

## Low-Income Mothers' Perceptions of Barriers to Using Farmers Markets: A SNAP-Ed Initiative to Understand Access Points to Local Foods

### Abstract

The study reported here describes a Virginia Family Nutrition Program's target population's perceptions of barriers to using a farmers market to access local foods. Mothers from a rural county photographed their shopping experience. Using a photo elicitation process to develop themes related to food access, the mothers identified barriers to shopping at farmers markets. The results can provide guidance to agents, program assistants, and farmers market coordinators on promoting use of farmers markets by low-income populations. The development of experiential learning opportunities to overcome barriers is critical if farmers markets are encouraged as an avenue for promoting healthy eating.

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## Introduction

The goal of Supplemental Nutrition Assistance Program-Education (SNAP-Ed) is to teach limited-resource families and youth to "make healthier food choices and become better managers of available food resources for optimal health and growth." Traditionally, the program has focused on basic nutrition, physical activity, safe food handling, and food shopping on a budget (VCE, 2013). In 2013, the USDA implemented the Supplemental Nutrition Assistance Program nutrition education (SNAP-Ed) provisions of the Healthy, Hunger-Free Kids Act of 2010 (USDA, 2013). These provisions encouraged

more farm-to-fork initiatives and efforts as one means to connect low-income populations with fresh and healthy, local foods through farmers markets. This amended the mission of SNAP-Ed to not only consider what foods are chosen by limited-resource families but where the foods are from. As a result, in Virginia, the Food Security Project was created to ensure that all participants of SNAP-Ed have equal access to affordable, nutritious, culturally appropriate food. One of the main strategies of the project has been to focus on reducing food deserts through supporting farmers markets' outreach to SNAP families. This effort complements SNAP-Ed efforts to educate SNAP families about the ability to use their benefits at farmers markets and the benefits of doing so.

The aim of the photo elicitation study reported here was to engage a small sample of SNAP-Ed's target population of low-income mothers with young children in a participatory discussion on farmers market access and participation, as an additional layer to ongoing program evaluation efforts, to guide the development of an enhanced experiential farmers market orientation lesson for SNAP-Ed curricula. The photo elicitation study was implemented to present in depth-insight into the consumer experience, give voice to marginalized populations, and attempt to identify variables not recognized when using other measurement tools and, hence, not included in current practice (Creswell, 2013).

## Literature Review

Social Cognitive Theory (SCT) explains human functions of triadic reciprocal causation (Bandura, 1986). This theory posits that behavior, cognitive and personal factors, and environment all interact with and influence each other to affect the way individuals learn while paying special attention to the cognitive, vicarious, self-reflective, and self-regulatory processes which affect the desire to learn and behavior (Bandura, 1989). Bandura, using the SCT, strikes a balance on the causes of human behavior in the nature versus nurture debate, arguing that humans do not act solely because of their nature or because of external stimuli, but rather through an interaction between the two. This places a focus on experience and observational learning.

For the research reported here in particular, based on the SCT, the researchers assume the perceptions of the participants can be used as a proxy for how others in a similar situation view and learn about a particular environment. Therefore, the researchers will work with and learn from community members about their food-shopping behaviors and their perceived barriers to farmers market access. The elucidation of the perceived relationship between food shopping behaviors, farmers market access, and health may also increase feelings of self-efficacy in participants regarding control over their own and, if applicable, their children's diet. An assumption made regarding the study is that the participants will learn about farmers markets through the experience of actually attending a market and observing others in that particular environment. Additionally, working with the SNAP-eligible individuals and especially SNAP-eligible mothers with young children to develop effective nutrition programming may increase their feelings of self-efficacy by allowing them to see their impact on the nutrition programs they are involved in.

Furthermore, expanding farmers markets is often cited as a potential community health-promotion strategy as they provide additional outlets to purchase fresh fruits and vegetables (Jilcott Pitts et al., 2013; Lee et al., 2010). A negative association has been seen between local food and county obesity and diabetes rates, and as total per capita dollar volume of direct farm sales increased, the rates of

obesity and diabetes fell (Salois, 2012). Farmers market access is inversely related to obesity prevalence in nonmetropolitan counties in the United States (Jilcott, Keyserling, Crawford, McGuirt, & Ammerman, 2011), providing an important point of access for populations without ready access to a supermarket. Among a population of Hispanic immigrant women who defined healthy food as fresh and unprocessed, having a farmers market in a home neighborhood increased consumption of fruit, vegetables, and juice compared to women living in a neighborhood without a farmers market (Park et al., 2011).

However, motivators and barriers besides diet quality impact low-income mothers' and families' decision to shop at farmers market. Previously identified motivators for shopping at farmers markets extend beyond the need for groceries to supporting local communities and accessing quality foods (Dodds, et al., 2013). Previously identified barriers include the structural barrier of an inability to use government nutrition assistance program benefits at farmers markets (Jones & Bhatia, 2011) and perceived barriers, such as transportation, distance, convenience and cost (Misyak et al., 2014).

## Methodology

The phenomenological study reported here was designed to understand the experiences of a small group of SNAP-eligible mothers of young children using interviews and photography (Creswell, 2013). The participants were members of the target population for SNAP-Ed in Virginia, and the inquiry was focused on using farmers markets as an access point to fresh fruits and vegetables. The findings contributed to the design of evidence-based experiential learning opportunities as a part of Virginia Cooperative Extension nutrition programming.

Photography as a phenomenological data source was elicited using the Photovoice method in which participants utilize their photographs as a reference point or a way to frame responses during interviews (Harper, 1986; 2002). This method for framing discussion around photographs of everyday life taken by participants encourages reflection and participation in research by using a creative outlet to create a visually stimulating atmosphere to encourage participation beyond that of scripted interviews or focus group sessions. Qualitative methods such as interviews and focus groups alone may not evoke as rich of a description as pairing with photographs taken by participants to assist with describing their experiences in context. Photo elicitation is especially effective in gathering information and views from participants regarding their lives that may not surface when using other qualitative methods (Ali-Khana & Siryb, 2014; Clark-Ibáñez, 2004; Mandelco, 2013; Snyder & Kane, 1990). Photo elicitation techniques have been used previously for studies of women's views of health and food choices, inclusive of diverse Extension target populations (Johnson, Sharkey, McIntosh & Dean, 2010; Stephenson, 2012; Valera, Callin, Schuk, & Davis, 2009). Therefore, photo elicitation as a participatory qualitative method to gather rich description of participant experiences lends itself toward food systems work.

The unit of analysis was one group of several participants with a shared experience (Creswell, 2013) who were recruited from ongoing nutrition classes in a rural Virginian county by the local program assistant. Selection criteria for the county where the participants were recruited were that it was a rural county, was located at least one hour from university influence, and had a robust farmers market that accepted EBT SNAP benefits and promoted a matching program. The names and contact

information for eight women, currently or recently participating in the nutrition classes, who displayed interest in participating in the study were provided by the program assistant. Of those eight women, six initially agreed to participate in the study. Of those six women, one chose to leave the study prior to the second meeting, and an additional woman left the study prior to the third meeting for a total of four participants completing the study. Time, scheduling difficulties, and transportation issues accounted for the attrition rate of 50%.

Photo elicitation is a time-intensive process where the researcher facilitates participant discussion in a group setting where the participants come to know and describe their experiences. All procedures were approved by the Virginia Tech Institutional Review Board. Written, voluntary informed consent was obtained from all participants. Participants were compensated for participating in the study, based on the number of research sessions attended during which data collection and analysis occurred.

## **Photo Elicitation Process**

Study protocols were created by adapting Photovoice methodology, which is a participatory approach toward photo elicitation. In Photovoice studies, participants are given cameras and briefly trained on photography methods and ethical use. The goals are to 1) record realities in their everyday lives, 2) participate in group discussions to critically reflect on photographs, and 3) to provide an avenue to reach policymakers and others with power to make change (Wang & Burris, 1997). Photovoice methodology is fully participatory, even during the analysis phase. Full participation is illustrated by the roles of participant and researcher in the discussions. Participants are encouraged to share their experiences, and the researcher facilitates the storytelling in a way to lead participants to identify themes from the discussions around the photographs. Participants have an active role in the analysis of themes from the discussions, therefore, member checking is embedded in the discussion and analysis phases of the study. Participants identify the photos to be used in the group discussions and the researchers facilitate the participants' exploration of those themes. The participatory nature of Photovoice may generate multiple meanings per image, which can be further engendered into issues, themes, or theories (Wang, Yi, Tao, & Carovano, 1998). Further analysis occurs with participant and researcher collaboration, where the researcher facilitates participatory analysis allowing for emergent themes.

For the study, participants were asked to record their food-shopping experience using photography at a farmers market in a rural Virginia county where acceptance of EBT acceptance for SNAP was marketed and the county SNAP-Ed program assistant was already an active educator in the agro-food system. Participants were either currently enrolled in or had completed the 6-week SNAP-Ed program facilitated by the county program assistant. Participants were informed prior to beginning the study that the themes, ideas and recommendations generated through critical reflection on their photographs would be shared with Extension management/administration with the intention of informing current and future nutrition programming initiatives.

## **First Meeting**

Participants were given a disposable camera and a brief training on photography ethics (e.g., taking pictures of people in public places, etc.). The participants were charged with completing the following

tasks prior to the second meeting: 1) take a self-portrait of themselves with their disposable camera to ensure proper identification of the film and 2) visit their current primary food shopping location(s) (e.g., grocery store or corners store) and take pictures representative of their shopping experience. Direction was given to include photographs that represented what they liked, what they did not like, what they would change, and what they would keep the same. Participants were informed that these pictures would serve as a point of comparison for a group visit to the farmers market following a farmers market orientation lesson. Participants were asked to take as many pictures as they needed to describe their experience and that they could use the remaining exposures on the disposable cameras for personal photographs.

## Second Meeting

During the second meeting, the researchers taught an optional Eating Smart, Moving More farmers market orientation lesson that is an addendum to the core lessons, which includes: 1) safe food preparation practices, 2) adding fruits and vegetables into diets, 3) reading nutrition labels and using those labels to make smart dietary choices, 4) portion sizes, 5) understanding MyPlate, and 6) choosing to move more throughout the day. The lesson includes information on navigating a farmers market, locating a market, using an EBT card at a market, budgeting for local foods, adding fresh produce to recipes, the concept of "seasonal" and "local" food, and the differences between food selection and packaging and overall shopping experience at a farmers market compared to a grocery store.

After the farmers market orientation lesson, participants were given another disposable camera and then participated in a researcher-led farmers market field trip as an experiential learning opportunity. During the field trip, participants were again asked to take a self-portrait of themselves with their disposable camera to ensure proper identification of the film and pictures representative of their shopping experience at the farmers market, including what they liked, what they did not like, what they would change, and what they would keep the same. Following the farmers market field trip, the researchers briefly discussed the farmers market experience with participants while collecting the disposable cameras.

## Third Meeting

During the third meeting, researchers provided participants with printed copies of the photographs they submitted of their shopping experience at their primary food shopping location(s) and at the farmers market field trip shopping experience. Participants were also provided with a copy of their photographs to keep. Through a group discussion process, participants provided feedback on their visit to the farmers market, using their primary shopping experience as a reference point. During the group discussion, participants used their photographs to organize and express their thoughts about food access, ways to address those access, and opportunities to ensure quality and effective nutrition education programming on farmers markets access and use, with oversight from researcher expertise in the field of community nutrition.

Through the group discussion process, initial themes and topics on barriers to accessing farmers markets were developed by the participants. Photographs that represented points of discussion were

selected by the participants and taped to flip charts according to topics by the researchers. The researchers captured notes on participants' thoughts on the flip charts next to the photographs using permanent markers during the discussion. This session was audio recorded. Further analysis was conducted by the researchers using flip chart notes and audio from sessions to identify additional themes. One example of an insightful theme that was illustrated through further analysis was the self-identification of opportunities for including experiential-based learning activities into a farmers market curriculum by the participants. These stated opportunities were divided into themes by the researchers.

## Results and Discussion

Participants were all low-income mothers living in a rural community. The farmers market was a small, non-profit run, outdoor market in Southwest Virginia that featured a mix of produce, meat, value added products, and craft vendors. Through the photo elicitation process, participants identified concerns/barriers to using farmers markets as an access point for fresh and healthy local foods (Table 1). Participants identified inconvenience and awareness as the two main themes of access barriers. Topics under the theme of "inconvenience" included work interfering with farmers market hours of operation, food availability, shopping with children, and physical navigation of a market. Participants indicated they would be more likely to shop at farmers markets if they could purchase something from every food group to ensure they could adequately address their families' nutritional needs. The hours of operation were also a barrier for participants. One participant worked within one block of the farmers market but was unable to attend during her 30-minute lunch break, when she was expected to remain available in case of a rush of customers. Participants did not feel they were able to ask for time off from work to shop at the farmers market during the designated hours. A photograph of a sign listing the hours of operation for the farmers market was used to frame this discussion (Figure 1). The hours of operation are hard to read, printed from a disposable camera and taken by lay photographers, yet the experiences behind the picture were still clearly discussed.

**Table 1.**

Identified Concerns/Barriers For Using Farmers Markets As an Access Point For Fresh, Local Foods

Theme	Concern	Impact on Farmers Market Access
<b>Inconvenience</b>	Days/Hours of Operation	Work and hours of childcare interfered with the ability to go to the market
	Food choice and availability	Some farmers markets do not have foods from all of the food groups for sale, forcing participants to shop at other locations
	Family-friendliness	Difficult to shop with children at farmers market
	Physical navigation	Markets can be hard to navigate, don't have the option to use motorized carts

<b>Awareness</b>	Unsure of prices	Hard to plan ahead
	Unsure of availability	Hard to plan ahead
<b>Awareness/social stigma*</b>	Unsure of EBT acceptance	Participants preferred EBT acceptance to be well advertised so they would not have to draw attention to their EBT use
<b>Social stigma*</b>	Child behavior (i.e. children crying in public)	Trying to control children outdoors will lead to extra attention
	Lack of anonymity	Vendors and other shoppers were able to identify the participants when they used their EBT cards
*Designates themes derived by researchers		

**Figure 1.**

Participant Photograph of a Farmers Market Sign With the Hours of Operation



The inconvenience of shopping with children at the market was another major concern as it would require extra effort in an open air market. This was identified as a different experience, shopping with children, compared to grocery stores frequented because of the risk of traffic surrounding the open air market, children's desire to play in an outside environment, and the many distracting produce stands where children could knock over items. This also tied into the researcher-identified theme of a perceived social stigma associated with shopping at farmers markets. Crying or misbehaving children



Participants also identified positive aspects of shopping at farmers markets (i.e., what they like and what they would keep the same) that could be highlighted in nutrition programming and used to craft experience-based learning opportunities (Table 2). These positive aspects were illustrated with pictures representing what they liked and would not change about the shopping experience. Participants requested information and demonstrations on food preservation and storage to ensure they do not waste valuable fresh produce.

**Table 2.**  
Identified Opportunities For Including Experiential Learning Into Farmers Market Curriculum

<b>Theme</b>	<b>Opportunity</b>	<b>Supporting Access</b>
<b>Food knowledge</b>	Knowledge of food preservation	Ability to use food, maximize value, prevent food waste
	Direct contact with grower/producer	Ability to gather first-hand knowledge on food quality and safety
<b>Socialization</b>	Area for social gatherings, meeting people	Provided an opportunity for a girls' outing/educational experiences
<b>Budget</b>	EBT-matching programs	Stretch food budget
	Advertise higher perceived food quality and taste	Better quality for at a certain price point and better taste

The barrier of a social stigma associated with EBT use is contrasted by positive social aspects of a farmers market shopping experience. Participants valued the ability to speak directly with growers to gather information on food quality and safety in order to get the best possible quality food for their families. The local farmers market also had tables available and coffee and tea available for purchase (Figure 4). Participants suggested this area could be used to frame group nutrition classes as a social experience for mothers. They identified this would make nutrition classes and farmers markets a more socially enjoyable experience.

**Figure 4.**

Participant Photograph of the Seating Available At the Farmers Market That Could Be Used As an Area for Socialization



Finally, participants identified budgetary concerns for inclusion in the curriculum. While getting an adequate amount of food to feed their families was a concern, participants also valued being able to speak directly with growers/producers to get the best quality food possible with their budgetary constraints. They requested information on simple meals that could be made solely from items available at the farmers market so they would not have to travel to an additional location for other grocery items.

## **Implications for Extension**

Previous research has highlighted the importance of overcoming structural barriers (i.e., the ability to use SNAP benefits, transportation, and cost) to increase healthy food access through farmers markets (Jones & Bhatia, 2011; Misyak, Johnson, McFerren, Niewolny, Hosig, & Serrano, 2014). While the research reported here supports those results, the need to address perceived barriers emerged as implication. There are real challenges with connecting low-income audiences with farmers markets, including: 1) a lack of awareness of farmers markets (the existence of markets, what is available at the markets, and the price of food), 2) the inconvenience of a venue that necessitates visiting other locations for a time-constrained population and that is not always easy to navigate with children or with a disability, and 3) calling undue attention to factors that highlight differences in social classes. For Extension agents to foster farm-to-fork initiatives, understanding the constraints and context of different food outlets, especially among low-income audiences, in order to serve a broader audience than what is traditionally served by these markets is imperative. Currently, the average demographic served by farmers markets are white females over the age of 50 with an annual household income between \$20,000-&79,999 (Baker, Hamshaw, & Kolodinsky, 2009; Govindasamy, Italia, & Adelaja, 2002).

Many opportunities exist for Extension to empower individuals to access fresh, local foods through farmers markets in addition to the dissemination of a farmers market nutrition program coupon and local food guides (Abel, Thomson, & Marezki, 1999). Based on previously conducted program evaluation, market tours and listening sessions with SNAP-eligible mothers, and practice-based experience, Virginia SNAP-Ed developed a lecture-based farmers market orientation lesson for optional inclusion within SNAP-Ed nutrition curricula for the 2013 farmers market season, which is approximately April through October. However, the curriculum was missing an experience-based learning component. Experiential learning is a cornerstone of Extension education as the inclusion of "learning by doing" enhances the learning process (Richardson, Williams, & Mustian, 2003).

Short-term experiential learning opportunities have been shown to increase nutrition knowledge and impact food behaviors among low-income adults (Franck, Vineyard, Olson, & Peterson, 2012; Rustad & Smith, 2013) though not all learning experiences provide equal opportunity for learning (Dewey, 1938). Therefore, an educational experience crafted that adequately addresses farmers market access barriers, including concrete experience and reflection, should address learning objectives in alignment with the community and program goals. (Dewey, 1938; Kolb, 1984). The study reported here, in combination with rigorous program evaluation and needs assessments, can serve as a starting point for developing meaningful curriculum to support food systems work in Extension.

SNAP-Ed has a unique opportunity to increase synergy among three of the arms of Extension: Family and Consumer Sciences (FCS), Agriculture and Natural Resources (ANR), and community viability. Many FCS agents in Virginia already perform cooking or food preservation demonstrations at farmers markets. Through coordination with other areas of Extension, SNAP-Ed program assistants can align their farmers market-based lessons for low-income mothers with these cooking/gardening demonstrations to provide the mothers with a welcoming atmosphere at their local farmers market.

Limitations of the study include the small sample size and the attrition rate. Traditionally, reaching diverse and/or low-income audiences with SNAP-Ed Extension programming has been difficult due to multiple barriers, including time constraints and lack of child care and transportation (Benavente, Jayarante, & Jones, 2009; Richard, Williams & Mustain, 2003; Schauber & Castania, 2001). Additionally, recruitment procedures may have resulted in participation by individuals already interested in farmers markets and improving their diet quality. The information gathered through the study reported here is specific to this case and should be confirmed in other states and with other populations. Future research should focus on the evaluation of increasing access to farmers markets on the dietary habits of limited-resource families, participant attitudes toward local foods, and process evaluation of program delivery by facilitators.

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