

Body Quest Parent: A Text Message Parent Education Intervention to Supplement a School-Based Obesity Prevention Initiative for Third-Graders

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INTRODUCTION

School-based nutrition interventions can be a tool for encouraging parents to improve home food environments. However, interventions should address barriers to receiving and applying nutrition education such as time, money, transportation, preferences of family members, and limited cooking skills.¹ Text-based education may address these barriers. Research shows that 91% of American adults are cell phone owners and 78% of lower-income cell phone owners send and receive texts.²

PROGRAM DEVELOPMENT AND IMPLEMENTATION

Body Quest (BQ)³ is an Alabama Extension obesity prevention program for third-graders in *Supplemental Nutrition Assistance Program–Education* (SNAP-Ed)-eligible schools. To supplement BQ, Alabama Extension also developed *Body Quest Parent* (BQP), a text message–based nutrition education intervention for parents designed to decrease barriers to traditional education methods. In addition to receiving texts, parents acted as recipe

testers in a model that increased vegetable consumption in an adult SNAP-Ed population.⁴ The goal of this study was to determine the effectiveness of BQP to improve the home food environment related to (1) vegetable accessibility, (2) parental modeling of vegetable consumption, and (3) preparation of vegetable-rich recipes. The Auburn University Institutional Review Board approved this study.

In fall, 2014, parents (n = 3,567) of BQ students consented to participate in BQP simultaneously. Parents were 93% female, 40% were black and 60% were white, and 70% had a high school education or less. Extension educators read standardized recruitment scripts to students explaining the parent initiative and sent home consent forms for parents to sign and return. Parents were asked to provide a cell phone number to receive text messages and participate in phone surveys; 95% of consenting parents (n = 3,398) provided a cell phone number.

Text messages containing educational tips and action prompts were sent via short message service marketing software. During the 15-week intervention, parents received 3 weekly

texts, each of which targeted 1 of the 3 home food environment BQP goals. Every 2 weeks, Extension educators provided students with free recipe magnets featuring easy-to-prepare vegetables dishes to give to parents for home preparation (Figure 1). To encourage recipe preparation, texts included tips specific to vegetables featured in each recipe.

EVALUATION AND RESULTS

The researchers conducted 2 types of evaluation. First, a phone assessment was adapted for BQP from existing instruments measuring recipe preparation⁴ and the home food environment.⁵ Before the start and at the conclusion of the intervention, phone interviews were conducted verbally in English by trained interviewers with a random sample of parents (n = 794). Second, a texting poll was conducted with a randomly generated subsample of parents (n = 614) to gather descriptive information and feedback. There was a 22% response rate (n = 135).

For the phone assessments, *t* tests analyzed differences from preintervention to postintervention. Parents made 3 positive changes in the home environment. First, they significantly increased accessibility of vegetables in the home for third-graders by making vegetables easier to see, reach, and eat ($t = -2.67$; $P = .009$). Second, parents significantly increased modeling of vegetable consumption by enjoying vegetables with their third-graders ($t = -3.10$; $P = .002$). Third, parents prepared vegetable recipes at home throughout the intervention; over 54% of parents participating in phone surveys reported making all 6 recipes at home within 2 weeks of receiving them. Descriptive statistics of

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Conflict of Interest Disclosure: The authors' conflict of interest disclosures can be found online with this article on www.jneb.org.

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J Nutr Educ Behav. 2018;■■:■■–■■

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<https://doi.org/10.1016/j.jneb.2018.01.007>

Power Mac and Cheese Serves 8

Ingredients


2 cups uncooked elbow macaroni	2 cups cheddar cheese, low-fat shredded
4 tablespoons flour	2 cups broccoli, cooked & chopped in very small pieces
2 cups milk	

Directions

Cook macaroni, following instructions on the package. Drain cooked macaroni and return to pan. While macaroni is still warm, sprinkle in flour and stir thoroughly. Over medium heat, slowly stir milk into macaroni. Add cheese. Stir over medium heat until milk and cheese thicken into a creamy sauce, approximately 7-10 minutes. Stir in broccoli; heat thoroughly.

Helpful Hints

We eat with our eyes. For a colorful plate of food, buy vegetables. Have cut-up broccoli in the refrigerator for a grab-and-go snack. Kids learn from watching you. Eat veggies and your kids will too.



extension This material was funded by USDA's Supplemental Nutrition Assistance Program—SNAP, which provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. USDA and Alabama Extension are equal opportunity providers and employers. To find out more, contact a county food assistance office or a county Extension office. www.BodyQuest.aces.edu

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Figure 1. Recipes were printed on *Body Quest*-themed magnets and included nutrition tips.

texting poll results showed (1) satisfaction, through positive feedback; and (2) effectiveness, through self-reported positive behaviors related to

vegetables, of the texting initiative within the sample (Figure 2). Parents could opt out of the texting program at any time, but 76% of enrollees chose

to continue receiving text messages for the entire intervention.

Limitations of this study included a small sample size for the texting poll that could not represent the whole sample accurately. There was also lack of follow-up to assess whether changes were sustained after 15 weeks. In addition, three fourths of parents did not respond to the texting poll for unknown reasons. Finally, measurements of vegetable intakes of parents and children were lacking.

Body Quest Parent encouraged parents to improve the home food environment through text message-based education.

ACKNOWLEDGMENTS

Auburn University's Institutional Review Board approved this study. Artwork for BQP recipe magnets is available for free download at

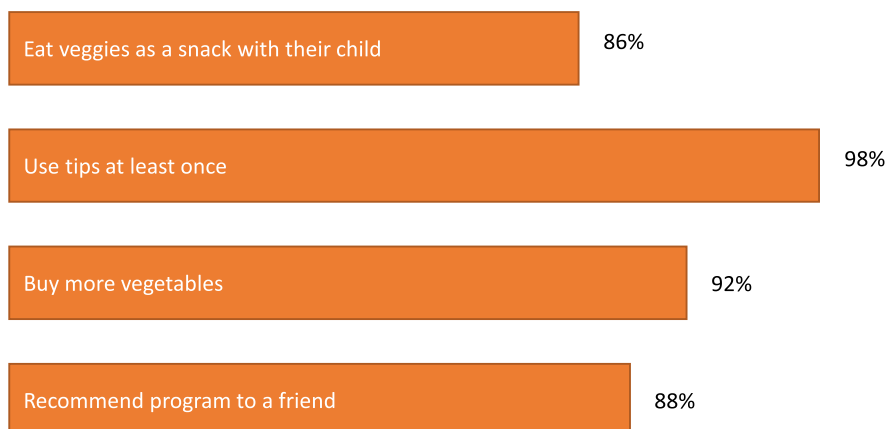


Figure 2. Text message poll responses showed the percentage of participants (n = 135) reporting positive experiences and behaviors after the texting initiative.

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