



SNAP-Eligible Families Encounter Multiple Economic, Social, and Environmental Barriers to Fruit and Vegetable Consumption

THE OHIO STATE UNIVERSITY

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ABSTRACT

Objective: Low-income households devote fewer dollars per person to the purchase of fruits and vegetables (FV). Eating FV in place of more energy-dense foods is associated with body weight management and reduced risk for many chronic diseases. Social marketing (SM) interventions have shown to influence health behavior, thus, Ohio SNAP-Ed is developing a SM campaign to increase FV demand and consumption among the target population. This study's purpose was to explore dietary patterns and motivations/barriers to FV consumption among Ohio SNAP-eligible families to inform campaign development. **Study Design/Participants:** Cross-sectional, mixed methods approach using focus groups and an online survey. Participants were primarily SNAP-eligible adults at or below 185% poverty with children living in the home. **Outcome Measures and Analysis:** Family characteristics (e.g., income, ethnicity, number of children in household); behaviors related to purchasing, preparation, and consumption of FV; motivators and barriers associated with eating FV. Focus groups were recorded, transcribed, and analyzed using thematic analysis techniques in NVivo. Three trained researchers coded survey responses and distilled collective findings into thematic observations. **Results:** Thirteen themes emerged, including the prevailing influence of cost, family member taste preferences, and shelf life on food purchases. Nearly half (48.1%) of the target population felt that they eat "enough" fruits and vegetables, despite reporting intake levels well below USDA recommendations. **Conclusions and Implications:** The economic, social, and environmental barriers to FV consumption identified by Ohio SNAP-eligible adults justify a need for innovative SM strategies to enhance existing SNAP-Ed programs. Consideration of such barriers will ultimately guide and strengthen the design of a SM campaign.

BACKGROUND

- FV consumption is associated with improved weight management and reduced risk of cardiovascular disease, diabetes, and certain cancers.¹
- Majority of Americans continually fail to meet FV recommendations outlined by USDA's Dietary Guidelines for Americans.¹
- Low-income populations devote fewer dollars per person to the purchase of FV and are less likely to allocate an additional dollar of income to FV compared to higher income populations.²
- Programs and initiatives to improve the dietary quality of low-income populations often target individual-level barriers to FV consumption (i.e. cost, cooking skills, time required for preparation, and basic nutrition-related knowledge), but overlook perceived barriers related to one's food environment (i.e. availability and accessibility of FV).
- Social marketing has the potential to stimulate widespread positive health-related behavior changes by addressing both individual and community level nutritional barriers through positive messaging.
- Social marketing is defined as "the application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programs designed to influence the voluntary behaviors of target audiences in an effort to improve their personal welfare and that of their society".³

OBJECTIVE

Objective: To explore dietary patterns and motivations/barriers to fruit and vegetable consumption among Ohio SNAP-eligible families to inform future social marketing campaign development.

METHODS

Study design: Cross-sectional, mixed methods formative research study that employed focus groups (n=11; 80 participants) and an online survey (n=860). Target audience included SNAP-eligible adults at or below 185% poverty. **Setting:** Focus groups were held in three counties in Ohio: Athens (n=3; 21 participants), Fairfield (n=3; 14 participants), Franklin (n=5; 45 participants). Focus group locations included SNAP-Ed classes, community events, libraries, and food pantries. Online survey responses (n=860) were collected from 80 of Ohio's 88 counties. **Data Collection:** Focus group and survey questions were drafted by the SM core team in collaboration with the Kirwan Institute at OSU. Questions assessed family characteristics (e.g., income, ethnicity, number of children in household) and behaviors related to the purchasing, preparation, and consumption of FV. Additional outcome measures from focus groups included motivators and barriers associated with eating FV. **Data Analysis:** Focus groups were recorded, transcribed, and analyzed using thematic analysis techniques in Nvivo. Three trained researchers coded participants' responses and distilled findings into thirteen thematic observations. Only themes directly related to economic, social, and environmental barriers to FV consumption are noted in the results.

RESULTS: ONLINE SURVEY

Figure 1: Survey Responses by County

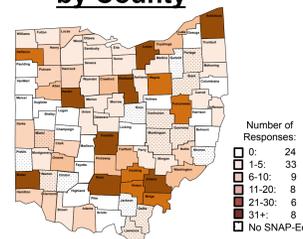
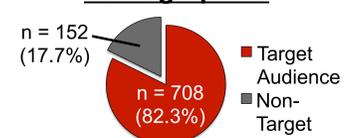


Figure 2: Survey Respondent Demographics



Non-target participants reported a household income above 185% poverty and/or did not have children in the home.

Table 2: Reported Fruit and Vegetable Consumption (Target demographic only)

I feel like my family and I eat enough FV	My family and I currently eat fruits and vegetables:			
	Only a few times per month	About once per week	A few times per week	One or more times per day
Yes	22 (5.5%)	29 (7.2%)	142 (35.4%)	208 (51.9%)
No	57 (18.2%)	39 (12.5%)	183 (58.5%)	34 (10.9%)
I am unsure	6 (11.3%)	8 (15.1%)	30 (56.6%)	9 (17.0%)

Table 1: What are some reasons for you and your family not eating more fruits and vegetables?

	Target	Non-target
The cost is too high	348 (52.4%)	39 (27.7%)
We do not like them	36 (5.4%)	9 (6.4%)
We cannot find them in our local stores	38 (5.7%)	16 (11.3%)
I do not know how to prepare many FV	42 (6.3%)	14 (9.9%)
The FV my family likes are often not on sale	161 (21.2%)	17 (12.1%)
I don't have either the kitchen or other means of preparing	21 (3.2%)	0 (0.0%)
Other reason	131 (19.7%)	45 (31.9%)

RESULTS: FOCUS GROUPS

Table 3: My family and I currently eat vegetables:

	Athens	Fairfield	Franklin	All
Once or more a day	9 (42.9%)	7 (50%)	21 (46.7%)	37 (46.3%)
A few times a week	11 (52.4%)	6 (42.9%)	18 (40.0%)	35 (43.8%)
Only a few times per month	1 (4.8%)	1 (7.1%)	5 (11.1%)	7 (8.8%)
Rarely	0 (0.0%)	0 (0.0%)	1 (2.2%)	1 (1.3%)
Total	21 (100%)	14 (100%)	45 (100%)	80 (100%)

Figure 3: What makes it difficult for you and your family to eat more fruits and vegetables?

Challenges to eating more FV

Cost

Inconsistent pricing; lack of sales; preference for fresh (more expensive)

Shelf Life

Fresh FV spoil too quickly; children consume FV too quickly

Quality Concerns

Low quality FV in local stores; taste varies due to ripening process

Transportation

Car, public transit, and walking all pose significant barriers

Preparation

Lack of knowledge and/or ideas and/or time for preparation

“ I just don't have the money to grab a bag of apples and a bag of vegetables. I can't just grab whatever I want. ”

- Focus Group Participant, Franklin County

“ My kids would eat all the fresh fruits and vegetables I could put in front of them. But they run out... you just can't keep doing it. ”

- Focus Group Participant, Athens County

CONCLUSIONS

- The reasons for low fruit and vegetable consumption among low-income populations are vast and complex. Cost remains the greatest perceived barrier to FV consumption, followed by concerns over quality/freshness, transportation, and preparation.
- Study participants expressed an overwhelming preference for fresh FV, compared with frozen or canned. Such preference ultimately contributes to perceived cost and shelf life barriers.
- There is a misconception about how many servings of fruit and vegetables per day is "enough". Further nutrition education may help to increase consumption of fruits and vegetables.

ACKNOWLEDGEMENTS

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