



HHS Public Access

Author manuscript

J Nutr Educ Behav. Author manuscript; available in PMC 2016 March 01.

Published in final edited form as:

J Nutr Educ Behav. 2015 ; 47(2): 127–133.e1. doi:10.1016/j.jneb.2014.12.008.

Farmers' markets and the local food environment: Identifying perceived accessibility barriers for SNAP consumers receiving Temporary Assistance for Needy Families (TANF) in an urban Oklahoma community

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Abstract

Objective—To examine barriers to farmer's market (FM) use by Supplemental Nutrition Assistance Program (SNAP) consumers receiving TANF.

Design—Focus groups.

Setting—An urban community in Oklahoma.

Participants—SNAP beneficiaries receiving TANF ($n = 64$, across 8 focus groups).

Phenomenon of Interest—Perceptions about FM foods and barriers to FM use.

Analysis—Transcript-based content analysis using the five dimensions of access framework.

Results—Few participants ate fresh produce regularly and most appreciated the convenience of shopping at a supermarket. FMs were not perceived as available or accommodating to shopping needs and affordability and acceptability concerns were expressed. Few were aware of FMs that accepted SNAP. Emerging themes suggested residential segregation and cultural barriers to FM use.

Conclusions and Implications—FM managers, community nutritionists, and researchers should develop interventions that correct common misperceptions about FM products, minimize access barriers, and increase awareness of SNAP payment options. Residential segregation and cultural barriers may play a role in FM use and should be explored further.

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Keywords

farmers' markets; food supply; food assistance; public assistance

INTRODUCTION

Low-access food environments limit consumer opportunities to purchase nutrient-dense foods, which may contribute to nutrition-related health disparities.¹ Consumer perceptions about the number of local food retailers and the quality of foods they provide may predict dietary quality more reliably than objective measures,^{2,3} suggesting attitudes and beliefs about the local food environment play an important role in eating behaviors. Farmers' markets (FMs) provide a venue for farmers to sell locally-grown produce, and increasingly meats, eggs, and dairy products directly to consumers. While these foods are lacking in low-access, low-income communities, FM patrons tend to be affluent, college educated, married, and identify as white.⁴⁻⁶ Increasing access to FMs for low-income and minority consumers can link people in poverty with affordable produce,⁷ while simultaneously supporting the economic stability of small, local farms. In an effort to sell low-income consumers their products, FMs increasingly offer electronic benefits transfer (EBT) machines to process Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) benefits; however, EBT use at some FMs remains underwhelming.⁸

Much research has explored barriers and facilitators to FM use by SNAP and WIC consumers.⁸⁻¹⁰ One subgroup neglected by existing research is the SNAP population receiving Temporary Assistance for Needy Families (TANF). Nationally, the TANF program provides cash benefits to over 1.7 million low-income households per year, including over 1 million adults and 3 million children, three-quarters of which are minorities.¹¹ These families are often headed by single women with limited education who are unemployed and generally income-eligible for SNAP.¹¹ These participant demographics present multiple risk factors for poor intake of F/V^{12,13} and limited FM use.⁴⁻⁶ A thorough examination of modifiable barriers to FM use for this at-risk population could support development of targeted interventions to improve FM access.

Barriers to FM use can be explored through five dimensions of access: local *availability* *accessibility* as measured by transportation and other related costs; *affordability*; including direct and indirect costs; *accommodation* by FMs to meet consumer needs, and venue and product *acceptability* by the target audience so it meets their social values and norms.^{2,14} Differential patterns in FM use across socioeconomic classes may be further understood through the diffusion of innovations theory, which recognizes how new ideas, products, and social practices are accepted by groups at different rates.¹⁵ Whether a particular audience accepts a new behavior or product depends on its characteristics, such as *compatibility* with the lives of the people, *complexity* of the service, and *relative advantage* over other options.¹⁵

This study's purpose was to determine whether low-income SNAP consumers receiving TANF in Tulsa, Oklahoma identified FMs as part of their local food environment, barriers to

FM use, and whether FM produce offered any relative advantage over store-bought F/Vs for these low-income consumers. The researchers considered this target population high-priority because eating behaviors begin in early childhood,¹⁶ and low household income is associated with poor F/V intake in Oklahoma,¹⁷ which nationally ranks 44th in overall health and even lower for F/V intake.¹⁷

METHODS

Study Design

In 2009, the Oklahoma Department of Human Services (OKDHS) purchased one EBT machine for Oklahoma's largest FM, the Cherry Street Farmers' Market (CSFM). SNAP transactions totaled only 0.01% of all sales the first year, motivating farmers from the Board of Directors to seek collaboration with the study authors to investigate reasons for low SNAP redemption.

CSFM operates in Tulsa, Oklahoma's second largest city. It is situated in a low-income mid-town census tract, but is located within a shopping district frequented by middle-income consumers.¹⁸ The mid-town area separates the more affluent south Tulsa from the economically disadvantaged north side of town.¹⁸ North Tulsa is primarily composed of low-income, low-access census tracts,¹⁸ with only two grocery stores nearby. The dividing line between mid-town and north Tulsa is marked by a large interstate highway, and the market is located approximately 2.5 miles south of this dividing line.

Because the authors found no published data exploring FM perceptions and access barriers specific to the SNAP-TANF population, focus group discussions were used for this formative research to elicit potential reasons for low SNAP participation rates by this population.

Participants and Recruitment

Using a purposive sampling strategy and a single-category focus group design,¹⁹ the researchers recruited participants from the TANF population who received SNAP benefits. Researchers started with four focus groups, each allowing five to ten participants.¹⁹ Additional groups were conducted until both researchers agreed data saturation was achieved.¹⁹ Focus group sessions were held immediately following TANF orientation classes at two OKDHS offices located two and five miles from the CSFM between July and September 2010. Participants gave written informed consent prior to each focus group discussion and received \$20 cash compensation. The University of Oklahoma Institutional Review Board approved this study.

Focus Group Discussions

Prior to each focus group, participants completed demographic questionnaires to collect participants' zip code, age, household composition, and transportation. Additionally, participants completed a self-administered written dietary recall created by the Registered Dietitian researcher who provided guidance during this activity. Participants specified all food items and beverages consumed in the previous 24 hours, including portions,

preparation methods, estimated time, and location. These recalls were used as another information source to triangulate data²⁰ from the focus group discussions about reported F/V eating behaviors, preferences, and access during transcript content analysis.

The researchers used a semi-structured interview guide to provide flexibility during each discussion. Interview questions were designed with input from the community partner to understand participants' preference for and use of foods available at the CSFM, as well as F/V use in household meals. Researchers asked about participant knowledge of products available at FMs as well as their past use and experiences as patrons of any FM, including CSFM. Midway through each focus group, the researchers provided CSFM's location and hours of operation, and asked what would motivate participants to visit CSFM. Lastly, participants were asked to identify ideal locations for FMs. After each hour-long session, the researchers debriefed to identify important discussion points and areas needing more clarification in future groups.

Each session had a designated moderator and note taker.¹⁹ All focus groups were audio recorded and conducted by the researchers, who had previous training and experience moderating focus groups as well as 40 years combined direct practice and research experience working with low-income populations. The researchers were the same gender as most participants; however, both researchers self-identify as white and middle-class.

Data Analysis

Discussions were transcribed verbatim. To guide transcript-based content analysis, the researchers constructed a codebook containing expected themes for perceived barriers and facilitators of FM access and for F/V shopping and eating practices. The researchers analyzed the transcripts independently using NVivo® qualitative analysis software.²¹ Emerging themes were identified using the constant comparative approach.¹⁹ Researchers discussed all emerging themes after independent coding to form a final consensus. Intercoder reliability was assessed using NVivo 8® and an acceptable 85% agreement threshold was achieved.²²

RESULTS

Participant Demographics

Eight focus groups were conducted, totaling 64 participants. All participant household incomes were at or below 82% of the federal poverty level. Participants were predominately female (98.4%), single-heads of household (69.4%), and mostly in their 20's ($M = 27.3$, $SD = 7.5$, range = 18–48 years). Most participants reported two or more dependent children living in the home (54.7%), with ages averaging 5.8 years ($SD = 4.6$, range = 1–18 years). Most participants either owned a vehicle or could borrow a car (62.1%), while 37.9% relied exclusively on public transit. Less than one-fourth of participants (23.4%) knew that CSFM accepted SNAP. While all participants resided in the same city, few (8%) lived in the same zip code as the CSFM. Zip code analysis revealed that most participants lived in north Tulsa, with the majority of participants (79.1%) living in racially segregated zip codes that exceeded the county average for blacks or African Americans.²³

Dimensions of Access

The five dimensions of access framework¹⁴ was used to organize participants' perceptions of their local food environment² and whether they included FMs as part of this environment.

Perceived availability—Content analysis to assess *perceived availability* answered the research questions: Do participants perceive fresh F/Vs to be available in their consumer food environment? Do participants include FMs as part of their local food environment? Overall, most participants were not satisfied with the quality of fresh F/Vs and meats at local grocers, and most were not familiar with FM products or locations.

Participants readily volunteered examples of poor quality produce at their nearest grocery store. Participants found quality produce difficult to locate:

...At some grocery stores...they [produce] just look horrible...I will never buy...fruit at Warehouse Market.

Meats were central to participants' description of meals prepared in the home. In half the focus groups, responses to questions about the types of F/Vs purchased spontaneously gravitated toward discussions about low-quality meats offered by local grocers:

And I would not shop at [the] north [side of town] because we get all of the bad fruit ... bad vegetables, and bad meat. I take my meat outside [of the store] and it turns green in the package—that is bad meat...It looks pretty under the light and when I take it outside, it [has] a green tint to it, so something is wrong. So I always try to go to the south grocery stores because I know they are getting the best quality of fruit and vegetables and meat products.

Most participants were not aware of Tulsa-area FMs, including the CSFM, while others mistook FMs for roadside, single-vendor produce stands. This misperception led participants to assume FMs sold limited assortments of F/Vs.

Perceived accessibility—Content analysis to assess *perceived accessibility* answered the research questions: Do participants perceive fresh produce to be readily accessible in their local food environment? Do participants perceive FMs to be accessible? Due to the availability barriers previously mentioned, many participants did not perceive fresh F/V to be easily accessible. While participants were willing to travel longer distances for grocery purchases, they were not accessing FMs in close proximity to these grocers.

While participants reported purchasing shelf-stable products from local grocery stores, many reported making special trips south for fresh meats, but were less willing to make the same travel effort for fresh produce. General transportation—a common determinant of accessibility—was not described as a significant barrier. In four focus groups, several conversations developed between participants about making special trips to a meat market or other grocer because they perceived the quality to be better than their local grocer. These grocers were mostly located within one to three miles of CSFM.

Accessibility can be increased by bringing a service closer to the consumer. In three focus groups, participants voiced concerns that crime would deter FMs from coming to their area:

Facilitator: If the market could come to you, where in the city should it be?

36th and [North] Lewis.

Hey, don't nobody want no outside grocery store out north.

It'd get robbed all the time.

Walmart was a prominent feature of participants' food environment—the retailer was named 79 separate times across discussions, with the 6 other grocers being named 1 to 47 times. Strategically placing a FM near a Walmart was recommended across multiple groups:

Moderator: So, what would it take for you to go to a farmers' market?

It'd be in an actual grocery store. If it's next to Walmart, I'd go...

Perceived affordability—Content analysis to assess *perceived affordability* answered the research question: Do participants perceive fresh F/V prices to be worth the cost? How do participants perceive F/V costs at FMs compared to store-bought varieties? In general, participants were more concerned about the quality of produce than cost; however, Walmart F/V prices were the reported gauge of affordability.

Participants spent more time discussing their local grocer's produce quality compared to pricing. However, price was a shared consideration across focus groups. Participants speculated FM produce was less affordable. The location of one FM near a higher-priced grocery store led one participant to believe the produce would not be affordable:

I just assumed they would be too high for me.

Across all focus groups, Walmart was regularly cited as an acceptable place to buy produce and was the major source for these purchases. Walmart prices and quality set the benchmark: FM produce had to be either a better quality or a better bargain than Walmart before participants would consider shopping at a FM:

Well, it really depends on their prices. I do take my health very seriously, but sometimes you go to a farmers' market and the prices are just as expensive as Walmart.

I look at prices when I go to the grocery store... I look at quality as well, but I am also looking at prices...If your farmers' market is like ridiculously high, then I can go to Walmart and get...that same thing.

Perceived accommodation—Content analysis to assess *perceived accommodation* answered the research question: How well does CSFM meet the target population's shopping needs and preferences? No more than one participant per focus group reported awareness that SNAP benefits could be used at the CSFM. Additionally, limited hours of operation did not accommodate participants' shopping routines.

Among the few participants with first- or secondhand knowledge of CSFM, operating hours was a major accommodation barrier. While reviewing pamphlets about CSFM, many participants stated the market needed to be offered during the afternoon or all day, as

opposed to mornings only. Furthermore, Saturday morning was specified by multiple participants in two focus groups as a time and date they would not prefer:

...Saturday...that's our rest day, we are going to be sleeping in.

Perceived acceptability—Content analysis to assess *perceived acceptability* answered the research questions: Do FMs offer foods that meet participants' grocery needs? What is the consumer's reaction to and attitude toward the attributes that characterize FMs?¹⁴ Many participants did not perceive themselves as people who shop at FMs and questioned whether FMs offered the same quality of F/Vs as supermarkets.

While not universally discussed, one set of participants described FM shoppers as older or from the country while multiple participants from two focus groups described FM patrons as vegetarian. One self-identified African American participant stated she did not feel FMs met her cultural preferences or family upbringing, which led to an animated conversation among participants:

Facilitator: So, what would it take for you to go to the farmers' market?

I am not going to lie; it mainly has to do with race to be honest. I see more Caucasian people going to farmers' markets than African American. 'Oh... I want a fresh pack of carrots.' No, you're gonna see Susie and Harry and the kids picking up a pack of fresh carrots from the farmer's market.

Because we [African Americans] don't look at stuff like that.

Absolutely.

It is not our kind of environment. Some people don't like that kind of environment.

We're different cultures too...African Americans ...

Like our mommas... we seen our mommas doing a lot of fried food and a lot of different stuff... It wasn't always go to the farmer's market...

A related sentiment was expressed in another focus group:

Thinking about it, they really do only have it [farmers' markets] on the white sides of towns. [multiple people agreeing]

Another emerging theme was the belief by some that organically-grown FM foods would lack taste:

I don't want nothing organic—it has to have flavor.

Similarly, two participants in separate focus groups stated people in their communities may not trust local farmers' growing practices due to perceived lack of regulation; these sentiments were supported by other participants:

... They think it is coming from people's farms ... and think that it isn't good, so they'd rather go to the store. It is fresher at the store. I'd be scared if they [local farmers] use pesticides...

I think I'd go if it was actually in a stable place or store, without the traveling...they are coming from place to place...I don't care how much hand sanitizer you can walk around with, it would bother me.

Farmer's Markets as an Innovation

Content analysis revealed additional reasons why FMs were not frequented, including limited *compatibility* with the participant's current diets and shopping behaviors, higher *complexity* of the market's centralized EBT system, and the limited *relative advantage* of using FMs compared to supermarkets.

Incompatibility—FM foods were not readily compatible with most eating habits reported. While many participants stated they enjoyed cooking, the majority relied on prepared foods for convenience and perceived cost-savings. Meals eaten at home were described as frozen meals and pizzas, boxed dinners, or meals with limited ingredients. The dietary recalls supported these statements: Most entrees were pasta-based, and other reported foods required little to no preparation. Excluding juice and French fries, only 39% of food recalls listed one or more F/V combined, with green beans, mashed potatoes, and salad being the most common.

Children's food preferences, parental skills for preparing fresh produce, and food perishability caused participants to rely more on canned and frozen vegetables, although they often preferred the taste of fresh:

...I don't like to waste...if I buy fresh fruits and vegetables I go overboard and then I end up wasting a whole bunch. So I just stick with canned and frozen.

You do canned [vegetables] because you really don't know how to cook fresh.

Higher complexity—The CSFM's centralized EBT station and token-based system adds a layer of complexity compared to a regular grocery store. This system requires users to walk through the market twice—once to estimate the value of tokens needed and again to purchase the produce:

You got to go through twice budgeting... Well, if they had it like at the grocery store and do your shopping first and then you pay because otherwise you have to walk around try to add it up and then walk all the way back around again.

Low relative advantage—Most participants did not perceive a significant relative advantage in locally-grown F/Vs compared to store-bought varieties. While some participants believed fresh vegetables offered greater health benefits than canned, many viewed frozen vegetables as the nutritional and taste equivalent:

[We eat] mostly fresh...green beans, [we] get [them] in the frozen section inside that steamer bag—Green Giant—that's basically fresh, but its frozen.

Only five of sixty-four participants reported visiting a FM or single-vendor produce stand, and of these, only two had visited CSFM. These few participants who visited FMs offered

unique perspectives about FM benefits, suggesting first-hand experience shopping at FMs may increase their perceived value and relative advantage:

I like [farmers' markets] better than the store because everything was more colorful.... The food was more colorful; obviously it had more life in it.

I would rather go to the farmer's market...the farmer's market is expensive but...it's just fresher...no telling how long they'll keep their vegetables and stuff at the grocery store...And some of the grocery stores be getting a lot of complaints.

Suggested ways for increasing the relative advantage of FMs included longer operating hours, more sales or coupons, and greater marketing emphasis on high quality products for low cost:

Surely, word of mouth would do a lot, but also variety. If this is the same thing I can find at a regular grocery store and the prices are just the same, I wouldn't want to go. It's all outside and it's only once a week... it is on Saturday, but still, it is different if it's just right at the store you can go to...

DISCUSSION

This study identified barriers to FM use through the five dimensions of access framework for a subset of the SNAP population, those who also receive TANF. Findings support data from other studies that suggest low-income consumers' have limited knowledge about FMs,²⁴ and when informed, use may be deterred by perceptions of cost,²⁴ inconvenience,^{10,25} and safety concerns.^{8,10} This data underscores the need to consider lack of awareness, misperceptions, attitudes, and shopping behaviors when designing interventions to improve access by this target population. Furthermore, cultural and segregation barriers may also influence FM acceptability by minorities in some communities.

Barriers to Access

As providers of a novel service to low-income consumers in urban environments, FMs must be perceived as available, easily accessible, affordable, acceptable, and accommodative to low-income shoppers' needs. These multidimensional determinants of access¹⁴ may provide possible explanations for low SNAP redemption rates at CSFM, especially by TANF recipients.

Limited knowledge of FMs (i.e., perceived unavailability), including the option to use EBT cards (i.e., perceived lack of accommodation), provides reasons why these participants did not consider FMs part of their food environment. These findings are consistent with identified barriers to EBT use at FMs in rural communities.²⁴ Furthermore, FM placement away from supermarkets and limited operating hours prevent opportunities for convenient access during normal grocery trips (i.e., perceived inaccessibility and poor accommodation), which supports other findings that FMs are used less often by convenience-oriented consumers.^{10,25}

FM acceptability by this population warrants deeper consideration. Data gathered from the food recalls and focus group discussions indicate participants rely heavily on convenience foods and canned or frozen vegetables, suggesting fresh FM foods may be perceived as inconvenient or more difficult to prepare. Important participant concerns were outside location, food contamination, and potentially unsafe growing practices. When combined with assumptions that FM foods cost more (i.e., perceived affordability), it is no surprise the relative value of these foods is lower than store-bought varieties. Unless the dimension of acceptability is addressed, the ‘*why bother?*’ attitude will likely remain.

In communities where FM customers are disproportionately white, middle-aged, well-educated women with middle incomes or above⁴⁻⁶ who tend to be less concerned about food cost,²⁶ user demographics influence FM design and operations. These user demographics contrast in many ways with the TANF population⁶ and explain why, as an innovation, FM are not heavily used by this segment. Single parents are less likely to shop at FMs,²⁶ possibly because of the difficulty bringing small children to a market.²⁷ Parents who receive TANF have little income and often limited education; they must face the competing demands of raising children while meeting obligations to remain eligible for the TANF program. Most FM operations are not compatible with the shopping needs of many SNAP-TANF consumers, their products offer no perceived relative advantage over what could be purchased at a supermarket, and using a single-point EBT/token system to access multiple vendors adds an unwanted layer of purchase complexity.

Study Limitations

Although all participants received SNAP benefits, they do not represent the total SNAP population, which includes elderly, single, and disabled people, as well as families without children. This qualitative data represents the study’s sample and may be generalizable only to the community studied. The specific influence of race on FM use for this community was an emerging theme; therefore, the researchers did not collect quantitative data on participants’ self-identified race.

IMPLICATIONS FOR RESEARCH AND PRACTICE

FM use is associated with improved vegetable intake among the WIC population,²⁸ and efforts to promote FMs within the TANF population may likewise improve dietary quality. However, data from this qualitative study suggests members of the TANF population who receive SNAP may not recognize FMs as an accessible resource for purchasing fresh foods, even when markets accept EBT payments. As more FMs accept EBT payments nationwide,²⁹ community efforts to link low-income consumers with locally-grown, affordable produce may not benefit SNAP consumers equally. FM managers, community nutritionists, and researchers should consider different SNAP population segments when planning strategies for improving access.¹⁰

Building Access

Penchansky & Thomas’ dimensions of access identify opportunities to encourage FM use through service modification, social and traditional marketing strategies, and education.¹⁴

Increasing FM use by SNAP-TANF recipients will likely require a combination of efforts to address knowledge gaps about the availability of affordable,²⁴ high quality F/Vs at FMs,¹⁰ EBT payment options,²⁴ and self-efficacy for preparing FM foods.

Market managers should realize the strategies that draw current consumers to FMs (e.g., “buy local” messaging) will not resonate with some SNAP consumers. Many features that increase the relative advantage of FM products for middle and upper socioeconomic status groups may be causes of concern for this population, notably food integrity and an outdoor shopping environment. Other non-tangible benefits of FMs that drive many consumers to purchase locally, including farmer interaction, supporting local commerce, and environmental stewardship⁶ were not identified by focus group participants as reasons to visit a FM, suggesting these non-tangible benefits may not be known or prioritized by this population.

Rather, promotional efforts should focus on building FM awareness and EBT payment acceptance while communicating the message that FMs offer a better value for quality F/V. Market vendors should employ competitive pricing strategies, such as vouchers or coupons, to attract new low-income consumers and reduce cost barriers to vegetable intake, especially in those communities where FM produce is more expensive than store bought varieties.²⁸ Incentives such as “Double Up Food Bucks” in Michigan have successfully enticed SNAP customers to try FMs.³⁰ However, these coupon-based interventions may not be effective for consumers who prefer to complete their grocery shopping at one location. Therefore, communication strategies should be supported by accommodation efforts to expand operating hours, to add point-of-purchase EBT terminals, and to place FMs near locations already frequented by low-income consumers—most likely a Walmart or other low-cost supercenter—so they can become a natural extension of the supermarket trip. Market managers should consider partnering with other less-traditional locations to sell produce in low-access, low-income, and minority communities, including convenience stores, schools, federally-qualified health centers, health departments, social service agencies, and churches.

Practitioners working with the SNAP population to incentivize FM participation should recognize their clients may not identify as FM consumers. Many of the participants in this study cited perceived age, dietary practice, geographical, or racial differences. When communicating with clients about FMs as a potential resource for healthy foods, community nutritionists should be aware of common misperceptions about FMs and foods sold, while appreciating real barriers to their use. Community practitioners should develop educational strategies specifically addressing misperceptions about FM products and for raising self-efficacy for buying and preparing FM foods. Practitioners should also consider volunteering on a FM’s Board of Directors to help advocate for the needs of low-income consumers.

Researchers should further explore sociocultural factors and community characteristics to explore racial differences in FM use. While nationally-aggregated data suggests no racial differences exist in FM use,^{25,26} regional studies indicate otherwise.^{4,5} In cities with a history of racial segregation and community mistrust, the location of FMs may influence choices to use these venues by certain minority groups. Tulsa is a city with not only such a history, but a continuing geographical divide. Communities with higher racial integration

may not experience such significant racial differences in FM use. This research also elicited themes of cultural and eater identity (e.g., vegetarians vs. meat eaters) that may play a significant role in a low-income person's willingness to consider FMs. Identifying the psychographic predictors of FM use by SNAP recipients could provide insight into why some low-income consumers access this feature of the local food environment while others choose not to partake.

If consumers do not feel comfortable shopping at existing FM venues or do not identify themselves as a potential FM consumer, strategies to address other dimensions of access may be unfruitful. In addition to building awareness about EBT payment options, comprehensive interventions must incorporate the other less palpable, yet critically important elements of access, including the key dimensions of accommodation and acceptability.

Acknowledgments

This research was supported by the National Center for Research Resources of the National Institutes of Health through Grant Number P20 RR016478-09S1. The authors thank Emily Oakley and Mike Appel of Three Springs Farm for their collaboration on this project who have worked tirelessly to make the Cherry Street Farmers' Market accessible for all members of the community; the anonymous reviewers whose helpful comments supported further development of the manuscript; Micah Hartwell, M.S. and Monte Prater, M.A. for lending their professional input and editorial assistance; and the research participants who made this study possible.

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