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Food Retailers' Perspectives on Pilot Program Strategies to Promote Healthy Eating in SNAP Participants

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Food retailers are key stakeholders in the development, implementation, and effectiveness of Supplemental Nutrition Assistance Program (SNAP) nutrition pilot programs. Qualitative interviews were conducted to gather insight from food retailers regarding the feasibility of proposed strategies to improve food choices among SNAP participants. Two corporate and six local-level food retailer managers were identified for interviews based on SNAP participation, rural-urban code, and type of food retail settings in the selected counties. Qualitative thematic analysis was performed by four research team members, and themes were identified via consensus. Marketing, incentive, and disincentive program models were well-received, while restriction and stocking standards models were less well-received. Food retailers viewed simple programs with easy implementation and educational components positively. Driving sales and programs that align with corporate and social responsibility goals were important factors related to willingness to participate in pilot programs. Insights from this present study can inform future pilot programs and promote food retailer buy-in.

Keywords: Supplemental Nutrition Assistance Program, food retail environments, health promotion

Introduction

The Supplemental Nutrition Assistance Program (SNAP) aims to reduce and prevent hunger (Yaktine & Caswell, 2013). In 2019, over 35 million Americans participated in SNAP with higher participation rates in rural areas [16%] and small towns [15%] compared to urban areas [13%] (Food and Nutrition Service, 2020; Food Research & Action Center, 2018). SNAP benefit allotments are based on the "Thrifty Food Plan," which is a meal plan designed to provide a nutritionally adequate diet with minimal financial resources (Carlson et al., 2007).

Despite the design of SNAP to provide access to healthy foods for low-income households, disparities in diet quality have worsened among U.S. adults. Evidence suggests SNAP participants have poorer diet quality compared to nonparticipants (Gregory et al., 2013; Sanjeevi & Freeland-Graves, 2019; Whiteman et al., 2018). Poor diet quality and food insecurity are

linked to higher rates of chronic diseases amongst those with limited incomes (Centers for Disease Control and Prevention, 2020; Gregory & Coleman-Jensen, 2017).

One of the most significant barriers to purchasing healthy food reported by SNAP participants is the lack of financial resources (Haynes-Maslow et al., 2015; Mushi-Brunt et al., 2007). However, there are a number of factors contributing to less-than-optimal dietary behaviors among SNAP participants, including limited geographic access to healthier foods and not having time to prepare and cook healthy foods (Haynes-Maslow et al., 2013; Kirkpatrick, 2012). Further, SNAP participants have reported stigmatization and negative interactions with SNAP program staff (Andress & Fitch, 2016; Bostrom, 2003; Haynes-Maslow et al., 2020).

In order to reduce disparities and support the overall goal of SNAP, it is important to consider the individual, interpersonal, community, and societal factors that influence healthy eating. The socio-ecological model (SEM) acknowledges the influence of multiple factors within various layers of the environment, which ultimately influence health behaviors and health status (Sallis et al., 2008). The Centers for Disease Control and Prevention (CDC; 2015) uses a four-level model to inform its health promotion programs. Those levels include individual, relationship, community, and societal. Factors within the individual level of influence include the individual's attitudes, preferences, knowledge, and skills. The relationship level of influence acknowledges the role of family, friends, peers, and other social networks in an individual's health behavior. The community level of influence recognizes factors in the physical environment, including home, school, worksite, restaurants, and grocery stores, which impact health behaviors. Finally, the societal level of influence acknowledges the role of societal and cultural norms, food marketing and media, food and agriculture policies, food systems, and food assistance programs and their impact on health behaviors.

Strategies to promote healthy eating knowledge, marketing, and access for SNAP participants require further exploration to address the gaps in diet quality. A variety of strategies have been recommended, including incentives, disincentives, restrictions, improving the retail environment, and providing more robust nutrition education (Center for Science in the Public Interest, 2018; Leung et al., 2013). Previous research suggests SNAP participants find incentive programs acceptable (Leung et al., 2017; Rydell et al., 2018). However, there is limited research investigating the perspectives of food retailers and food retail managers on the feasibility of these proposed strategies. Existing research is largely limited to exploring the perspectives on healthy food retail marketing and stocking standard strategies or lacking a retail sample representing urban, rural retailers as well as corporate and local managers (D'Angelo et al., 2017; Houghtaling et al., 2019; Martinez et al., 2018).

Food retailers represent just one of the many community and societal factors that influence health behaviors within the SEM but are imperative for healthful eating among SNAP participants. The purpose of this exploratory study was to gather insight from food retailers

regarding the feasibility of proposed strategies to improve food choices among SNAP participants. The long-term goal was to use this information to implement strategies that improve the diet quality of SNAP participants, which also aligns with the buy-in of food retailers.

Methods

The research protocol was reviewed and deemed “exempt” by the Iowa State University Institutional Review Board (IRB). Counties in the state were organized by the number of SNAP-approved food retailers, rural-urban continuum codes, SNAP participation rate, and geographic location to identify potential food retail interviewees. A minimum of two SNAP-approved food retailers (one grocery and one convenience store) was required as part of the study protocol. The rural nature of the state necessitates some SNAP participants to rely on convenience stores for their grocery needs and thus use of their SNAP benefits. Therefore, it was necessary to interview convenience stores to fully understand the perspectives of food retailers in the state. A review of the state's grocery and convenience store food retailers revealed two regional convenience store chains and two regional grocery store chains served the majority of the counties. One convenience and grocery store chain served the urban counties, while the other convenience and grocery store chain served the rural counties. Counties were then categorized as rural or urban counties using the rural-urban continuum codes (urban RUCC codes 1-3; rural RUCC codes 4-9). Counties were also organized by SNAP participation rate. Finally, geographic location within the state was considered. The final sample of counties considered for local interviews included: (1) One of the two regional grocery and convenience store chains; (2) Rural or urban code of two or six; (3) higher SNAP participation rate; and (4) Geographic distribution throughout the state.

Table 1. Demographics and Total Number of Local Interviewees of Counties Selected for Local-level Manager Interviews

Location Designation	County	SNAP Participation Rate (%)	Total Local Managers Interviewed
Urban (RUCC = 2)	1	70.8%	1
Urban (RUCC = 2)	2	65.2%	1
Urban (RUCC = 2)	3	64.4%	0
Rural (RUCC = 6)	4	54.6%	1
Rural (RUCC = 6)	5	47.4%	2
Rural (RUCC = 6)	6	29.0%	1

The goal number of interviews was 16: four Corporate-level manager interviews (regional grocery [$n = 2$], convenience store [$n = 2$] chains) and 12 Local-level manager interviews (regional grocery [$n = 6$] and convenience store chains [$n = 6$]) in each county.

Three Corporate-level managers (regional grocery $n = 2$ and convenience store $n=1$; “Corporate”) were interviewed. One Corporate-level grocery store interview was completed via email. Six Local-level grocery store managers (4 rural, 2 urban; “Managers”) were interviewed. No Local-level convenience store manager interviews were conducted because one corporate

convenience store chain did not respond to multiple queries and, the other convenience store chain declined to have Local-level managers participate because all decisions relative to the proposed SNAP strategies would be made at the corporate level. Saturation became evident when it was determined that the interviewees represented the full range of corporate and local retail retailers identified using the previously outlined design sample set.

Two of the primary investigators conducted the Corporate interviews, and four Extension program specialists conducted the Managers interviews. All were trained on the appropriate protocols. Interviews consisted of broad, open-ended questions regarding strategies to promote healthy eating and questions related to five expert-recommended strategies, including marketing, incentives, disincentives, restrictions, and stocking standards. All interview recordings were transcribed verbatim by Rev.com, an IRB-approved transcription service. Interviewee identities were kept anonymous.

The informants shared general perceptions and insights on the challenges and benefits of implementing a marketing pilot, stronger stocking standards, an incentive pilot, and a disincentive pilot for promoting healthy food choices among SNAP participants. They were also asked about their perceptions of utilizing food choice restrictions to improve the dietary quality of SNAP participants.

Each member of the research team ($n = 4$) independently reviewed and coded the two Corporate interviews and agreed on key themes. Following this discussion, a codebook was developed and organized by interview questions, identifying first-level codes, second-level codes, and associated sub-codes. First-level codes captured simple descriptions (i.e., general perceptions of a specified strategy), and second-level codes captured focused codes or themes on an analytical level (i.e., challenges or benefits of a specified strategy). A color-coded key was used to emphasize recurring themes and provide a visual for identifying key benefits and challenges.

The codebook was used to recode the Corporate interviews to ensure consistency and reliability. The six Managers transcripts were also coded using the same codebook. All coding discrepancies were resolved by consensus. The key themes and information were compiled separately from the Corporate interviews and Managers interviews and subsequently compared and contrasted against each other. Saturation was determined by the researchers as the point at which no new codes emerged (Urquhart, 2013).

Results

Key Themes

Several drivers and influencers for the implementation of a nutrition pilot program were identified in the Corporate interviews. Key themes that emerged included: sales, product placement, corporate and social responsibility (i.e., the company's desire and reputation for

promoting healthy eating and supporting the health of the community), manufacturer/vendor buy-in, signage, and consumer demand (i.e., the pressure to provide what the consumer wants, whether it is healthful or not).

Managers frequently mentioned sales, education, corporate buy-in, product placement, and signage. Education included nutrition education opportunities, including education of retail associates and program participants, on SNAP benefits and logistics (e.g., allowable foods, qualifications, etc.). Both Corporate and Managers most often identified sales as a key benefit, driver, and factor when considering implementing a pilot program. Both groups frequently identified signage and product placement as effective interventions for promotion efforts and driving sales. Key stakeholder buy-in (manufacturers, vendors, and corporate) was another common theme between Corporate and Managers, although they did differ in context. Corporate reported the importance of manufacturer and vendor buy-in, whereas Managers reported the need for corporate buy-in more frequently than manufacturers and vendors.

Stigma was another recurrent theme in corporate and local interviews across first-level codes, including healthy marketing, social responsibility, the feasibility of a marketing pilot, challenges to healthy eating incentives, and general perceptions of restrictions. Stigma identified concerns related to reduced autonomy of SNAP participants and targeting messages toward SNAP participants in a nutrition pilot program.

Marketing Pilot

Figure 1 illustrates the key concepts related to a SNAP marketing pilot. Marketing techniques including advertising, product placement, and pricing strategies were discussed. Product placement was the most widely discussed strategy, which included shelf placement, end caps, red zones, store layout, and checkouts. Pricing strategies included “two-fors” (i.e., two for \$5), multiples, and buy-one-get-one (BOGO). Advertising encompassed a variety of channels, including apps, in-store, digital and print ads, and signage.

Corporate reported advertising, product placement, and pricing strategies are effective marketing strategies. However, marketing healthy items required support from the manufacturers and vendors. Preventing stigma was a key concern related to targeted messaging to SNAP participants in one Corporate interview. Stigma was not mentioned in any of the Manager interviews. Whether the SNAP participants would want to buy the healthier items was another concern shared by both Managers and Corporate. The majority of Managers saw healthy sales and increasing purchasing power for SNAP participants as a potential benefit of a marketing pilot program; however, they were concerned about the potential cost or loss of money with participating in a SNAP marketing pilot program. All interviewees reported simplicity and ease of implementation were important considerations for participating in a SNAP marketing pilot. Both groups reported placement and pricing as the most promising SNAP marketing pilots. Marketing strategies that Managers and Corporate identified as promising tools to promote

marketing healthy items included, “Shelf talkers and signage is a great tool to use because it draws their eye to that product” and “It's just a little more eye level because we'll sell more. ... That shelf placement is everything.” Additional quotes from Corporate and Managers by key theme are provided in Table 2.

Figure 1. Marketing Pilot Key Themes

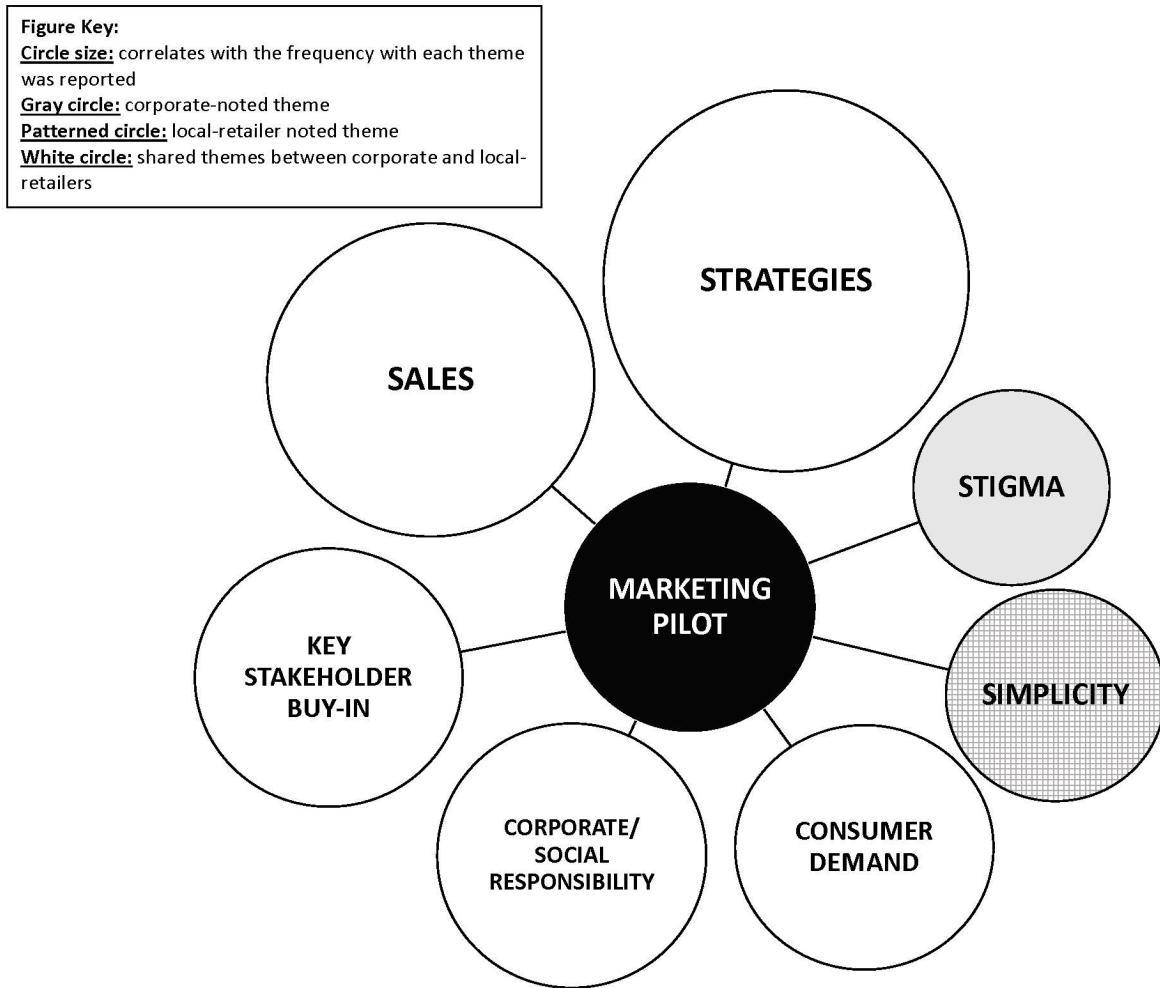


Table 2. Marketing Pilot Key Themes and Supporting Quotes

Theme	Quotes: Corporate	Quotes: Manager
Key Stakeholder Buy-in	“If there was a partnership between a manufacturer that has a better for you item that you're trying to promote, and then they have that relationship with the retail stores, I think that could be helpful for you.”	“It's all going to be approved at the home office level for us to be able to put that up and hang it up and whatever. And then same thing with the demos where again, it's all dictated from them.”
Stigma	“If you're an EBT member [participant], you get this price. But as a retailer, that's not something we would want to do because then what does that say to help people who aren't EBT members [participants]?”	Not a theme identified in Manager interviews
Sales	“I would say that our team is pretty progressive in terms of trying to bring in some better-for-you things. But like I said, oftentimes they just don't sell as well as other things.”	“We make really good money on those impulse junk food items that appeal to a lot of people. And you get the healthier options out there, and depending on the price, sometimes you don't make as much money. ... So, can we do this in a way that we don't hurt our profits?”
Simplicity	“I think it would very much depend on how quick and easy it is for them to. ... Because like I said, it's just ... I can't remember the amount of time the average consumer spends [in the store], but it's like two and a half to three minutes. It's very short, so if it requires a lot of thought and understanding, then I think that's a hard hurdle to overcome. But if it's super easy to understand, then maybe.”	“Depending on your strategy and implementing it, it has to be something that's easy to put into our day-to-day work strategy.” “It needs to be easy to implement and to maintain because that's the problem. Sure, so you bring me a box of signs. It means I have extra labor that I will begrudgingly do.”
Consumer Demand	“It's just how do we talk about better-for-you in a way that doesn't deter those customers who aren't concerned about it, which is becoming fewer. I think most customers, to some degree, are thinking about how do I eat healthier? Whether or not their actions reflect that is a completely different conversation.”	SNAP customers would have to be willing to participate in those. We do offer cooking demos, in-store tours, coupons, all the things you mentioned before. I think the barrier or the challenge there would just be the willingness of those customers to participate.”
Corporate/Social Responsibility (CSR)	“Well, I think promoting more better-for-you items is very much in line with our kind of CSR efforts. We want to be a responsible company.”	“I think anytime that you can get your customer back into the store, or to help them improve their lifestyle, I think that's always a good thing.”

Stocking Standards

Figure 2 illustrates the key concepts related to stocking standards. Stocking standards are the guidelines on the variety and quantity of food items required in a food retail environment to be an authorized SNAP retailer. Corporate reported challenges and concerns related to this intervention. Food item variety was identified as positive; however, concern regarding the ability to meet the various requirements due to space constraints was identified. There were also broader concerns mentioned by at least half of the interviewees related to unintended consequences. Smaller stores that cannot meet the requirements would be excluded, which may amplify limited food access and food deserts. Another consequence identified by at least one interviewee was the food waste related to the expiration of food that did not sell. Corporate noted the importance of stakeholder buy-in, highlighted by the supporting quote:

“If [a company] wanted to be in a lot more gas stations or food deserts, they could say ‘We’ll give you a deal or discount on if you carry seven of our products.’ Partnering with those companies maybe?”

Managers expressed similar sentiments related to food variety, space, and unintended consequences (e.g., eliminating SNAP vendors due to inability to meet standards). They anticipated that changing the stocking standards might cause SNAP customers shopping at the convenience store to shift to grocery stores, increasing their customer base. Consequently, lack of space would present a challenge for smaller grocery stores and convenience stores to meet the stocking standards and could potentially limit food access in certain areas. Additional supporting quotes are provided in Table 3.

Figure 2. Stocking Standards Key Themes

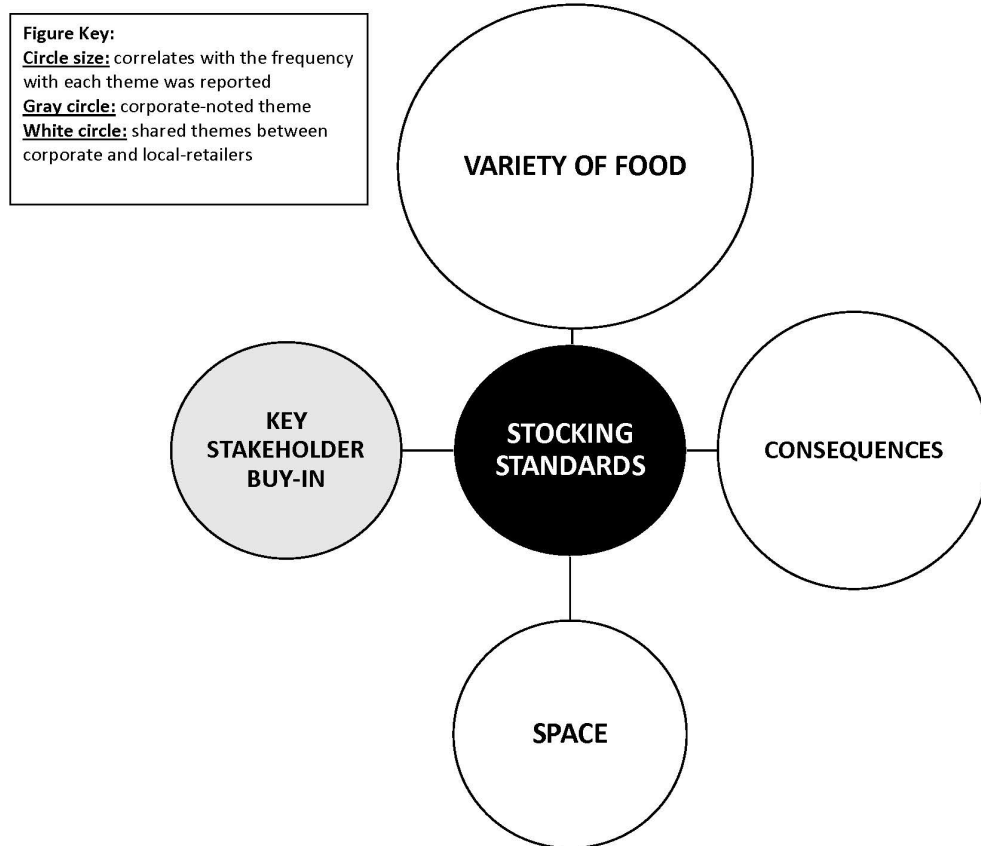


Table 3. Stocking Standards Key Themes and Supporting Quotes

Key Concept	Quotes: Corporate	Quotes: Manager
Variety of Foods	“Just because that promotes variety of items, but it doesn't necessarily have to be healthier items. ... It still won't mandate a purchase.”	“I mean you're going to give people a more of a variety of healthy alternatives. ... Maybe it's something that that store didn't even carry prior to or something like that.”
Consequences	“I always think that that would be great, but then I also really worry about food deserts and the SNAP beneficiaries' access to food. ... I mean I would just worry that you're going to limit their access to what they can buy and be able to live close to a grocery store and maybe a gas station is your only option.”	“If you made it harder for that little grocery store to be able to participate, that certainly would not be a benefit to the people that you're trying to take care of ... you start implementing standards to a point that you make it hard for businesses to participate, you're not helping your customer.”
Space	“Well, I think C-stores are probably the most challenged because we have the least space.”	“When you start looking at these other smaller organizations, they probably are eliminated square footage wise.”

Incentive Pilot

A SNAP incentive pilot would provide rewards or benefits to the SNAP participant for purchasing healthy items such as fruits and vegetables. Corporate viewed this SNAP incentive pilot as an opportunity to provide nutrition education. They also perceived benefits from increased customers, sales, and purchasing power for participants. Despite these benefits, challenges were noted, such as stigma, consumer privacy, procurement, regulations, and technology (Figure 3). There was a recognized need for vendor participation as well as education for the SNAP participant to ensure effective implementation of this strategy.

Managers identified similar challenges and benefits (Table 4). Managers frequently noted that a SNAP incentive program might drive sales and healthy purchases, but a few informants wanted SNAP to limit the program to fruits and vegetables. Logistics, technology, and lack of education for program participants and store associates were challenges reported by all Managers, which was consistent with Corporate perspectives. The majority of Managers reported the need for corporate buy-in to participate in the program, whereas one Corporate interviewee reported challenges related to procurement.

Figure 3. Incentive Pilot Key Themes

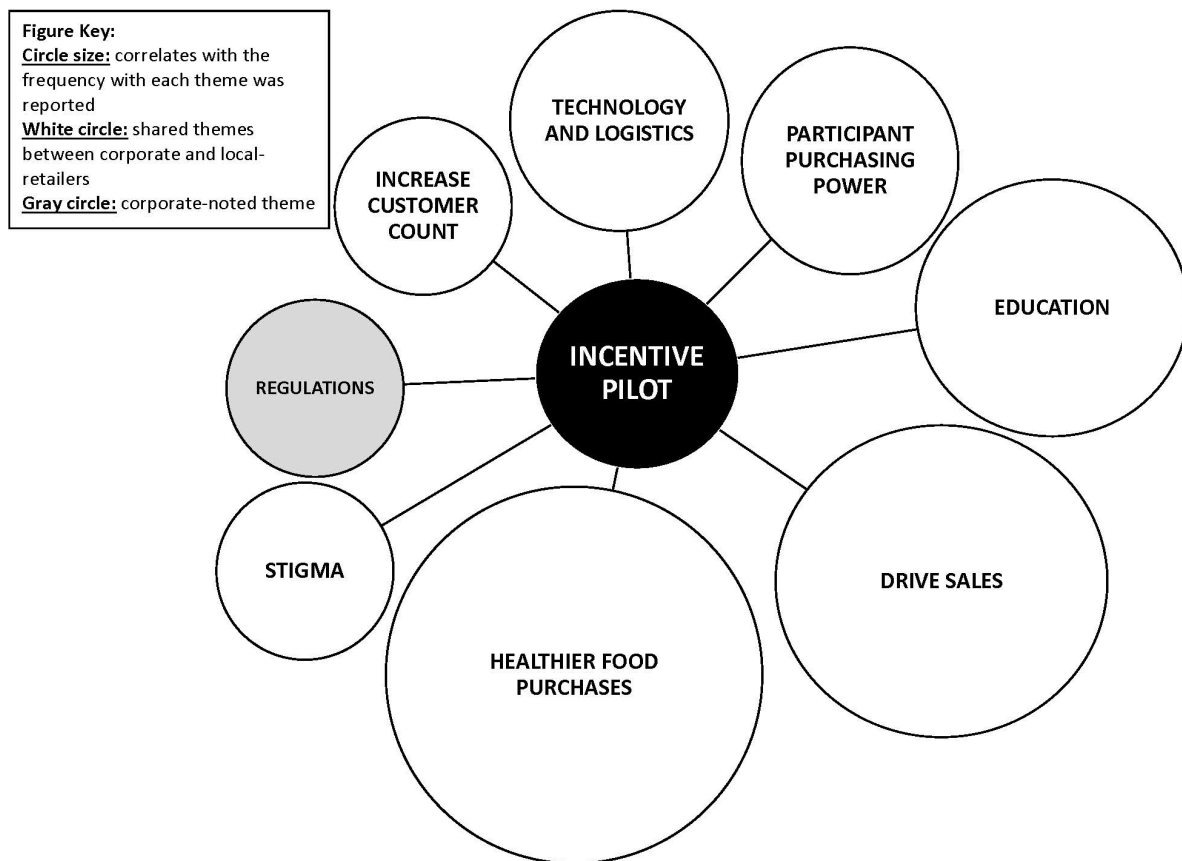


Table 4. Incentive Pilot Key Themes Concepts and Supporting Quotes

Theme	Quotes: Corporate	Quotes: Manager
Education	“Anytime you can include some in-store education, whether that be like a dietitian tour or maybe an incentive. ... If you can talk to them about the educational piece inside of it, I think that would be huge.”	“Basically, it'd just be the communication with the participant on what they can and can't purchase.”
Benefits	“If I were a SNAP participant, I think I would find that motivating because I know fruits and vegetables are healthy for my family. This gives me a way that easily stretch my dollar and buy more of those types of things.”	“I definitely think that if people were given more SNAP benefits because they made healthier choices, I think that would definitely work. We would benefit from the sale of the healthier items.”
<i>Purchasing Power</i>		
<i>Customer Count</i>		
<i>Healthier Food Purchases</i>	“Hopefully, it would drive customer count ... [and] additional trips into the store where they're buying not only the fruit and vegetable that they came in for ... but also some other things as well so customer count, basket size, all that kind of thing I think would be benefits.”	“So, any way that you're able to get people to eat healthier and incentivize it by making them be able to do it. I mean, at the end of the day you want them to feel like they can get fruits and vegetables and those things as easy as they're able to go get the other stuff.”
Stigma	“You can't market specifically to SNAP recipients, and then the privacy that goes along with it ... that you're not stigmatizing.”	“Again, I do think that's certainly a good strategy, but you still can't force somebody to eat what they don't want to eat.”

Restriction and Disincentive Pilot

Restriction and disincentive programs have been suggested as a means to promote healthy food selection among SNAP participants. A restriction program would remove sugar-sweetened beverages (SSB) from the list of eligible items for purchase with SNAP benefits. A disincentive program would incentivize the purchase of healthy food as well as provide an incentive if participants do not buy unhealthy food (e.g., receiving more benefits if you buy fruits and vegetables and do not buy SSB). Both groups saw benefits but expressed concerns about stigma and reduced SNAP participant autonomy with both restriction and disincentives (Figure 4). Both groups agreed on the anticipated benefits and challenges of the disincentive strategy. Increasing healthy sales and social responsibility were seen as benefits as they would discourage unhealthy purchases and promote wellbeing. However, educating SNAP participants, potential customer loss and stakeholder buy-in were challenges to implementing this strategy. Further, the majority of Managers reported concern that disincentives may stigmatize SNAP participants, whereas Corporate did not identify this concern (Table 5).

Figure 4. Restriction and Disincentive Pilot Key Themes

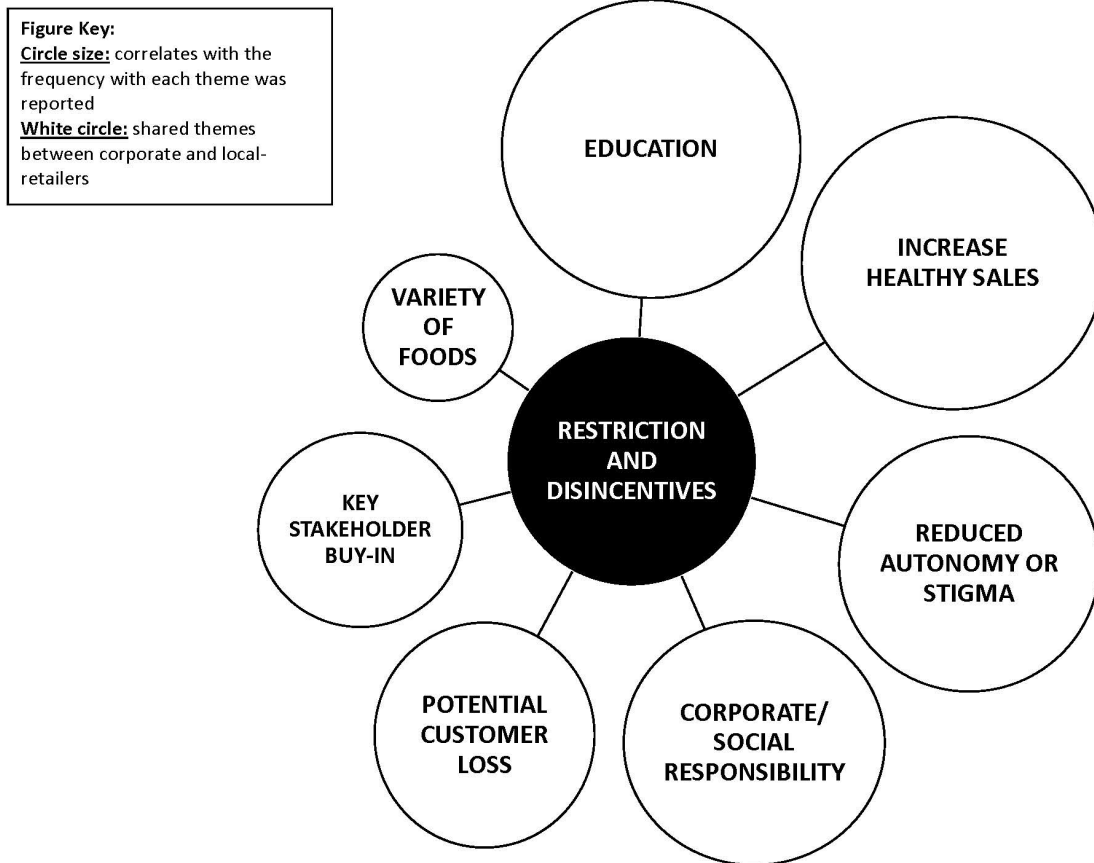


Table 5. Restriction and Disincentive Pilot Key Themes and Supporting Quotes

Key Concept	Quotes: Corporate	Quotes: Manager
Restriction	"I hate telling people exactly what to eat and taking away that choice from them, but I would say on the pop side of things, [it is an effective strategy]."	"I personally don't think that you should totally eliminate all of the soda, chips, ice cream. I think when somebody's receiving SNAP benefits, they more than likely have children. And where you want to teach your children to eat healthy, they also need some of those things."
<i>Stigma</i>	"It would discourage unhealthy, and I don't know if that's the same thing as promoting healthy."	
<i>General Perceptions</i>		
Challenges	"In a C-store environment, it's fast. Transactions are fast. ... If [associates] are going to have to be saying, "Oh, I know you used to be able to do this, but now you can't because of X, Y, Z," then customers aren't going to know and [they] are probably going to be a little bit disgruntled and disappointed if they didn't know that about the change."	"If we decided to participate in something like this as a corporation, but the corporation across the street didn't, then you're going to see a flow of those customers potentially go across the street."
<i>Education</i>		"The communication [is important]. There'd be some people upset. I foresee some people being probably very upset with they can't come in to buy their pop anymore on their card."
<i>Customer Loss</i>		

Key Concept	Quotes: Corporate	Quotes: Manager
Benefits	“We want to promote the sales of healthier items as long as our total in-store sales are staying the same or increasing. And the perception of being a store where they can get a wider variety so I know I can get healthy things along with whatever else I was buying.”	“A healthier community, a healthier worker, all those different things. But you’re also going to see spikes in other categories that you wouldn’t see.”
<i>Sales</i>		
<i>Corporate/Social Responsibility</i>		
<i>Variety</i>		

Other Strategies

Managers frequently recommended education and targeted messaging as a good strategy to promote healthy eating, including cooking classes, store tours, and simple nutrition swap ideas. Managers noted that SNAP participants are knowledgeable about what they can buy, and some stores have an in-store dietitian available; however, it might be challenging to provide in-store nutrition education for this population due to the associated cost of the service.

Manager Beliefs and Stereotypes about SNAP Participants

A couple of Managers shared retailer-held beliefs and stereotypes about SNAP participants. For example, some quotes suggest SNAP participants may be consuming a lot of soda, using benefits on nonessential items (e.g., SSB and “junk foods”), and taking advantage of financial assistance:

“I think it's wrong that when people get financial assistance that they're blowing on a nonessential item. So that would be the biggest benefit, I think, for us seeing that those programs are getting taken advantage of. And you'll always have people that will try to.”

Another noted a benefit of restricting SSB as “they wouldn’t be drinking all that crap because they [already] do.”

Discussion

This study provides valuable information regarding the feasibility of pilot programs to improve SNAP participants’ food choices from the perspective of food retailers. Food retailers are crucial for successful pilot program implementation. Therefore, their insight on the feasibility of different strategies within the retail environment adds to the existing research of stakeholder perspectives on how to improve food choices among SNAP participants. Leung et al. (2013) identified potential pilot programs including incentives and restrictions, modifying benefit distribution, providing nutrition education, improving food retailer environment (e.g., stocking standards), and improving program implementation as key strategies to improve food choices among SNAP participants. These strategies were identified by experts from the government, industry, advocacy, and research sectors.

Key themes in the present study are supported by previous research suggesting store sales, stakeholder buy-in (manufacturers, vendors, and corporate), corporate/social responsibility (CSR), ease of implementation/program logistics, and consumer demand are crucial drivers and factors for store participation in new pilot programs (Houghtaling et al., 2019). Of note, consumer demand was less frequently cited as a key consideration related to program participation, whereas store-related factors (i.e., store sales) were most frequently cited.

Leung et al. (2013) reported those from the advocacy sector expressed concern about stigma related to enforcing restrictions and instructing SNAP participants what they can and cannot buy. Both groups in our study reported the same concern about stigmatizing SNAP participants relative to restrictions, marketing, and targeted messaging. Retailer-held beliefs and biases about SNAP participants and food purchases were also evident. To the authors' knowledge, there is no current research on the effect of retailers' bias towards SNAP participants, although this could be a future area of study.

Nutrition education was not a topic specifically discussed in the interview script. However, it was widely recommended as a strategy to improve the food choices of SNAP participants in this current study as well as in previous research (Houghtaling et al., 2019; Karpyn et al., 2018; Leung et al., 2013).

Marketing Pilot

Both groups reported product placement and pricing strategies as the most promising marketing pilot programs to improve diet quality in SNAP participants. Houghtaling et al. (2019) explored the feasibility of implementing marketing principles such as place (physical environment), profile (food variety), portion, pricing, promotion (e.g., signage, demonstrations), priming (e.g., displays, floor stickers), prompting (e.g., shelf talkers) and proximity (product placement and location) to promote healthier food choices by SNAP participants. The majority of the rural food retail managers in that study reported prompting and proximity as the most feasible marketing interventions (Houghtaling et al., 2019). Participants in the current study noted that product placement (i.e., end caps, red zone, shelf placement, and checkout) was the key to driving sales. Signage, especially at the shelf, was also a useful advertising strategy.

Stocking Standards

Respondents in this study noted that increasing the variety of food products was a benefit to increase options. However, this could be difficult for smaller stores to achieve and may lead to the unintended consequence of losing SNAP-authorized retailers (e.g., convenience stores). Corporate and local-level managers were concerned this loss could decrease food access.

Previous research conducted in gas stations and small stores in rural, urban, and suburban areas in four states demonstrated the majority of food retailers believed their stores were close to meeting stocking standards; however, none of the stores met minimum stocking standards,

indicating a discrepancy between perception and implementation (Karpyn et al., 2018). Although small food retailers felt they would be able to meet SNAP requirements, they expressed concerns about space, procurement, and consumer demand as barriers. They also identified financial assistance, wholesaler support, subsidies for healthy food, and nutrition education as facilitators for meeting stocking standards (Karpyn et al., 2018).

In this study, Corporate was similarly concerned about space, consumer demand, and the expiration of food that did not sell. Furthermore, one participant noted that increasing the variety of food available does not ensure the purchase of healthier items. The same individual suggested that adjusting the definition of what qualifies for different types of food would be helpful for convenience stores to meet the guidelines. For example, allowing apples and apple juice to count as separate items instead of just one type of fruit (apple).

As described in the results, food deserts and reduced food access was reported as a potential unintended consequence of stronger stocking standards. In the context of the present study, both rural and urban counties in Iowa have large populations with low access to food. Two urban counties had more than 50,000 people with low access to food in 2015, while 22 (22.2%) Iowa counties (14 rural, 8 urban) had between 5,001 and 50,000 people with low access to food in 2015 (Economic Research Service, 2020). These data suggest the potential consequence of reduced food access is an important consideration relevant to the implementation of stronger stocking standards.

In communities with low access to food, individuals may be relying on nontraditional food retailers (e.g., dollar stores, gas stations, convenience stores) to procure food. For example, Racine et al. (2016) found over half of the documented food deserts had at least one dollar store participating in SNAP. These stores generally stocked healthy staple foods (canned and frozen produce, milk, cheese, and dry goods) but no fresh fruits and vegetables. Increasing the variety of healthful foods and fresh produce in convenience stores, dollar stores, gas stations, and small grocery stores participating in SNAP is necessary to promote food access and availability for this population.

Incentives, Disincentives, and Restriction Pilots

Both groups in this study viewed incentive programs positively. They saw these programs as opportunities for increasing customers and sales as well as providing nutrition education and increasing purchasing power for SNAP participants. For disincentive and restriction programs, they reported discouraging unhealthy purchases as a benefit for social responsibility and promoting health. For all three types of programs, both groups were concerned about stigmatizing SNAP participants and potentially losing customers; however, there was more concern about stigma and reduction of autonomy related to restriction and disincentive programs compared to incentive programs.

Double Up Food Bucks, an existing fruit and vegetable incentive program, has been shown to encourage SNAP participants to visit farmers' markets to purchase fruits and vegetables and increase the purchasing power of SNAP dollars. However, participants reported some confusion about how to use the benefits at the markets (Cohen et al., 2019). A Corporate participant cited the Double Up Food Bucks program as an example of why education is more crucial than a pilot program:

“Doing a pilot program is not the way to combat the issues that you were addressing in these questions ... educating the participants to understand the program and what the government is trying to convey to them is the key first. Here is an example ... the client/customers don't understand why we are giving them free bucks back so they can buy more fresh fruits and vegetables, some goes as far as either throwing them away or shredding them as they have told us because they feel they are a hassle. Our cashiers have tried to explain this to the customers about bringing them back and using again then getting more.”

Generally, both groups suggested incentive programs increase purchasing power but require clear education about program implementation (e.g., technology and logistics) for participants and employees processing the benefits. Cohen et al. (2019) increased awareness of the incentive program by providing nutrition education in a local clinic waiting room, which was well-received by SNAP participants. Providing nutrition education and thorough explanations about how to redeem benefits appears to be both necessary for the effectiveness of the program as well as an opportunity to reach SNAP participants with nutrition information (Cohen et al., 2019).

Incentivizing purchases of nutritious foods through SNAP has been suggested to be health-promoting and cost-effective. A microsimulation study by Mozaffarian et al. (2018) investigated three proposed interventions similar to those discussed with food retailers in the present study. The interventions included a fruit and vegetable incentive, a fruit and vegetable incentive with an SSB restriction, and a combination program of incentivizing a wider range of nutritious food and disincentivizing SSB, “junk food,” and processed meats (Mozaffarian et al., 2018). All three programs prevented cases of cardiovascular events and diabetes (Mozaffarian et al., 2018). This saves healthcare and government program dollars. The combination of incentives and disincentives maintains the most consumer autonomy and provides the most significant health-related benefits and healthcare savings in the model utilized (Mozaffarian et al., 2018). This program included a wider range of nutritious food eligible for incentives (i.e., whole grains, nuts, fish); however, some managers in the present study favored limiting incentives to just fruits and vegetables rather than expanding incentives to other foods like whole grains and dairy. The modeled fruit and vegetable incentive program was the most expensive but also demonstrated similar positive outcomes for health (Mozaffarian et al., 2018).

To the authors' knowledge, this is one of the only studies to gather perspectives from food retail managers regarding the feasibility of pilot programs to promote healthy eating in SNAP

participants. Open-ended and probing interview questions facilitated an open discussion with interviewees on expert-recommended strategies as well as strategies recommended by the food retail managers themselves. The generalizability of these findings is limited due to the small sample size and lack of local-level convenience store interviews. However, due to the study's exploratory nature and the recurrence of key themes, the findings are still useful for future program development (Cené et al., 2013). Contact with convenience stores was repeatedly attempted; however, there was either no response or no agreement to participate. Future research with convenience stores may contribute to the literature on approaches to promote healthy eating in the SNAP population.

Implications for Research and Practice

These findings provide insight from food retailer managers regarding the feasibility, effectiveness, benefits, and challenges of proposed strategies to improve the diet quality of SNAP participants. Key themes identified in the study inform the future direction of SNAP nutrition pilot programs, as food retailers are a crucial player in the implementation of programs for this population. Results suggest programs need to be simple and easy to implement, include education components, and are received positively by managers if they promote store sales and fit with corporate and social responsibility goals. Stocking standards and restriction programs were less well-received than marketing, incentive, and disincentive program models. Integrating insights from key stakeholders, including food retailers, can improve the effectiveness of SNAP nutrition programs and promote smooth implementation and function.

This study also identified opportunities for Extension programs to help promote healthy food purchasing among SNAP participants. Although education was not a strategy being explored, it became apparent that food retailers considered the education of SNAP participants a necessary component for some of the strategies to be successful. The food retailers identified the need to educate both their staff and SNAP customers regarding logistics associated with the strategies, particularly with the incentive and restriction/incentive strategies. As an example, one Corporate interviewee referenced the need for further customer education and staff training to improve the use of the Double Up Food Bucks SNAP incentive program. This presents an opportunity for Extension programs to help support local communities in promoting healthy food choices among SNAP participants. Specifically, the Expanded Food and Nutrition Education Program (EFNEP), which provides nutrition education to individuals with limited resources, needs to partner with local food retailers. Extension could provide education to the community at large and the EFNEP participants to support the healthy food purchasing strategies employed by local food retailers. Extension could also provide support at the Corporate-level by collaborating on technology-based educational strategies such as apps. Although Corporate-level food retailers mentioned apps as a tool for marketing and rewards programs, they could also be used as an educational tool. Highlighting healthy “best buys” and “specials” and calculating unit prices could help promote healthy food purchases at the point of decision-making.

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