

Intention to Change Nutrition-Related Behaviors in Adult Participants of a Supplemental Nutrition Assistance Program–Education

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ABSTRACT

Objective: To determine whether participation in selected Supplemental Nutrition Assistance Program–Education (SNAP–Ed) lessons had an impact on the intent to improve nutrition-related behaviors of participants.

Methods: A quantitative study using a retrospective post-then-pre design to measure SNAP–Ed outcomes of 203 adult participants after selected nutrition lessons in 14 counties across the state of Utah. After the intervention participants completed a retrospective post-then-pre survey evaluating intent to improve nutrition behaviors related to the SNAP–Ed lessons. Wilcoxon signed rank test with Bonferroni correction and paired *t* test were used.

Results: Participants reported *sometimes* engaging in nutrition related behaviors before attending SNAP–Ed lessons and intent to *usually* engage in these behaviors after attending SNAP–Ed lessons.

Conclusion and Implications: This study demonstrated that participation in selected SNAP–Ed lessons was positively related to the intent of participants to improve nutrition-related behaviors.

Key Words: Supplemental Nutrition Assistance Program–Education, nutrition education, program evaluation, Theory of Planned Behavior, fruit, vegetable, grains, activity (*J Nutr Educ Behav.* 2015;47:81–85.)

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INTRODUCTION

The Supplemental Nutrition Assistance Program–Education (SNAP–Ed), a primary component of the Supplemental Nutrition Assistance Program (SNAP), is the largest nutrition education program in the US.¹ In 2010, the budget for SNAP–Ed was \$372 million, with the program reaching over 41 million people.^{2,3} The goal of SNAP–Ed is to improve nutritional intake among SNAP participants and other low-income individuals by promoting healthy habits consistent with current Dietary Guidelines for Americans (DGA).² In the state of Utah, SNAP–Ed provides evidence-based outcome-driven nutrition education for

participants in a large group setting. Lessons are developed by registered dietitians and delivered by certified paraprofessional nutrition education assistants (NEAs). Nutrition education assistants are prepared to deliver this type of education through training in the National Nutrition Paraprofessional Certification Program.⁴

Nutrition education is considered an important component of food assistance programs but it has been widely recognized that evaluation of their impact needs improvement.⁵ Although SNAP–Ed is the largest federally funded nutrition education program in the US, few studies have been published on program outcomes. Important to quality improve-

ment and effective continuous program implementation, evaluation of outcomes can facilitate successful replication of SNAP–Ed programs across the nation. Demonstrating program effectiveness is important to continued budget allocation, program growth, and expanded implementation.

The purpose of this study was to use the Theory of Planned Behavior to assess whether participation in selected SNAP–Ed lessons had an impact on the intent of participants to improve nutrition-related behaviors.

METHODS

Theoretical Application

The use of theoretical models to evaluate behavior change has been suggested as a strategy to improve the evaluation process of SNAP–Ed programs.⁶ This study was designed using the Theory of Planned Behavior. In this theory, 3 constructs explain the process of behavior change: perceived behavioral control, intention to change, and subjective norm.⁷ This study incorporated the first 2

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constructs, which are considered to be the most proximal determinants of behavior change.⁸ The intent to change construct was used as the foundation for the evaluation process. Because intentions can be expected to engender behaviors only if an individual has control over the behavior, a wide variety of optional classes were made available to SNAP participants using a flexible schedule. This allowed participants to have control over the type and number of classes attended, and when they attended (perceived behavioral control).

Study Design

The researchers used a retrospective post-then-pre design to assess whether participation in SNAP-Ed had an impact on the intent to change nutrition-related behaviors. This approach used the determination of intention to change behaviors as a predictor of future behavior change. After each lesson was completed, retrospective post-then-pre questionnaires were administered sequentially to each participant. This design is different from the traditional pretest-posttest design in which participants complete a pretest before the intervention and a posttest after its completion.⁹ Although the pretest-posttest design is commonly used, estimates obtained can be biased because of to pretest overestimation, which can threaten internal validity.^{10,11} A retrospective post-then-pre design minimizes this type of bias and reduces incomplete data because retrospective post-then pre questionnaires are administered sequentially.^{10,12}

Participants and Recruitment

The protocol for this study was approved by the Institutional Review Board of Utah State University, and the Human Subjects Committee at Idaho State University. A convenience sample of 203 participants aged ≥ 18 years who attended selected SNAP-Ed classes across the state of Utah in 2012 was obtained for the study. Participants were recruited through the placement of flyers detailing the lessons in SNAP-Ed classes, public health departments, extension offices, food pantries, and other locations in which services are provided to low-income individuals.

Description of Intervention

This study focused on Utah's SNAP-Ed Cooking Basics curriculum. Specifically selected lessons include Menu Planning and Shopping and the MyPlate lessons, which are the most representative of the current DGA. The Menu Planning and Shopping lesson emphasized planning for shopping and cooking, and patterns of meal intake. The MyPlate lesson emphasized the amount and frequency of consumption of fruit, vegetables, whole grains, dairy, protein, fat, and salt.

Lessons were delivered using a variety of educational methods including a lecture component, a cooking demonstration, and a sample tasting of the food prepared in class. In addition, a handout was provided with recipes and facts from the lesson to allow for reflection on learning outcomes. Recipes taught in the lessons were developed to use minimal resources and short cooking times, which can foster translation into healthy nutritional habits and behaviors outside the classroom.

Instrument

The questionnaire used in this study was developed by faculty at Utah State University. The questionnaire included demographic, SNAP eligibility, SNAP-Ed participation, and intention to change questions. Questions were designed and developed to measure the intention to change nutrition-related behaviors. Questions developed for the pretest emphasized current nutrition-related behaviors of participants. Questions developed for the posttest focused on intent to change the same behaviors as a result of what was learned in lessons attended by participants. There were 7 questions related to the Menu Planning and Shopping lesson and 8 related to the MyPlate lesson. Possible responses to the questions were formatted on a 5-point Likert-type scale consisting of *never*, *seldom*, *sometimes*, *usually*, and *always*. The questionnaire took approximately 5 minutes for participants to complete.

To assess the content validity of the questions, 3 NEAs were asked to independently review the material covered in each lesson and the questions developed for the questionnaire

to measure outcomes of each lesson. The NEAs consistently reported that the lesson content for the Menu Planning and Shopping lesson and the MyPlate lesson matched the designated questions, supporting content validity.⁴

Participants completed the questionnaire after attending either the Menu Planning and Shopping or the MyPlate lesson. Participants were surveyed through sequential completion of the retrospective post-then-pre questionnaire, which included all questions related to the content covered in each lesson as well as additional questions as described above. The NEAs provided participants with detailed instructions on questionnaire completion and assisted participants with low literacy levels.

Data Analysis

In accordance with the perceived behavioral control construct, participants were allowed to determine what SNAP-Ed class they attended. A total of 100 participants chose to attend the Menu Planning and Shopping lesson and 103 chose to attend the MyPlate lesson. Participants who answered < 5 questions per lesson were not included in the creation of the lesson scores. Researchers determined that a response rate < 5 would decrease the validity of the questionnaire results for that participant. One participant attending the Menu Planning and Shopping lesson and 16 participants attending the MyPlate lesson were excluded from the calculation of lesson scores owing to their limited responses to the questionnaire. The analytical sample for this analysis was 186: 99 for the Menu Planning and Shopping lesson and 87 for the MyPlate lesson.

The authors estimated the sample size for this study using Power Analysis and Sample Size (PASS) software (version 8.0, NCSST LLC, Kaysville, UT, 2008). It was estimated that with an overall sample of 83 participants per lesson, the study had 80% power at a .05 significance level to detect an effect size ≥ 0.31 between the mean posttest and pretest lesson scores for each individual lesson.

Responses from the retrospective post-then-pre questionnaires were compared for each lesson to assess the

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