional, limiting the analyses possible, such as the relationship between food security status and interest in nutrition education without utilized non-responses that could impact.

## Acknowledgements

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## Contributions

S. Misyak (SM), E. Serrano (ES), D. Storen (DSS), A. Gregg (AG), and E. Leftwich (EL) designed the survey. S. Misyak and E. Serrano led data collection in partnership with Qualtrics. ES cleaned and coded the data. ES conducted all data and statistical analysis and finalized the poster. S. Sathe contributed to preliminary data analysis and writing of the abstract and poster.

## References

- Kaiser L, Chaidez V, Algert S, et al. Food Resource Management Education with SNAP Participation Improves Food Security. *J Nutr Educ Behav* 2015;47(4):374-8. e1. doi: 10.1016/j.jneb.2015.01.012
- Rogers AM, Lauren BN, Woo Baidal JA, Ozanne EM, Hur C. Persistent effects of the COVID-19 pandemic on diet, exercise, risk for food insecurity, and quality of life: A longitudinal study among U.S. adults [published correction appears in *Appetite*. 2022 Jan 1; 168:105701]. *Appetite*. 2021; 167:105639. doi: 10.1016/j.appet.2021.105639