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Evaluating Nutrition Education Programming by Using a Dietary Screener

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Abstract

Short dietary assessment instruments known as screeners have potential for use in evaluating nutrition education programming because detecting change in dietary intake can demonstrate movement toward program goals. Using screeners results in objective dietary intake data but involves less administrative time, training, and cost than other evaluation methods. This article describes use of the Block Screener for Fruits, Vegetables, and Fiber (BSFVF) as a pre- and posteducation evaluation tool for an Extension nutrition education program. Findings showed that graduates' intakes of fruits, vegetables, fiber, and certain nutrients significantly increased. Implications related to use of the BSFVF for evaluation of routine Extension nutrition education programming are discussed.

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Introduction

The evaluation of nutrition education programming is necessary for improving outcomes and documenting effectiveness (U.S. Department of Agriculture [USDA] National Institute of Food and Agriculture, 2015). Cooperative Extension offers multiple nutrition education programs and services of varying intensity for families with limited resources (USDA Food and Nutrition Service [FNS], 2012). Many programs are delivered by trained nutrition educators; however, some involve other types of professionals, such as parent educators. Direct contact hours also vary among programs. For example, many Supplemental Nutrition Assistance Program Education (SNAP-Ed) courses are structured with approximately 8 hr of direct contact, whereas some involve less than half that amount. In general, many differences exist among states relative to program delivery, administration, and evaluation measures (Schneider, 2014). Nonetheless, proper evaluation is needed, as public funds are allocated to support Extension's nutrition education efforts.

Change in dietary quality among participants is a key evaluation measure that serves as a determinant for program assessment in most states (Sexton, 2013). Though current SNAP-Ed programming promotes improved dietary quality, there is a lack of applicable systemwide evaluation and outcome reporting methods (Schneider, 2014). Cooperative Extension program leaders have put forth a call for action related to the development of evaluation measures. Common indicators are needed to properly document SNAP-Ed programming outcomes and, thereby, allow data aggregation for more accurate national reporting (Schneider, 2014).

Within Expanded Food and Nutrition Education Program (EFNEP) and SNAP-Ed initiatives, there is wide variability of evaluation measures. Evaluation efforts for EFNEP and some SNAP-Ed programming involve 24-hr dietary recall (Baral, Davis, Serrano, You, & Blake, 2013). This tool's validity relies on the training of the administrator, and analyses take approximately 30 min (Ma et al., 2009). There is a need for easy-to-administer, validated evaluation tools that require less administration time/training and offer more flexibility. With improved evaluation measures, better documentation of outcomes can be provided for smaller, less intense programs.

The objective of the project discussed here was to implement an easy-to-administer and fast, yet valid and reliable, tool for quantifiable, objective evaluation of Extension nutrition education programming. The project involved use of the Block Screener for Fruits, Vegetables, and Fiber (BSFVF) (Block et al., 1986) in evaluation of the Loving Your Family (LYF) program that is funded through SNAP-Ed. To our knowledge, this article is the first report of the use of a food frequency screener for routine pre- and postprogram evaluation of nutrition education provided through the use of SNAP-Ed funds.

Methods

Program Background

The LYF-Iowa program is part of the Iowa State University Food Assistance Nutrition Education program funded through SNAP-Ed (USDA FNS, 2007). The program targets families with low incomes and children under 10 years of age. It is provided as a less intense program and is offered only in rural counties, where implementation of programming is challenging due to limited staff. Lessons are delivered through existing family support programs within the local community, such as those provided by county public health and community action agencies. The objective is to improve participants' dietary intake and increase physical activity relative to recommendations (USDA & U.S. Department of Health and Human Services [HHS], 2010).

The delivery model of using family support workers presents a barrier for LYF program evaluation. An evaluation tool for the program needs to be simple, easy-to-use, and not time intensive. The previous LYF-Iowa evaluation tool was retrospective, administered only at the end of the program. It comprised 12 questions involving a 4-point Likert scale for response choices and addressed respondents' behaviors before and after the programming. This tool had limitations inherent to a retrospective recall of behavior and thus provided a more subjective evaluation.

The LYF curriculum (Table 1) consists of 10 possible lessons that are 15 or 45 minutes in length (USDA FNS, 2007). To graduate, participants must complete seven of the lessons. Completion time lines vary, as family support workers incorporate LYF into their other roles and duties. This flexible approach allows the educator to tailor lesson selection for participant needs and interests. The curriculum includes an interactive, self-teaching format that conveys messages from the U.S. Department of Agriculture's MyPlate nutrition guide, with a focus on planning nutrient-dense meals on a budget. The lessons provide parents with practical solutions in a nonjudgmental way, encouraging parents to model recommended behaviors and, in turn, promoting improved child nutrition and healthy families.

Table 1.

Lesson Content for the Loving Your Family Program, Provided by Extension with SNAP-Ed Funds

	Behavioral

Lesson title	Key message(s)	Activity or activities	objective(s)
45-min lessons			
Family Meals—Easy, Tasty & Healthy	• Cook and eat together; mealtime is family time • Identify ways for kids to help in the kitchen • Parent and child share feeding responsibilities	• Play make a meal—use available ingredients • Feeding responsibilities—division between parent and child; parent provides and presents regular meals; child chooses what and how much to eat	• Identify ≥2 times or low-cost meal ideas • Identify at least two ways for kids to help • Share feeding responsibilities with kids
How Much? Food and Physical Activity	• Appropriate amount for each food group, but not too much • Importance of food groups for kids • Ability to measure foods/portion size • Allow multiple attempts for trying new foods • Importance of physical activity	• MyPlate meal—recall dietary intake for the previous day and compare to recommendations • How much food—practice portion measurement	• Identify amounts needed by women and kids for each food group • Commit to at least one improvement action toward recommendations for both MyPlate and physical activity
Vegetables and Fruits—Simple Solutions	• Families need to eat a variety of fruits and vegetables daily • Most families need more dark green and orange vegetables • Meals and snacks should focus on fruits	• A colorful plate—put colors on a plate to show color of yesterday's intake • Strategize ways to prepare and increase vegetable intake	• Commit to try vegetables and fruits, two of each over the week, with one dark green or orange • Commit to try an activity that encourages kids to eat fruits and

	and vegetables • Kids learn from watching parents eat		vegetables daily • Recognize a 1-cup serving of fruits or vegetables
15-min lessons			
Reading Labels	• Food labels help us determine food choices to balance intake	• Reading labels—compare labels of various products to help with selection (e.g., compare several breakfast cereals)	• Identify main parts of nutrition facts label
Make Half Your Grains Whole	• Eating whole grains is important for health • Good sources of fiber	• Finding whole grains—review ingredient lists for whole grains as the first ingredient; look for *whole or 100% whole*	• Identify whole grain foods • Plan how to include at each meal
Calcium-Rich Foods—Build Strong Bones	• Dairy foods are best for calcium; find nondairy alternatives when Appropriate • Choose low-fat and nonfat dairy foods	• Milk label detective—identify dairy fat types with names, grams of fat, and calories	• Identify low-fat and nonfat foods that are good sources of calcium • Plan how to include in meals and snacks
Snacks	• Choose snacks from each food group for good health • Young children have small stomachs; offer meals and snacks regularly	• Snacking by MyPlate—identify foods eaten regularly and which food groups should be increased; identify ways to increase variety of snack foods	• Choose a variety of snacks from MyPlate; understand that snacks are a great way to increase variety • Understand importance of offering snacks to young children

Fast Food	• Choose health by eating less fat, sugar, and salt • This may help prevent heart disease, diabetes, and some cancers	• My fast food meal—review nutrition facts for clients' preferred restaurants; compare foods usually eaten; visualize grams of fat vs. daily recommendations; select alternatives to try	• Read nutrition facts for fast food and identify high-fat foods • Choose lower fat foods when eating fast food
Food Safety—Keep Food Safe	• Clean, separate, cook, and chill are key for food safety • Wash hands frequently	• Finding food safety concerns—discuss food safety issues and consequences; identify problems in example kitchen picture	• Keep food safe • Wash hands correctly
Healthy Pregnancy	• Talk to health-care provider for questions • Appropriate weight gain and activity are important during pregnancy • Variety of foods is important during pregnancy • Know which foods and behaviors to avoid	• Stoplight behaviors—review appropriate weight gain and distribution of weight; review pregnancy nutrient needs; identify red, yellow, and green behaviors	• Identify behaviors to increase, limit, and avoid during pregnancy • Choose foods with extra calcium, protein, and iron

Note. Graduates must complete at least two of three 45-min and five of seven 15-min lessons, seven out of 10 offered.

Because a trusted family support worker acts as the educator, the LYF program begins with an established relationship. However, because program delivery is by family support workers, the curriculum has been developed as a series of complete, concise, ready-to-go lessons with scripts. Family support staff are taught the LYF curriculum through the use of a train-the-trainer model. Group training includes interactive demonstrations of the LYF lessons. The innovation of LYF program delivery by family support workers has

broadened program reach but has made implementation of intense evaluation tools and training for proper administration of evaluation measures challenging.

Evaluation Method

The U.S. government's Dietary Guidelines and MyPlate nutrition guide are the fundamental bases for federal nutrition education programming (USDA & HHS, 2010). The foods most frequently targeted for positive behavior change are fruits and vegetables, which are good to excellent sources of nutrients lacking in the American diet. Nutrients including dietary fiber, potassium, magnesium, vitamin C, vitamin A, vitamin K, and folate are targeted for increase (USDA & HHS, 2010).

The BSFVF was selected to evaluate the LYF curriculum because it is an easy-to-administer evaluation tool and provides intake estimates for daily fruit/vegetable servings, dietary fiber, potassium, magnesium, and vitamin C (Block, Gillespie, Rosenbaum, & Jenson, 2000). The BSFVF is a food frequency questionnaire (FFQ), self-administered in approximately 5 min. The BSFVF allows for flexibility, as it can be administered by nonprofessionals and in contexts of one-on-one or group nutrition education lessons. The BSFVF assesses diet history over the preceding months through 10 questions about frequency of consumption of certain foods.

The BSFVF was developed as a screener for triage flagging to conduct additional nutrition assessment (Block et al., 2000); program evaluation was not the intended use. The BSFVF was validated (n = 208) against the Block 100-item FFQ, which was previously validated (n = 11,658) against the 24-hr recall intake data from the second National Health and Nutrition Examination Survey (NHANES) (Block et al., 2000). Relative to the 17 nutrients reported on by the NHANES, the Block 100-item FFQ lists foods that are the most likely sources of those nutrients in the American diet (Block et al., 1986). The BSFVF has performed well when compared with more recently developed screeners for determination of fruit and vegetable consumption (Thompson et al., 2004). The BSFVF components appear within a recommended list of questions for use with adult Supplemental Nutrition Assistance Program (SNAP) audiences published by the Economic Research Service (Hartline-Grafton, Nyman, Briefel, & Cohen, 2004).

The BSFVF was implemented in routine LYF programming (Figure 1). Family support workers attended routine training for delivering the educational program, and this training was modified to include training on administration of the BSFVF. The training on administration of the BSFVF included brief human subjects training, per the project's receiving exempt status by the Iowa State University Human Subjects Institutional Review Board. In compliance with exempt status, unique random numbers were used to allow matching of pre- and postprogram intake data. Participants completed the BSFVF before starting LYF lessons and after finishing. Instructions for completion of the BSFVF ask participants to think about all foods consumed over the preceding month. Participants self-administer the BSFVF, and interpretation of food items included in each of the 10 questions is purposefully left to the participant. Frequency was reported as times consumed per week, without discrimination of quantity; six check box labels range from *less than once a week* to *twice a day or more*.

Figure 1.

Loving Your Family SNAP-Ed Extension Program Evaluation, Administered Before and After Education by Using the Block Screener (Block et al., 2000) to Document Change in Graduates' Intakes

LOVING YOUR FAMILY, FEEDING THEIR FUTURE

BUY EAT LIVE HEALTHY

LYF | LOVING YOUR FAMILY - IOWA

County: _____

Educator: _____

Date: _____

Initials and last 4 digits of phone #: _____

Age: _____

Sex: Male or Female

For Parent Educator Use:
Newsletter provided? Y or N
Program Entry Date: _____
Program Exit Date: _____
# of 45 minute Lessons: _____
# of Mini-lessons: _____

Think about your eating habits over the past month or so. About how often do you eat each of the following foods? Remember breakfast, lunch, dinner, snacks and eating out.

Check one frequency box for each food.

Fruits, Vegetables and Grains	Less than 1 a WEEK	Once a WEEK	2-3 times a WEEK	4-6 times a WEEK	Once a DAY	2+ times a DAY
Fruit juice, like orange, apple, grape, fresh, frozen or canned (Not sodas or other drinks.)						
How often do you eat any fruit, fresh or canned? (Not counting juice.)						
Vegetable juice, like tomato juice, V-8, carrot						
Green salad						
Potatoes, any kind, including baked, mashed or French fried						
Vegetable soup, or stew with vegetables						
Any other vegetables, including string beans, peas, corn, broccoli or any other kind						
Fiber cereals like Raisin Bran, Shredded Wheat or Fruit-n-Fiber						
Beans such as baked beans, pinto, kidney, or lentils (not green beans)						
Dark bread such as whole wheat or rye						

Analyses of Data

Data entry and analyses were completed through the use of SPSS (Statistical Package for Social Sciences for Windows, version 22.0, 2014). Descriptive statistics were computed for demographic information. BSFVF computational algorithms were revised after initial publication (Block et al., 2000), and updated predictive equations were used (T. Block, personal communication, October 11, 2012; nutritionquest.com). Frequency was scored for each of the 10 food groups, using scores from 0 to 5 for each food group. A total score was calculated from the BSFVF, which ranges from 0 to 50, with higher scores indicating increased consumption.

Scores were used in a regression equation specific for each nutrient, which incorporated age and gender. Changes in food frequency intakes and nutrient intakes were analyzed through the use of paired-samples *t*-tests. Age comparisons were made using two groups (determined by graduate age): those 26 years of age and younger and those 27 years of age and older. An independent-samples *t*-test compared mean intake change by age group. Significance was determined at $p < .05$ for all analyses.

Results

The final sample for this study comprised participants who graduated from the program (completed a minimum of seven lessons) in one calendar year. The majority of the participants were female (98.6%), and most participants were 30 years of age or younger (67%). Table 2 provides demographic data for the participants.

Table 2.

Participant Demographics for Loving Your Family Program Graduates (*N* = 139)

Metric	Frequency	Percentage (%)
Age (years)[a]		
≤ 20	11	7.9
21–25	40	28.8
26–30	42	30.2
31–35	26	18.7
36–40	15	10.8
≥ 41	5	3.6
Gender		
Female	137	98.6
Male	2	1.4

[a]Grouped for publication; actual age was collected (mean 28 ± 6, median 27, mode 26).

Intake of specific food groups included a significant increase in the mean frequency of intake of whole fruits, green salad, whole-wheat bread, beans/legumes, and potatoes. Mean change in intake for foods is represented by the frequency reported on the BSFVF. The largest change in mean intake was for whole fruits (0.40), as reported pre-LYF (2.66) and post-LYF (3.06). This change represents consumption levels of three or four times per week pre-LYF and five times per week post-LYF. Although nonsignificant, intake of vegetable juice, other vegetables, and cereal with fiber also increased. Conversely, intake of fruit juice and vegetable soup decreased. Using the BSFVF regression equations, dietary intake of fruits and vegetables, dietary fiber, vitamin C, potassium, and magnesium increased significantly from before to after the LYF program. Dietary intake change data are shown in Table 3.

Table 3.

Dietary Intake Change from Before to After Program Participation for Loving Your Family Program Graduates (*N* = 139), Reported as Mean (± Standard Error of the Mean)

Food group or nutrient	Pre-LYF	Post-LYF	Mean change[a]
Weekly intake frequency[b]			
Fruit juice	2.66 (.14)	2.62 (.12)	−.04
Fruit, whole	2.66 (.14)	3.06 (.12)	.40*
Vegetable juice	.46 (.08)	.62 (.08)	.16
Green salad	1.47 (.10)	1.84 (.09)	.37*
Potatoes, any kind	2.30 (.10)	2.52 (.09)	.22*
Vegetable soup	.94 (.09)	.91 (.09)	−.03
Other vegetables (e.g., string beans)	2.76 (.12)	2.99 (.12)	.23
Beans, legumes	1.06 (.11)	1.32 (.10)	.25*
Cereal with Fiber	1.74 (.14)	1.91 (.13)	.17
Bread, whole wheat	2.09 (.14)	2.43 (.13)	.35*
Daily dietary intake (daily goal)[c]			
Fruit & vegetable, cups (5)	4.05 (.14)	4.60 (.17)	.56**
Total dietary fiber, g (25)	16.8 (.50)	18.51 (.40)	1.69**
Vitamin C, mg (75)	135.70 (4.36)	150.45 (3.37)	14.74**
Potassium, mg (4,700)	3,265.97 (75.47)	3,519.41 (58.67)	253.44**
Magnesium, mg (310)	340.71 (7.612)	366.16 (5.94)	25.45**

[a]Any discrepancy between the “Mean change” value and the “Pre-LYF” and “Post-LYF” values for an item is due to rounding. [b]Food consumption as reported on Block Screener (Block et al., 2000), represented by frequency with 1 as once per week, 2

as two or three times per week, 3 as four to six times per week. [c]Intake calculated using regression equations, goal intake for a 26-year-old female (mode age for Loving Your Family participants), based on Dietary Guidelines (U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2010); paired-samples *t*-test for difference of participant pre- and posteducation mean score.

*Significant at $p < .05$. **Significant at $p < .0005$.

Table 4 shows results related to the comparison of LYF graduates 26 years of age and younger and 27 years of age and older. This further analysis by graduate age suggested that younger graduates ($\leq$ 26 years) had significantly greater increases in intake of whole fruit, green salad, and potatoes. In fact, LYF graduates under 26 years of age increased fruit and vegetable intake by almost a cup per day. Prediction equations showed significantly greater change in dietary intake for fruits and vegetables, dietary fiber, vitamin C, potassium, and magnesium for the younger graduates. Younger graduates also increased dietary intake of fruit juice, vegetable juice, other vegetables, beans/legumes, cereal with fiber, and whole-wheat bread; however, these changes were not significantly different from those of participants 27 years of age and older.

LYF graduates 27 years and older did not exhibit any significant changes in dietary intake for food groups or nutrients. Interestingly, whereas graduates in this age group decreased intake of cereal with fiber, those 26 years and younger decreased intake of vegetable soup—neither being significant.

Table 4.

Dietary Intake Change from Before to After Program Participation by Difference in Age for Loving Your Family Program Graduates (N = 139), Reported as Mean (± Standard Error of the Mean)

Food group or nutrient	Mean change ≤ 26 years	Mean change ≥ 27 years	Difference of change[a]
Weekly intake frequency[b]			
Fruit juice	.35 (.21)	.04 (.16)	.31
Fruit, whole	.68 (.16)	.17 (.16)	.51*
Vegetable juice	.13 (.14)	.18 (.10)	−.06
Green salad	.64 (.15)	.14 (.11)	.49*
Potatoes, any kind	.46 (.16)	.01 (.10)	.45*
Vegetable soup	−.10 (.14)	.03 (.14)	−.12
Other vegetables (e.g., string beans)	.24 (.18)	.22 (.17)	.01
Beans, legumes	.33 (.14)	.18 (.11)	.15
Cereal with fiber	.43 (.18)	−.05 (.19)	.48

Bread, whole wheat	.46 (.20)	.25 (.16)	.21
Daily dietary intake (daily goal)[c]			
Fruit & vegetable, cups (5)	.89 (.25)	.28 (.19)	.61*
Total dietary fiber, g (25)	2.74 (.69)	.82 (.56)	1.92*
Vitamin C, mg (75)	23.75 (5.96)	7.28 (4.80)	16.47*
Potassium, mg (4,700)	411.30 (103.55)	122.58 (83.45)	288.73*
Magnesium, mg (310)	41.47 (10.46)	12.17 (8.44)	29.30*

[a]Any discrepancy between the "Difference of change" value and the "Mean change" values for an item is due to rounding. [b]Food consumption as reported on Block Screener (Block et al., 2000), represented by frequency with zero being less than once per week and 1 being once per week. [c]Intake calculated with prediction equations, goal intake for a 26-year-old female (mode age for Loving Your Family participants), based on Dietary Guidelines (U.S. Department of Agriculture & U.S. Department of Health and Human Services, 2010); independent-samples *t*-test for difference of mean change between age ≤ 26 years and ≥ 27 years.

*Significant at $p < .05$.

Discussion

"The goal of SNAP-Ed is to improve the likelihood that persons eligible for SNAP will make healthy food and lifestyle choices that prevent obesity" (USDA FNS, 2012, "Snap-Ed: Encouraging Healthy Choices," para. 1). For participants in the study reported here, whole fruit, green salad, and whole-grain bread consumption significantly increased, and consumption of fruit juice showed a slight decline. Interestingly, consumption of potatoes also significantly increased. Although an increase due to sweet potato intake would be a positive change, this result is unclear because potato type is not distinguished by the BSFVF. However, the LYF curriculum specifically addresses increased consumption of red/orange vegetables. Finally, the increase in beans/legumes intake is also noteworthy, as this dietary recommendation is difficult for the majority of the population to achieve. The changes in food group intake among the LYF graduates in the study reported here are consistent with goals of the SNAP-Ed program and the LYF curriculum.

The previous retrospective LYF program evaluation provided limited outcome data, such as 90% of participants' showing improvement in at least one nutrition practice (fiscal year 2012). The data captured by the BSFVF objectively quantify dietary consumption for graduates pre- and post-LYF. The BSFVF estimates consumption of specific foods and predicts nutrient intake, which serves as one outcome measure for

nutrition education. Most important, improved dietary intakes of fruit, vegetables, and whole grains among program graduates align with SNAP-Ed goals related to obesity prevention. Appropriate program evaluation, used to demonstrate outcomes that align with program goals, best justifies continued funding.

SNAP-Ed leaders have called for evidenced-based practices and published strategy recommendations (USDA FNS, 2014b). Responses have varied, but available evidence suggests that use of an FFQ or screener as a routine evaluation measure of SNAP-Ed programming has not been explored. Other notable brief evaluation measures include various behavior checklists, which have received support from SNAP-Ed (Riesenberg, 2015; USDA FNS, 2014b). A few Extension research projects have used screeners for comparison of treatments, with program development and/or justification as the goal (Chipman & Litchfield, 2012; Frei, Frei, & Bobe, 2014). A study of workplace wellness interventions involving input from Extension included use of the Block Screeners for dietary fat and fruit, vegetables, and fiber and showed significant improvements in participants' dietary intakes (Block et al., 2000; Chipman & Litchfield, 2012). A cross-sectional study of elementary school children involved use of the Block Kids Food Screener to justify the need for nutrition education in communities, even those whose members had high educational attainment (Frei et al., 2014). For a project intended to describe the development of theory-based programming and evaluation, an FFQ was developed as a component of the evaluation, along with other qualitative measures (Brown & Kiernan, 1998). Other non-Extension research projects have involved using Block Screeners for comparison of treatments (Baptiste-Roberts, Ghosh, & Nicholson, 2011; Mullan, Allom, Brogan, Kothe, & Todd, 2014; Packard, 2010), though none describes using screeners for routine program evaluation.

The BSFVF allows for implementation of objective evaluation within the family support worker delivery model. Outcomes identified suggest that the LYF program, now revised and titled MyPlate for My Family (USDA FNS, 2014a), delivered by family support workers is effective at changing dietary intake. The program is a low-cost option for providing nutrition education with fewer direct education hours (LYF vs. EFNEP and Family Nutrition Program in Iowa). Use of the BSFVF helps contain program costs because of decreased time needed for administration (Coulston, Boushey, & Ferruzzi, 2013). The data reported here support the feasibility of using a brief screener as a tool for evaluation of routine nutrition programming.

Limitations

The BSFVF is a brief measure, which intuitively creates limitations by simplifying information. The screener queries only consumption of specific foods and does not address portion size, whereas a 24-hr recall accounts for any food choice, and quantity is reported. The BSFVF queries habits over a month, perhaps providing a better indication of overall intake. Self-reported food consumption recall has its limitations; however, it is commonly accepted as a good option for community-based research.

The BSFVF was validated by comparison with NHANES 24-hr recall and uses the reference serving size as reported by the NHANES 24-hr recall protocol (Block et al., 2000). Both tools are limited in accuracy by the participant's ability to recall intake. Although the 24-hr recall is a widely used assessment tool (Coulston et al., 2013), screeners have demonstrated good correlation when participants are ranking fruit and vegetable intake (Yaroch et al., 2012). Therefore, it is recommended that screeners be used as a tool for ranking intake, as they are not credible for precise accuracy relative to portion sizes (Vandevijvere et al., 2013; Yaroch et al., 2012).

Finally, the LYF-Iowa program demographics may not be representative of other areas. The majority of LYF

participants in the sample described herein were white females, a group that does not adequately represent the diversity of SNAP-Ed participants elsewhere.

Implications

It is widely agreed that evaluation is an essential component of nutrition education programming. The 24-hr recall is time intensive and remains the preferred method of assessment for EFNEP and some SNAP-Ed programming, though alternative measures are available and necessary for alternative program types. The BSFVF can be easily administered by educators who are not nutrition professionals in just a few minutes to provide objective dietary intake data. The use of screeners has implications relative to highlighting changes in dietary intakes of routine nutrition programming participants through pre- and posteducation assessment.

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