Journal of Agriculture, Food Systems, and Community Development
ISSN: 2152-0801 online
https://www.foodsystemsjournal.org

Advancing ideas for farmers market incentives: Barriers, strategies, and agency perceptions from market managers

Cody Gusto,[a] * John M. Diaz,[b] Laura A. Warner,[c] and Paul Monaghan [d]
University of Florida

Submitted September 3, 2019 / Revised December 17, 2019, and January 13, 2020 / Accepted January 16, 2020 / Published online May 19, 2020

Citation: Gusto, C., Diaz, J. M., Warner, J. A., & Monaghan, P. (2020). Advancing ideas for farmers market incentives: Barriers, strategies, and agency perceptions from market managers. *Journal of Agriculture, Food Systems, and Community Development, 9*(3), 245–260. https://doi.org/10.5304/jafscd.2020.093.022

Copyright © 2020 by the Authors. Published by the Lyson Center for Civic Agriculture and Food Systems. Open access under CC-BY license.

Abstract

Florida's Fresh Access Bucks program provides incentives to Supplemental Nutrition Assistance Program beneficiaries to redeem fresh, locally grown fruits and vegetables at select farmers markets. Policy-makers and practitioners designed the program to improve access to fresh fruits and vegetables for limited-resource families while stimulating the local economy by supporting purchases from local farmers. While evidence suggests that related incentive programs improve access to nutritious food, there is currently little research regarding farmers market managers' perspectives and experiences regarding program adoption and use, despite the critical role played by managers in administering the program. Using data collected from semistructured phone interviews with market managers, we applied a component of the Integrated Behavioral Model to explore the barriers managers face in engaging with limited-resource consumers at their markets through the Fresh Access Bucks program. Additionally, we explored managers' perceptions of their ability to administer and market the program effectively through strategic interventions. Results indicate that market managers' perception of their ability to administer the program was hindered by the following external environmental factors: *bureaucratic limitations; availability of locally eligible producers and growers; organizational*

[a] * *Corresponding author:* Cody Gusto, Graduate Assistant, Department of Agricultural Education and Communication, University of Florida; 411 Rolfs Hall; Gainesville, FL 32611 USA; +1-941-780-3781; cgusto@ufl.edu

[b] John M. Diaz, Assistant Professor, Department of Agricultural Education and Communication, University of Florida; 1200 North Park Road; Plant City, FL 33563 USA; john.diaz@ufl.edu

[c] Laura A. Warner, Associate Professor, Department of Agricultural Education and Communication, University of Florida; 117A Bryant Hall; P.O. Box 112060; Gainesville, Florida 32611 USA; lsanagorski@ufl.edu

[d] Paul Monaghan, Associate Professor, Department of Agricultural Education and Communication, University of Florida; 213 Rolfs Hal;, P.O. Box 110540; Gainesville, FL 32611 USA; paulf@ufl.edu

structure and funding support; and *transportation and physical access*. The following strategic efforts influenced manager perceptions of their ability to administer the program: *risk-taking and experimentation; loyalty, trust, and relationship-building with vendors; cultivating market experiences;* and *strategic coordination with partner organizations*. These findings have implications for improving outcomes for similar nutrition incentive initiatives at farmers markets.

Keywords
Barriers, Farmers Markets, Food Access, Market Managers, Nutrition Incentives, Personal Agency, SNAP, Low-income Consumers

Introduction and Literature Review

Limited-resource individuals in the United States struggle to access and purchase fresh fruits and vegetables, and evidence suggests that the gap in food access between high- and low-income status populations is widening. From 2000 to 2014, the number of food-insecure households grew by nearly 33% (Elmes, 2016). The U.S. Department of Agriculture (USDA) defines food insecurity as a condition of limited, uncertain, or inconsistent access to nutritionally adequate and safe foods (USDA Food and Nutrition Service [USDA FNS], n.d.-a). While the U.S. saw a net improvement in diet patterns from 1999 to 2010, gaps in dietary quality observed between adequate- and limited-resource populations widened significantly during this period (Wang et al., 2014). Limited-resource refers to low-income populations that additionally lack consistent access to critical infrastructure and resources, such as transportation and health care (Ver Ploeg et al., 2009). Researchers have found that determinants such as race, ethnicity, gender, education level, and income status influence unequal access to fresh, nutrient-dense foods (Ver Ploeg et al., 2009). While these variables are important in terms of understanding nutrition disparities at a broad level, researchers have identified income as having the strongest association with diet and nutrition disparities within a population (Wang et al., 2014). Researchers consider the point-of-sale price for nutritious fresh fruits and vegetables to be a central determinant of access, as fruits and vegetables typically cost more than unhealthy foods in the U.S. (Bernstein, Bloom, Rosner, Franz, & Willett, 2010). Poor nutrition from inadequate fruit and vegetable consumption, therefore, can be principally characterized as an issue of economic access.

Roughly 40 million limited-resource Americans received food assistance from the Supplemental Nutrition Assistance Program (SNAP) in an average month in 2017 (Center on Budget and Policy Priorities, 2018). While SNAP has improved general access for eligible individuals, it has done less to address the income-related disparities in dietary quality (Leung et al., 2013). SNAP-eligible individuals, in other words, have not experienced appreciable dietary improvements through program use over time. In fact, a review of nationally representative data found SNAP users to have lower dietary quality than their non-SNAP, income-eligible counterparts (Nguyen, Shuval, Njike & Katz, 2014). Despite increased efforts to regulate SNAP-approved low-nutrition foods, the low cost of these items makes them more accessible to limited-resource shoppers. Current SNAP purchase allowances include soda, energy drinks, candy, cookies, cakes, and ice cream (USDA FNS, n.d.-c). Limited-resource shoppers are increasingly encouraged to redeem their SNAP benefits for fresh fruits and vegetables at farmers markets, defined here as a fixed location-space where grower-producers can sell their agricultural products directly to the general public, to help reduce the financial barrier of accessing higher-nutrient fresh fruits and vegetables (Kirkpatrick, 2012; USDA FNS, n.d.-b).

Efforts to promote and expand SNAP access at farmers markets, however, have had mixed success. A USDA report suggested that farmers markets were an under-utilized retail outlet for SNAP registered, limited-resource individuals in the fiscal year 2017, representing only .02% of the total SNAP benefit redemption amount nationally (USDA FNS, n.d.-a). To address this challenge, the USDA has begun to promote incentive-matching programs at markets to increase fresh fruit and vegetable consumption across the country (Dimitri, Oberholtzer, Zive, & Sandolo, 2015). Policymakers and program developers have designed these programs to encourage the redemption of federal assistance benefits such as SNAP for locally grown

fresh fruits and vegetables in states across the country. The Gus Schumacher Nutrition Incentive Program (GusNIP) grant, for example, funds a variety of nutrition incentive programs intended to provide a dollar-for-dollar match of SNAP benefits toward the purchase of fresh fruits and vegetables (Roskos, Wengreen, Gast, Leblanc, Durward, 2017).

Researchers have previously explored the impact of nutrition incentive programs for limited-resource consumers. In a case study examination of low-income New York City neighborhoods, Olsho, Payne, Walker, Baronberg, Jernigan, and Abrami (2015) found a positive effect of the Health Bucks incentive program on awareness and use rates of farmers markets. Grace, Grace, Becker, and Lyden (2008) found that a local nutrition incentive program positively affected limited-resource shoppers' motivation to use their federal benefits at markets in Portland, Oregon. Similarly, Dimitri et al. (2015), exploring the impact of incentive vouchers on fresh fruit and vegetable consumption rates, found an increase in vegetable consumption for limited-resource participants after voucher distribution. In addition to consumer-focused research, some studies explicitly focused on market manager perceptions and behavior. Hasin and Smith (2018) recently engaged the market manager population in a survey-based study that applied the Diffusion of Innovation Theory, finding that institutional collaboration positively influenced the likelihood that managers would adopt SNAP/Electronic Benefits Transfer (EBT) at markets. Roubal, Morales, Timberlake, and Martinez-Donate (2016) explored EBT implementation at farmers markets and found that personal motivations, explicit market mission statements, and streamlined reimbursement procedures helped to facilitate successful EBT use. Both studies recommended a continued focus on managers to improve programmatic outcomes such as SNAP redemption rates.

Our study follows these recommendations to explore how managers administered and marketed a Florida-based nutrition incentive program known as Fresh Access Bucks (FAB) to SNAP shoppers. The purpose of this study was to consider market managers' perceptions of their ability to effectively administer and promote the FAB nutrition incentive program to SNAP shoppers, given programmatic barriers. We investigated logistical and environmental challenges for managers, including daily management tasks such as staff and vendor training, record keeping, outreach, promotion, and the leveraging of grant funds to maximize impact for the market. Two core research objectives were to (a) explore manager perceptions of control through the identification of FAB program barriers and (b) explore manager perceptions of self-efficacy to administer the FAB program through strategic interventions. In pursuing these objectives, we argue that applying a behavioral theory to target and highlight managers' sense of control, efficacy, and agency serves as a useful means for both academic researchers and practitioners to better understand program implementation at farmers markets and the complex expectations and strains associated with the process. Broadly, our study joins an emergent strand of literature that focuses on farmers market managers as an understudied population segment and recognizes them as critical actors in the wider effort to provide affordable food access to low-resource communities. In this paper, we use formative results from objectives (a) and (b) above to communicate the relevance of managerial perspectives and experiences in nutritional promotion efforts.

Applied Research Methods

We designed this analysis as an instrumental case study of Florida-based market managers who administered the FAB nutrition incentive program at select markets. According to Merriam and Tisdell (2015) and Yin (2003), a case study is a bounded system as a unit of analysis designed to explore and describe a material setting, space, time, or context with the intent of advancing its understanding. In our study, the case (i.e., the unit of analysis) was the sample of market managers bound by their shared engagement with the FAB nutrition incentive program at their respective farmers markets in Florida. Beyond being recognized as a bounded unit of analysis, Baxter and Jack (2008) argue that researchers should consider employing a case study when contextual conditions are salient to the phenomenon under study. In our study, a host of contextual factors influenced (i.e., facilitated or

constrained) the degree of control and agency managers felt they had to administer FAB and effectively engage low-resource shoppers. In this sense, we believe it is "impossible to separate the phenomenon's variables from its context" within our study (Merriam & Tisdell, 2015, p. 38). We additionally positioned this case study as instrumental because it aims to address a broader social issue, namely, to improve managers' experiences with nutrition incentive program administration and to improve outcomes for the individuals and communities that rely on these types of incentives (Stake, 1994).

FAB is a program designed to incentivize SNAP shoppers to redeem their benefits at participating markets to purchase fresh fruits and vegetables directly from Florida farmers (FAB, n.d.). The program provides a dollar-for-dollar match to what a SNAP beneficiary redeems. Shoppers can swipe their EBT cards in exchange for FAB tokens, which they can redeem for locally grown fresh fruits and vegetables. Tokens may be used immediately or saved for future use at participating markets. FAB, which was funded by the USDA's GusNIP grant, was enacted to provide financial support for state-level organizations to address fruit and vegetable access barriers for SNAP-eligible communities (USDA National Institute of Food and Agriculture, n.d.). At the time the study was conducted, the 501(c)3 nonprofit organization Florida Organic Growers (FOG) was the recognized GusNIP grantee that administered the FAB program in-state.

The target population for this study was managers overseeing the administration of this program at select farmers markets in Florida. The administrative responsibilities of managers included the supervision of staff and vendor training, record keeping, outreach, promotion, and grant fund allocation to maximize impact for the market. We secured Institutional Review Board (IRB) approval before contacting market managers. We then solicited participation through both email and direct phone calls, using contact information obtained from publicly accessible sources. A total of 13 managers ultimately agreed to participate in one-on-one semistructured phone interviews. Eleven of the 13 participants were female, and two were male. At the time of data collection, approximately 50 markets across 23 counties partnered with FAB in Florida. Participants operated a diverse range of market types across rural, urban, and semi-urban areas. We classified markets as either private entities, nonprofits, or grower association collectives. We additionally classified markets as supported by a local Chamber of Commerce, a community redevelopment agency, or some combination of this arrangement. Participants included in this study represented markets in 10 counties in Florida. We employed a purposive sampling of participants, targeting individuals over 18 years old in the role of market managers offering SNAP and FAB program access at their markets. We initially contacted 40 managers who had adopted FAB for participation. With certain markets ineligible for inclusion (i.e., no longer in operation or no longer offering SNAP or FAB access to customers), a final total of 13 participants agreed to participate in the study.

We used a semistructured questionnaire instrument for data collection. We designed primary questions to allow for open-ended "probe" opportunities, which were triggered depending on the direction of the discussion. Phone interviews ranged from 35 to 90 minutes in length which were recorded, transcribed, and coded. We continued collecting data until we felt we had reached data saturation, which occurs when the researcher is no longer receiving and documenting new or unique information from participants (Glaser & Strauss, 1967).

To support and structure the emergent themes elicited from managers, we applied the Integrated Behavioral Model (IBM) as a theoretical framework and an analytical frame. The IBM integrates two prior theoretical models describing individual motivational factors that influence the likelihood that an individual will perform an action or behavior (Montaño & Kasprzyk, 2015). The IBM, like the Theory of Reasoned Action (Fishbein & Ajzen, 1975) and the Theory of Planned Behavior (Ajzen, 1991), states that behavioral intention is the most significant factor in whether one performs a behavior in a given context (Montano & Kasprzyk, 2015).

We leveraged a core construct from within the model to highlight and clarify determinants of be-

havioral intention and those perceptional factors that emerged organically from interviews with market managers. The "personal agency" construct is itself divided into two components: perceived control and self-efficacy. Perceived control refers to one's perception of the degree to which certain environmental variables make performing a behavior easy or difficult. Self-efficacy is the degree of confidence one has in their ability to perform a behavior given perceptions of difficulty from environmental obstacles or external constraints (Bandura, 2006). We applied the perceived control and self-efficacy variable components to our emergent themes for conceptual consistency. Reference to these variables guided the analysis process and ultimately helped to structure the final thematic categories used in the study.

We applied the constant-comparative method (Glaser & Strauss, 1967) to identify and explore pertinent themes related to our objectives. First, we recorded and transcribed interviews for analysis. We then uploaded transcript files through a qualitative data analysis software program (NVivo Version 12.3.0.). We classified and arranged information and examined relationships in the data within the program. We began to organize code construction by establishing first-tier codes. Our first-tier codes reflected control and efficacy-oriented questions used in the semistructured interview protocol.

In the second phase, we identified emergent codes to represent concepts, themes, and meaningful patterns that emerged within each participant case. We nested thematic codes in this phase within the broader question-category codes from the previous phase. Throughout the process, we renamed, re-ordered, and scrutinized newly identified codes to ensure their relevance to the objectives of the study.

We applied selective coding as the final coding step within the constant-comparative method. Selective coding is a procedure to relate code categories to one another, validating relationships between them, and adding detail to categories that need further refinement and development (Kolb, 2012). The process of category formation, comparison, and rearrangement continued until every participant's case had been thoroughly analyzed, and we felt we had adequately represented the study's two main objectives in the final structure of thematic codes (Table 1).

Employing the peer-debrief process was critical to achieving consensus. According to Lincoln and Guba (1985), peer debriefing "is a process of exposing oneself to a disinterested peer in a manner paralleling an analytical session and to explore

Table 1. List of Thematic Codes Relating to Objectives A and B

Perceived Control: Program Logistics and Constraints	Self-Efficacy: Internal Market Strategy
Bureaucratic limitations (rules and regs)	Audience segmentation and targeted messaging
Capacity of market space	Consumer education
Communication and support from program facilitators	Cultivating market experiences/activities
Consumer education and exposure to nutrition and seasonal foods	Data tracking and accounting
Funding for equipment use and marketing	Grassroots and word-of-mouth engagement
Grocery, online retailers and other markets as competition	Internal rewards program and incentive offerings
Initial consumer outreach and exposure	Relationship building with vendors
Lack of awareness of organizational collaboration	Risk-taking and experimentation
Locally eligible growers and producers	Social media and paid advertising
Organizational structure and level of support	Strategic coordination with partner organizations
Public support and understanding of SNAP	Vendor contract and policy enforcement
Staffing and time for data entry and marketing	
System abuse and fraud	
Transportation and physical access	

aspects of the inquiry that might otherwise remain only implicit within the inquirer's mind" (p. 308). Within each stage of the analysis process, the lead researcher drafted debrief memos to send to the rest of the team. The memos updated other members on the overall progress of the study, procedural decisions made, and intentions for the next steps. Project members also reviewed primary codes and themes established by the lead researcher. These exchanges provided the lead researcher opportunities to check his own biases and assumptions and helped produce consensus on themes.

Results

Research Objective A: Exploring Program Barriers and Perceptions of Control

The first objective of this study was to explore the environmental conditions or factors that market managers believed affected their ability to implement, administer, and promote the FAB program effectively. Managers expressed the following themes as logistical barriers that influenced the level of control they felt to administer the FAB program effectively: *bureaucratic limitations*, *locally eligible producers and growers*, *organizational structure and funding support,* and *transportation and physical access*.

Bureaucratic limitations

Managers discussed how rules, regulations, and ordinances could be obstacles to effectively administering and marketing the FAB program. Some managers suggested these obstacles may exert constraining influences on managers' sense of perceived control. One manager shared past issues with providing food-cooking demonstrations by discussing her contractual obligation to facilitate nutritional education and perform nutrition-based marketing for SNAP-eligible clientele. The manager referred to her engagement with local Extension agents who are usually collaborating partners with managers in efforts to offer nutrition-based cooking demonstrations. She was concerned she was not allowed greater latitude to use locally grown fresh fruits and vegetables provided by one of her vendors in the cooking demonstration. She stated, "we just find that with government agencies that they're . . . at least around here, they're very timid to go beyond anything that they see as their specific rules and regulations." Another manager discussed constraining by-laws adhered to by the market she managed. As members of a growers' association, all vendors at this market deliberate and vote on any proposed change to the market's operational procedures. The association maintains a constitution and bylaws that guide many decisions. The manager addressed the constitution, saying:

> It doesn't lend itself to like the modern democratic process. You know? Yes, you can have a constitution or whatever, you can have bylaws, but you have to be able to say, look, you know, we need to step into the modern era.

Locally eligible growers and producers

In its contract with FAB partnered managers, FOG required that only locally produced fresh fruits and vegetables could be redeemed by SNAP shoppers. This mandate stipulated that a consistent supply of fresh fruits and vegetables be available at the partnered market. From the managers' perspective, this presented a challenge. A few managers noted they already felt the impact of fewer and fewer farmers operating locally or regionally. One manager suggested that the local grower rules place a burden on finding and retaining vendors: "…it's mostly a question of eligibility. We don't have too many actual growers at the market."

Another manager shared the perception that local farmers and growers struggled to remain solvent, adding that there was a statewide lack of eligible growers to begin with, saying, "yeah, that has been a challenge. It's been a really tough couple of years for the guys. And eventually, we will not have a farmer base to work with. So that's another concern." The lack of eligible local growers was felt acutely by participants; our research occurred in the aftermath of a major hurricane that severely affected production for growers of various scales throughout the state. A manager said,

> This year, because of Hurricane Irma, we had very few local farmers involved. . . . Irma just messed up everybody's seeding season out here, and planting was very late. Some didn't

> get back in at all. And it was kind of a mess. But anyway, I see that as a future problem continuing, trying to get through that.

Managers expressed concern that the lack of eligible growers had a detrimental effect on consumer demand and product preference. A few managers believed that if a customer attended a market once and did not find the specific food item or a level of variety that satisfied them, they might not return. As one manager stated, "the casual market shoppers who would come and get their produce and their raw milk, they stopped coming to market because we didn't have those two major cornerstone farmers in our lineup any longer."

There was also concern that grower-vendors may compete with one another when local seasonality restricted what could be grown. One manager indicated that roughly a quarter of the market's vendors were actual eligible growers. Other managers worried that a limited producer base would create an adversely competitive environment for growers. As one of these respondents stated,

> I mean, it's hard to have everyone successful in that situation a lot of the times when especially in the times of the year where everyone's growing the things because those are what grows well here. It's hard to have everyone making enough money to keep coming back.

Another participant struggled to reconcile two overlapping concerns: One, that the market required more growers to improve shopper choice, and two, that the market might not be able to facilitate success for a more competitive market environment, noting,

> And we're striving to bring in more food vendors. That seems to be somewhat of a challenge for us because we're not a big enough market to justify too much duplication. 'Cause I mean, if everybody's not doing good, then they're not going to stay.

Organizational structure and funding support

How a market was organized affected managers' sense of control in sustaining the FAB program and engaging SNAP shoppers. The FAB adopting managers interviewed for this study represented nine distinct funding and organizational structures for markets. Funding support structures included 501(c)(3) nonprofits, private, community redevelopment agency (CRA)–supported, Cooperative Extension or university supported, Chamber of Commerce supported, merchant association or Chamber of Commerce supported, development authority supported, and growers' association supported. Managers offered general feedback about whether their market's structure reduced or intensified barriers to managing and promoting FAB. Managers discussed the level of support they perceived to be receiving from the market's board, from city administrators, or from whichever organizational body funded their market. This perceived support appeared to influence the level of control managers felt they had in a given situation. As one participant noted, "I think it's very helpful for me, as a market manager, to have the board behind me." Another manager described her market as a nonprofit organization with additional resource support from the community's local downtown development association and city government. She noted the market had been "working on becoming more and more independent of those organizations," but expressed gratitude that the support provided the market with some autonomy:

> The reason it functions as well as it does is that everybody pretty much manages their own project, as long as you inform or discuss. You can manage your own project the best way that you think it should be. And our organization is like that. It's extremely flexible. I've worked in nonprofits for a long time, and it's the most flexible organization I've ever been in, and that's so beneficial. . . .

Another manager described a dual support structure for the market, mixing funds between local government coffers and the local CRA, noting, "sometimes we'll need a little extra help. And that's where the CRA will kick in and help as well."

A major concern regarding market structure had to do with the staffing and the time comments

required for FAB-related data entry and marketing. As one manager observed, "the biggest challenge is the fact that none of the funding has provided us a person to operate our SNAP booth, so we had to go look for private funding for that, which we found." Several managers linked the organizational structure of their market to the amount of leverage they believed they had to hire, retain, and pay trained personnel. Some managers either used private funding streams to provide trained staff or elected to utilize under-trained volunteers once initial grant funding for FAB implementation expired. One manager of a privately owned and operated market, expressed a more pointed concern about expenses, noting a city, a charitable organization, or a CRA his market's funding:

> If you're running a real tiny market, or you're a nonprofit and you've got a volunteer who's willing to sit there all day and staff a counter, or a kiosk to do all the paperwork and the bookkeeping and allocate tokens, or whatever process they use, somebody's paying for that. There's an added cost to have somebody sit there for hours during the day.

Additionally, select participants perceived privately run markets to be at a slight disadvantage in terms of funding allocation because taxpayers partially subsidize public or nonprofit markets, and these markets do not have to bear the full brunt of operation costs. Private markets, according to one participant, feel increased pressure to justify costs for economic solvency:

> Our market is unique in that it's owned . . . by a for-profit corporation . . . we try to operate it on a break-even basis as a result, but we don't really ask for, or get, any operating subsidies or contributions from government allocations or whatever. It pretty much has to take care of itself.

Other managers shared this trepidation about investing both time and money in administrating the program. Some managers expressed concern about committing to paid or online advertising, unsure if those outlets were the best uses for the limited funds they had available. Managers who were less comfortable using digital and social media advertising outlets expressed reluctance to designate limited funds toward these platforms and wary that the market's board of directors might not approve of increased spending on FAB promotion. As one manager stated, "my concern is the future funding of the program, and we're dried up right now . . . and God forbid we don't get the funding, we just drop it. And then you have a lot of unhappy constituents."

Transportation and physical access

Several managers described the lack of adequate transportation for SNAP shoppers. Managers understood SNAP eligible populations often do not own personal vehicles and are largely dependent on inconsistent public transportation routes to get to the market. A few managers additionally identified seniors within the broader SNAP-eligible population as the least accessible and most in need of transportation outreach:

> At one point, we had an agreement with the senior center to bus over there . . . to provide transportation for the seniors. We have a new relationship, or we're maintaining our relationship with AARP that they bring a group of seniors to the market.

Several managers recognized that certain markets, particularly in rural areas, are "off the beaten path" and are not typically noticeable or accessible. Managers also described broader issues with transportation, such as infrequent bus routes, poor bus scheduling, and the high number of transfers required for community residents to access markets. Because of her market's location on a semirural farm site, one participant believed the site was not sufficiently noticeable or physically accessible:

> When I'm talking to people, outside of the farm, but especially for lower-income families, I imagine some of them don't have cars, some of them rely on the bus. I know on the weekends, bus schedules are a little funky—I know I can't think of a bus stop, off the top of my head, anywhere near here . . . that is a big bar-

> rier to getting here, and in general, I hear a lot that people just have no idea that we're here . . . that's a huge obstacle.

One manager noted that the initial advertising budget they use to market FAB to shoppers "doesn't really do anything if you're not within walking distance from that community."

Research Objective B: Exploring Manager Strategies and Perceptions of Self-Efficacy

Research objective B explores market manager strategies for administering, marketing, and growing the FAB program at their respective markets. Within this category, we identified the following emergent themes to reflect manager efficacy beliefs: risk-taking and experimentation, loyalty, trust and relationship building with vendors, cultivating market experiences, and strategic coordination with partner organizations. These themes exemplified strategies, tactics, and beliefs that market managers applied to adapt to or resolve some of the barriers they faced while administering the FAB program at their markets.

Risk-taking and experimentation

We asked market managers about any strategic changes they had implemented at their market and the impact they believed those changes had. A few respondents revealed they had taken some experimental risks to increase engagement with SNAP shoppers. One manager admitted she tried to change up her strategy by borrowing certain approaches from other markets: "I also traveled around and went to all different markets all over the state and was a nosy bird. I wanted to see what other markets they were about and how ran, to copy and steal ideas, it's okay." One manager admitted she had made decisions in situations where outcomes were uncertain:

> I don't know that I want to say I've been super calculated on how I've strategized this because some of it was, like I said, copying and stealing some good ideas. One of them was what we call our market bucks, our internal currency. It was from a market up north. I was like, what a great idea; let's take that one. Well, that one has worked tremendously.

Managers expressed that having the freedom to try new things and exercise autonomy built confidence in managing the program and reaching out to SNAP shoppers. As one manager noted, "I'm a firm believer in personally taking baby steps, and I'm not afraid to try something. If it doesn't work, throw it out and back to the drawing board."

Loyalty, trust, and relationship-building with vendors

Some managers felt that the relationships they had with vendors were a key determinant of the success of both FAB and the market broadly. One respondent expressed this view directly: "I love working with the volunteers, with the vendors and the customers. These people are more my friends more than anything else, and that's what keeps me going back on a Saturday morning."

Another manager echoed the sentiment: "I love the vendors; I love what I get to do." Another participant expressed that FAB's success hinged on the relationships and trust she cultivated with her vendors:

> I'm on a one-on-one basis with each of my vendors . . . It's like one big family. I know them personally, they know me personally . . . If anybody has a problem, they can come to me, and I can resolve it for them right there and, then we have no issues.

Several managers shared their underlying belief that relationship-building, loyalty, and direct engagement between themselves and vendors built a sense of shared commitment. Managers described their working relationship with vendors, the utility of consistent meetings, and how the promotion of product transparency and standards-compliance built trust. Under FOG, one of the major stipulations of the FAB program was that eligible fruits and vegetables had to be locally grown. Managers demanded transparency from those vendors that wished to provide FAB eligible items to shoppers to ensure that they were legitimately local growers. Transparency also refers to production standards, such as certified organic. Vendors who can verify their standards improve trust with both shoppers

and managers. Discussing her vendors, one participant expressed gratitude for their broad engagement with SNAP, FAB, and the market overall:

> They're really supportive. We actually just started a sort of a market committee with some of the vendors who are really supportive and really want to be involved and get more people in the door because it helps them and it helps us. So yeah, our engagement with the vendors is an important part of the market.

Another manager emphasized the importance of loyalty and trust between vendors, administrative staff, and managers, stating that once they completed a full application and signed a contract agreement, vendors were assured they were "getting us as a champion for your product." A trust and relationship building emphasis was echoed by another manager, reflecting the perceived value of those types of exercises:

> As far as vendors go, I instituted a vendor luncheon four years ago. And at the end of the season, we all get together for a free lunch. I buy them lunch, and we have a gift exchange. And you give a gift to get a gift, and just a camaraderie kind of thing where everybody is excited and having a good time.

Cultivating market experiences

Some managers viewed certain grocery retail chains as a threat to the sustained growth and success of markets. They believed these "natural" retailers particularly emphasized fresh fruits and vegetable sales and provided shoppers with in-store events and activities. In response to this concern, several managers reflected on how they could offer more events and craft an *experience* for their customers. Managers perceived experience offerings at the market as a strategy to counteract retailer competition for SNAP redemption and food shopping in general. Experiential engagement with shoppers was perceived to provide a positive economic stimulus effect at the market, prompting "collateral sales." According to one manager, "in response to the lower shopper numbers, we've kicked around ideas, like making the market more friendly for an experience, as opposed to just going and getting your groceries."

Several managers employed strategies to provide an exciting atmosphere to attract both SNAP and non-SNAP community members to shop and spend time at their respective markets. Strategies included hosting live musical acts, educational workshops, and fresh fruits and vegetables cooking demonstrations. These actions provided managers opportunities to exhibit a measure of agency to affect market performance outcomes such as shopper attendance rates and the volume of SNAP/EBT and FAB token redemptions. In addition to promoting live music and youth-oriented educational activities, one participant more broadly spoke about the cultivation of a market "vibe"—a welcoming atmosphere that might encourage shoppers across all income brackets to spend more time at the site:

> We're trying to adapt, to get shoppers back as well as get them to grab a glass of kombucha and sit for a while. And you know, enjoy their community. For that, we've kind of changed how we market the market, but, you know, we make it more like an experience. As opposed to . . . go in and grab your stuff and go.

Other managers shared experience building strategies they have incorporated at their markets with varying degrees of success. Managers cited farm tours, yoga, cooking demonstrations, and kombucha brewing workshops as previously used tactics. These events represented opportunities for managers to exhibit some measure of decision-making autonomy to influence an outcome (increased attendance, increased SNAP redemption through FAB sales) with minimal external constraints. These efforts seemed to reflect a consistent managerial trend toward adaptation and experimentalism. As one manager states, "we're always trying to think of just more fun things where you can come and spend the entire Sunday there and never get bored."

Strategic coordination with partner organizations

Several managers highly valued networking and coordination opportunities with local organizations.

One manager discussed two government offices that were very useful to her market, stating, "the Office of Resource Stewardship and the Office of Sustainability kind of naturally act as that connector a lot of the time for some of the projects that we are doing." The manager also discussed building up a greater connection with the local SNAP authorizing office. She mentioned the agency's key role in facilitating access to SNAP-eligible shoppers, saying it "increased accessibility to have those types of relationships." Another participant discussed the unique organizational structure of their market, illustrating the opportunity for unique relationships between institutions:

> Well, our farmers market is a little bit different in that it's a partnership; it's a UF/IFAS program. It's one of my programs under local food systems. We are in partnership with the county as well, with parks and rec. So the market is a joint project between us

Finally, one manager discussed efforts to engage both faith-based organizations and health service providers to build community capacity:

> We're very tied in with [County] Health here, which is our big hospital system down here. They're very supportive of us. Of course, we try to market through them as well, wherever we can, and get the word out. We're a real community-oriented market in offering spaces to local community groups and nonprofits and things like that as well. We're very into that.

Jointly, these strategies represent a broad-based approach to exercise agency to direct actions to improve their confidence in improving their market's relationship with limited-resource communities.

Discussion

Research Objective A: Program Barriers and Perceptions of Control

Several managers in our sample perceived a decreased demand for local foods that they feared would adversely affect their market. This finding does not align with data collected from 1994 to 2016, that shows the number of farmers markets listed in the USDA National Farmers Market Directory increased by approximately 400 percent to over 8,600 markets, and with the total value of local food purchased from direct-to-consumer markets doubling between 1992 and 2012 (USDA Agricultural Marketing Service [USDA AMS], 2016). A 2015 report based on 2012 agriculture census data additionally found direct-to-consumer markets generated USD$3 billion in sales revenue, with on-farm stores and farmers markets accounting for US$2 billion, or 67 percent (USDA National Agricultural Statistics Service [USDA NASS], 2015). Additionally, regional, state, and county-level consumer behavior may not reproduce national trends. Despite this context, managers perceived that consumer interest in farmers markets was waning. This perception seemed to affect certain managers' sense of control and agency for long-term administration of the FAB program.

Market structure influenced managers' perceptions of their ability to administer the FAB program and actively engage limited-resource shoppers. Managers viewed the level of organizational support they received to be a relevant factor in the control they felt they had in administering FAB effectively. This view is supported by Mino, Chung, and Montri's (2018) assertion that high levels of organizational capacity and support are critical to navigating nutrition incentive programs successfully. Managers linked the organizational structure of their market to the amount of leverage they believed they had to recruit and keep trained staff. Additionally, external funding is necessary to support trained staff or untrained volunteers once initial program funding expired.

Participant feedback partially aligns with findings that various market conditions affect SNAP-eligible individuals' shopping behaviors and their fresh fruits and vegetable intake (Freedman et al., 2016). Roubal et al. (2016) discussed funding as a barrier in that context, and they found that certain markets received external funding for their EBT programs from agencies not directly associated with the market itself. This finding speaks to how markets leverage funds from different sources but does not say much about market structure and how

that structure affects attitudes, beliefs, and intentions towards nutrition incentive implementation.

The lack of transportation for low-mobility SNAP shoppers was a salient concern for managers. Managers recognized that SNAP-eligible populations were less likely to own personal vehicles and often depended on inconsistent public transportation to get to the market. Transportation constrains the ability for managers to effectively target and reach out to limited-resource shoppers, making it more difficult for SNAP shoppers to locate and physically access the market to redeem their benefits through FAB and increase consumption of fresh fruits and vegetables. These findings align with Wood and Horner's (2016) case study analysis of nutritionally at-risk, limited-resource populations' accessibility to SNAP-accepting locations, with the researchers ultimately suggesting that communities that have limited-resources, low-vehicle access and who are predominately African-American are significantly less likely to easily access retail food outlets. Similarly, Rigby et al. (2012) used census tract data to examine whether neighborhood characteristics related to race, income, and rurality affected SNAP distribution accessibility. The researchers suggested that these neighborhood characteristics strongly predicted SNAP-eligible food-access disparities and that the findings provided an empirical identification of the existence of food deserts and access disparity (Rigby et al., 2012).

While studies have supported the assertion that financial incentives can assist limited-resource individuals in improving fresh fruit and vegetable intake (Bowling, Moretti, Ringelheim, Tran, & Davison, 2016) and in improving fresh fruit and vegetable sales for farmers and markets (Oberholtzer, Dimitri, & Schumacher, 2016), the prevalence of transportation barriers for limited-resource populations can neutralize their broader impact (Freedman et al., 2016). These and other studies validate transportation as a core constraint expressed by the manager participants. Most of these studies, however, acknowledge that transportation-barrier impacts in the farmers market context at-large or in relation to SNAP redemption or fresh fruit and vegetable intake. We recommend that future research continue to examine the same variable in nutrition incentive contexts.

Research Objective B: Manager Strategies and Perceptions of Self-Efficacy

Managers implemented certain educational measures and initiatives in their respective markets. One manager decided to offer educational field trips at the market site, targeting outreach to youths from prekindergarten up to college, SNAP recipients, and the community at large. Other managers discussed the impact of hosting food cooking demonstrations and building FAB-eligible produce "kits," complete with clear recipe cards that shoppers could reference at home. These efforts reflected self-efficacy by affecting a manager's level of confidence in their ability to implement and sustain the FAB program effectively. The belief that targeted education activities in market spaces can improve nutrition incentive outcomes aligns with Weinstein, Galindo, Fried, Rucker, and Davis' (2014) findings that these efforts, combined with small monetary incentives, increase purchasing behavior and fresh fruit and vegetable intake with limited-resource shoppers. Abello, Palma, Waller, and Anderson (2014) additionally identified that formal and nonformal educational activities hosted at markets were a salient determinant of the frequency of farmers market visits from limited-resource shoppers. This study, however, did not specifically segment limited-resource, SNAP-eligible shoppers from a general consumer base, and so may have limited transferability. While studies demonstrate the utility for educational activities at markets in improving market engagement and fresh fruit and vegetable intake for consumers, we were unable to find examinations of manager perceptions of these initiatives broadly or direct examinations of how these activities affected manager self-efficacy perceptions within a behavioral change context. As such, we believe the results warrant continued research.

Managers indicated that the loyalty and relationships between themselves, vendors, and shoppers were key determinants of the success of both FAB and the market broadly. Our findings demonstrate that relationship-building, loyalty, and direct engagement between managers and vendors build confidence, self-efficacy, and shared commitment.

Managers expressed that a positive working relationship with vendors, consistent meetings, and an emphasis on product transparency and compliance with standards- built trust and improved their confidence that they could manage and promote FAB effectively. Together, these findings address collaborative efforts between managers and the effect those efforts have on managerial perceptions of confidence and self-efficacy in administering FAB to limited-resource shoppers. Further development of this line of inquiry could fill this gap in the literature and have broad implications for the efficacy of nutritional incentive initiatives such as FAB nationwide.

Conclusion

The rapid expansion in the number of farmers markets in the U.S. over the past decade has been viewed by many as progress toward a widely shared goal of improving nutritious food access for low-resource communities, among other things (Godfray et al., 2010; Herman, Harrison, Afifi, & Jenks, 2008; Sadler, 2016). While scholars and practitioners alike have touted markets for their capacity to increase and expand food access, a growing body of literature has identified limits to what the conventional farmers market can achieve and has increasingly recognized that the inclusion of markets in communities may have economically adverse consequences for low-resource communities (Farmer, Babb, Minard & Veldman, 2019; Farmer, Chancellor, Robinson, West & Weddell, 2014; Markowitz, 2010). The recent expansion of nutrition incentive programs at farmers markets may be seen in part as a response to these and related findings.

To further reduce the financial barrier to accessing fresh fruits and vegetables, the USDA has promoted incentive-matching programs at markets to increase fresh fruit and vegetable consumption across the country (Dimitri, Oberholtzer, Zive, & Sandolo, 2015). Our study falls within this context. The purpose of this formative, instrumental case study was to explore how managers of Florida farmers market operated and administered a localized nutrition incentive program while also performing their core managerial duties. We specifically considered in this study how our sample of managers perceived their level of control and agency to effectively administer and market the program to limited-resource and SNAP-eligible shoppers in the face of programmatic barriers and constraints. We addressed two core research objectives to understand managers' experience with FAB administration, maintenance, and promotion: (a) to explore manager perceptions of control through the identification of program barriers, and (b) to explore manager perceptions of efficacy and confidence to administer the program through strategic interventions.

We presented results here to communicate the relevance of manager perspectives and experiences in nutritional promotion efforts and to lay the groundwork for future engagement with this population. The feedback compiled here produced compelling themes worthy of continued examination. While managers held generally positive views of the program, they addressed salient environmental (e.g., transportation access at the market site) and interpersonal (e.g., relationships with vendors) factors that they perceived as barriers to sustained growth and use of the FAB program. We believe these control and agency perceptions from managers are crucial to understand in the broader effort to achieve long-term, sustained growth of related nutrition incentive programs at farmers markets. We, therefore, recommend more expansive examinations of managers' perceptions of nutrition incentive program management through either a personal agency frame specifically or a behavioral theory frame broadly. Results from these efforts may produce compelling implications for improved outcomes for similar nutrition incentive initiatives at farmers markets across the country.

Acknowledgments

We would like to thank the farmers market managers who were willing to give their valuable time and energy to this effort. Their candor, experience, and insight are incredibly significant and greatly appreciated.

References

Abello, F. J., Palma, M. A., Waller, M. L., & Anderson, D. P. (2014). Evaluating the factors influencing the number of visits to farmers' markets. *Journal of Food Products Marketing, 20*(1), 17–35. https://doi.org/10.1080/10454446.2013.807406

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological Science, 1*(2), 164–180. https://doi.org/10.1111/j.1745-6916.2006.00011.x

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, *13*(4), 544-559. https://nsuworks.nova.edu/tqr/vol13/iss4/2/

Bernstein, A. M., Bloom, D. E., Rosner, B. A., Franz, M., & Willett, W. C. (2010). Relation of food cost to healthfulness of diet among US women. *The American Journal of Clinical Nutrition, 92*(5), 1197–1203. https://doi.org/10.3945/ajcn.2010.29854

Bowling, A. B., Moretti, M., Ringelheim, K., Tran, A., & Davison, K. (2016). Healthy foods, healthy families: Combining incentives and exposure interventions at urban farmers' markets to improve nutrition among recipients of US federal food assistance. *Health Promotion Perspectives, 6*(1), 10. https://doi.org/10.15171/hpp.2016.02

Center on Budget and Policy Priorities. (2018). Policy Basics: The Supplemental Nutrition Assistance Program (SNAP). Retrieved from https://www.cbpp.org/research/policy-basics-the-supplemental-nutrition-assistance-program-snap

Dimitri, C., Oberholtzer, L., Zive, M., & Sandolo, C. (2015). Enhancing food security of low-income consumers: An investigation of financial incentives for use at farmers markets. *Food Policy, 52,* 64–70. https://doi.org/10.1016/j.foodpol.2014.06.002

Elmes, M. B. (2016.). Economic inequality, food insecurity, and the erosion of equality of capabilities in the United States. *Business & Society, 57*(6), 1045–1074. https://doi.org/10.1177/0007650316676238

Farmer, J., Babb, A., Minard, S., & Veldman, M. (2019). Accessing local foods: Households using SNAP double bucks and financial incentives at a Midwestern farmers market. *Journal of Agriculture, Food Systems, and Community Development, 8*(4), 153–178. https://doi.org/10.5304/jafscd.2019.084.005

Farmer, J. R., Chancellor, C., Robinson, J. M., West, S., & Weddell, M. (2014). Agrileisure: Farmers' markets, CSAs, and the privilege in eating local. *Journal of Leisure Research, 46*(3), 313–328. https://doi.org/10.1080/00222216.2014.11950328

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research.* Massachusetts: Addison-Wesley.

Florida Organic Growers (n.d.). Fresh Access Bucks. Retrieved August 8, 2019, from https://foginfo.org/our-programs/fresh-access-bucks/

Freedman, D. A., Vaudrin, N., Schneider, C., Trapl, E., Ohri-Vachaspati, P., Taggart, M., . . . Flocke, S. (2016). Systematic review of factors influencing farmers' market use overall and among low-income populations. *Journal of the Academy of Nutrition and Dietetics, 116*(7), 1136–1155. https://doi.org/10.1016/j.jand.2016.02.010

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative theory.* Chicago: Aldine Publishing.

Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., .. . Toulmin, C. (2010). Food security: The challenge of feeding 9 billion people. *Science*, *327*(5967), 812–818. https://doi.org/10.1126/science.1185383

Grace, C., Grace, T., Becker, N., & Lyden, J. (2008). Barriers to using urban farmers' markets: An investigation of food stamp clients' perceptions. *Journal of Hunger and Environmental Nutrition, 2*(1), 55–75. https://doi.org/10.1080/19320240802080916

Hasin, A., & Smith, S. (2016). The diffusion of Electronic Benefit Transfer (EBT) technology at Illinois farmers' markets: Measuring the perceived attributes of the innovation. *Journal of Hunger & Environmental Nutrition, 11*(3), 354–369. https://doi.org/10.1080/19320248.2015.1128861

Herman, D. R., Harrison, G. G., Afifi, A. A., & Jenks, E. (2008). Effect of a targeted subsidy on intake of fruits and vegetables among low-income women in the Special Supplemental Nutrition Program for Women, Infants, and Children. *American Journal of Public Health, 98*(1), 98–105. https://doi.org/10.2105/AJPH.2005.079418

Kirkpatrick, S. I. (2012). Understanding and addressing barriers to healthy eating among low-income Americans. *Journal of the Academy of Nutrition and Dietetics, 112*(5), 617–620. https://doi.org/10.1016/j.jand.2012.02.009

Kolb, S. M. (2012). Grounded theory and the constant comparative method: Valid research strategies for educators. *Journal of Emerging Trends in Educational Research and Policy Studies, 3*(1), 83–86. https://hdl.handle.net/10520/EJC135409

Leung, C. W., Hoffnagle, E. E., Lindsay, A. C., Lofink, H. E., Hoffman, V. A., Turrell, S., . . . Blumenthal, S. J. (2013). A qualitative study of diverse experts' views about barriers and strategies to improve the diets and health of Supplemental Nutrition Assistance Program (SNAP) beneficiaries. *Journal of the Academy of Nutrition and Dietetics, 113*(1), 70–76. https://doi.org/10.1016/j.jand.2012.09.018

Markowitz, L. (2010). Expanding access and alternatives: Building farmers' markets in low-income communities. *Food and Foodways, 18*(1–2), 66–80. https://doi.org/10.1080/07409711003708512

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. San Francisco: John Wiley & Sons.

Mino, R., Chung, K., & Montri, D. (2018). A look from the inside: Perspectives on the expansion of food assistance programs at Michigan farmers markets. *Agriculture and Human Values, 35*(4), 823–835. https://doi.org/10.1007/s10460-018-9877-1

Montaño, D. E., & Kasprzyk, D. (2015). Theory of reasoned action, theory of planned behavior, and the integrated behavioral model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health Behavior: Theory, Research and Practice* (5th ed.) (pp. 95–124). San Francisco: Jossey-Boss.

NVivo. (2019). NVivo (Version 12.3.0) [Software]. Victoria, Australia: QSR International Pty Ltd.

Nguyen, B. T., Shuval, K., Njike, V. Y., & Katz, D. L. (2014). The Supplemental Nutrition Assistance Program and dietary quality among US adults: Findings from a nationally representative survey. *Mayo Clinic Proceedings,* 89(9), 1211–1219. https://doi.org/10.1016/j.mayocp.2014.05.010

Oberholtzer, L., Dimitri, C., & Schumacher, G. (2016). Linking farmers, healthy foods, and underserved consumers: Exploring the impact of nutrition incentive programs on farmers and farmers' markets. *Journal of Agriculture, Food Systems, and Community Development, 2*(4), 63–77. https://doi.org/10.5304/jafscd.2012.024.002

Olsho, L. E., Payne, G. H., Walker, D. K., Baronberg, S., Jernigan, J., & Abrami, A. (2015). Impacts of a farmers' market incentive program on fruit and vegetable access, purchase and consumption. *Public Health Nutrition, 18*(15), 2712–2721. https://doi.org/10.1017/S1368980015001056

Rigby, S., Leone, A. F., Kim, H., Betterley, C., Johnson, M. A., Kurtz, H., & Lee, J. S. (2012). Food deserts in Leon County, FL: disparate distribution of Supplemental Nutrition Assistance Program-accepting stores by neighborhood characteristics. *Journal of Nutrition Education and Behavior, 44*(6), 539–547. https://doi.org/10.1016/j.jneb.2011.06.007

Roskos, M. R. S., Wengreen, H., Gast, J., LeBlanc, H., & Durward, C. (2017). Understanding the experiences of low-income individuals receiving farmers' market incentives in the United States: A qualitative study. *Health Promotion Practice, 18*(6), 869 –878. https://doi.org/10.1177/1524839917715438

Roubal, A. M., Morales, A., Timberlake, K., & Martinez-Donate, A. (2016). Examining barriers to implementation of electronic benefit transfer (EBT) in farmers markets: Perspectives from market managers. *Journal of Agriculture, Food Systems, and Community Development, 6*(3), 141–161. https://doi.org/10.5304/jafscd.2016.063.011

Sadler, R. C. (2016). Strengthening the core, improving access: Bringing healthy food downtown via a farmers' market move. *Applied Geography, 67,* 119–128. https://doi.org/10.1016/j.apgeog.2015.12.010

Stake, R. E. (1994). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 236–247). Thousand Oaks, CA: Sage Publications.

U.S. Department of Agriculture Agricultural Marketing Service (USDA AMS). (2016). Farmers markets and direct-to-consumer marketing. Retrieved from https://www.ams.usda.gov/services/local-regional/farmers-markets-and-direct-consumer-marketing

USDA Food and Nutrition Service (USDA FNS). (n.d.-a). Retailer Management 2017 Year-End Summary. Retrieved from https://www.fns.usda.gov/snap/retailer/data

USDA FNS. (n.d.-b). What is Electronic Benefits Transfer (EBT)? Retrieved from https://www.fns.usda.gov/snap/ebt

USDA FNS. (n.d.-c). What Can SNAP Buy? Retrieved from https://www.fns.usda.gov/snap/eligible-food-items

USDA National Agricultural Statistics Service (USDA NASS). (2015). Local Food Marketing Practices Survey and (for All Farms data), 2012 Census of Agriculture. Retrieved from https://www.nass.usda.gov/Publications/AgCensus/2012/Online_Resources/Local_Food/index.php

USDA National Institute of Food and Agriculture (USDA NIFA). (n.d.). Gus Schumacher Nutrition Incentive Program (GusNIP). Retrieved from https://nifa.usda.gov/program/gus-schumacher-nutrition-incentive-grant-program

Ver Ploeg, M., Breneman, V., Farrigan, T., Hamrick, K., Hopkins, D., Kaufman, P., . . . Tuckermanty, E. (2009). *Access to affordable and nutritious food: Measuring and understanding food deserts and their consequences: Report to Congress* (Administrative Publication No. AP-036). Washington, D.C.: USDA. Retrieved from https://www.ers.usda.gov/publications/pub-details/?pubid=42729

Wang, D. D., Leung, C. W., Li, Y., Ding, E. L., Chiuve, S. E., Hu, F. B., & Willett, W. C. (2014). Trends in dietary quality among adults in the United States, 1999 through 2010. *JAMA Internal Medicine, 174*(10), 1587-1595. https://doi.org/10.1001/jamainternmed.2014.3422

Weinstein, E., Galindo, R. J., Fried, M., Rucker, L., & Davis, N. J. (2014). Impact of a focused nutrition educational intervention coupled with improved access to fresh produce on purchasing behavior and consumption of fruits and vegetables in overweight patients with diabetes mellitus. *The Diabetes Educator, 40*(1), 100–106. https://doi.org/10.1177/0145721713508823

Wood, B. S., & Horner, M. W. (2016). Understanding accessibility to SNAP-accepting food store locations: Disentangling the roles of transportation and socioeconomic status. *Applied Spatial Analysis and Policy, 9*(3), 309–327. https://doi.org/10.1007/s12061-015-9138-2

Yin, R. K. (2003). Case study research: Design and methods (3rd ed.). Thousand Oaks, California: Sage Publications.