Constrained, Convenient, and Symbolic Consumption: Neighborhood Food Environments and Economic Coping Strategies among the Urban Poor

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ABSTRACT Residents of poor and minority neighborhoods have less access to healthy, affordable food than their counterparts in more advantaged neighborhoods, and these disparities translate into population-level health disparities by race and socioeconomic status. Current research debates the extent of these disparities and how they translate into unequal health outcomes, but it has paid less attention to the micro-level decision-making processes and strategies residents employ to access food in the context of constrained personal and neighborhood resources. We examined this gap in the literature using data from in-depth qualitative interviews with 66 poor residents of three urban neighborhoods with varying nutritional environments. We found that economic and geographic constraints strongly influenced where and how residents shopped, but within those constraints, residents developed a number of adaptive strategies to maximize the quality and variety of their groceries. We also found that higher-quality stores and purchases were important to residents not only for their material benefits—such as health and cost—but also for their symbolic value. The presence of many stores, close stores, and high-quality stores offered opportunities for symbolic consumption and boosted neighborhood reputations but also created settings for social exclusion. These results illuminate how inequalities in nutritional environments shape residents' lived experiences and highlight residents' agency and resourcefulness in responding to such constraints.

KEYWORDS Neighborhood effects, Food deserts, Health disparities, Qualitative research

Nutritional environments in the USA are starkly unequal. By virtually any measure, residents of poor and minority neighborhoods have less access to healthy, affordable food than their more advantaged counterparts.^{1–6} Disparities in nutritional intake are, in turn, associated with population-level disparities in health and wellbeing, including higher rates of chronic health conditions like diabetes, obesity, and cardiovascular disease.^{7–10} Current research debates the extent and contours of disparities in nutritional environments and precisely how they translate into unequal health outcomes. Largely absent from this conversation, however, is insight into the micro-level decision-making processes and strategies that residents employ to access food in the context of constrained personal and neighborhood resources.

To address this gap in the literature, this study draws on in-depth qualitative interviews with 66 poor residents of three urban neighborhoods with varying

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nutritional environments. We found that economic and geographic constraints strongly influenced where and how residents shopped, but within those constraints, residents developed a number of adaptive strategies to maximize the quality and variety of their groceries, even within the context of a food “desert.” We also found that higher-quality stores and purchases were important to residents not only for their material benefits—such as health and cost—but also for their symbolic value. The presence of many stores, close stores, and high-quality stores offered opportunities for symbolic consumption and shaped neighborhood reputations but also created settings for social exclusion. These results illuminate how inequalities in nutritional environments shape residents’ lived experiences and highlight residents’ agency and resourcefulness in responding to such constraints.

BACKGROUND

There is a growing recognition among academics and policymakers that residential segregation by income and race contributes to health disparities in the USA.^{11–14} Nutritional intake is one key mechanism underlying this association. Residing in a low-income or minority neighborhood is associated with poor dietary patterns and risk of obesity, which are in turn strong risk factors for a host of chronic diseases.^{7,9–11,15} These inequalities have motivated researchers and policymakers to measure geographic disparities in the availability of healthy and unhealthy foods using increasingly sophisticated methods. They have also broadened the concept of “availability” to include not only proximity to food but also affordability and quality.

Geographic Disparities in Nutritional Environments

Relative to other types of stores, supermarkets offer a greater variety of high-quality and fresh products at lower cost.^{16–18} This is one reason why studies find a positive association between proximity to supermarkets and healthier nutritional intake, although the causal direction underlying this association is debated.^{5,19–21} Conversely, proximity to unhealthy food outlets—such as convenience stores and fast food restaurants—is associated with poorer nutritional intake and obesity.^{1,22–29}

High levels of racial segregation and unequal retail investment have produced geographic disparities in nutritional environments: poor and minority neighborhoods tend to have fewer supermarkets, large grocery stores, or healthy food products located in close proximity than their more advantaged counterparts.^{1–5,18,30,31} For example, Zenk and colleagues found that the typical resident of a poor African American neighborhood lived 1.1 miles farther from the closest supermarket than the typical resident of a poor White neighborhood, a considerable distance in an urban environment.⁴ In contrast, low-income and minority areas tend to have a higher density of fast food restaurants and corner stores than higher income areas.^{32–35}

Despite the general consensus that geographic disparities in nutritional environments exist, robust debates persist over the extent and exact contours of the disparities, as well as what they mean for residents. The extent of geographic inequality in access to healthy food depends on how one measures “access”—distance to the closest store, density of stores within a given radius—as well as the types of stores under consideration—supermarkets only, or including smaller food retailers like corner stores, farmers markets, and bodegas. This debate is reflected in the rise and subsequent criticism of the term “food desert”; although

precise definitions are debated, the term has raised public awareness of geographic disparities in food access.³⁶

The concept of “access” has expanded to include not only physical proximity but affordability and quality as well. Residents living in areas without supermarkets are doubly disadvantaged: they pay more for their food and it is often of lower quality.^{18,32,37} For example, Hendrickson and colleagues found that neighborhood poverty rates were associated with higher food prices and lower food quality.³² They also found a smaller quantity and variety of foods offered at stores in impoverished areas.

Consequences of Nutritional Environments

Although poorer nutritional environments are associated with poorer health outcomes, we know less about how individual and neighborhood conditions might modify these associations. At the individual level, personal resources clearly matter a great deal. Higher socioeconomic status (SES) individuals are more likely to have better nutritional intake, although there is debate about which aspect of socioeconomic status—income or education—matters most.^{38–41} Having a high SES may also be protective: high SES individuals are less influenced by low-quality neighborhood nutritional environments than their lower SES counterparts.^{38,42} Beyond socioeconomic status, other individual-level factors also shape health outcomes and potentially moderate the effects of neighborhood environments. For example, access to a car increases the geographic area one can reasonably travel to food retail outlets.⁴³ Similarly, access to food subsidies from government sources (such as food stamps or WIC) or private sources (such as food pantries) can buffer against the adverse effects of limited personal resources, but it may also constrain the type of food consumed.^{44,45} Beyond individual-level economic resources and preferences, neighborhood characteristics—such as crime or reliable transportation—also shape access to nutritional environments.^{29,46}

Together, this literature has raised awareness of the possibility of “food mirages,” in which proximity to food options does not necessarily entail access because of other constraints.⁴⁷ In a quantitative analysis of spatial data, Bader and colleagues found that adjusting for neighborhood crime increased race and SES disparities in access to supermarkets, while accounting for public transit tended to narrow these disparities.²⁹ This suggests that crime might exacerbate existing neighborhood inequalities, while public transit might mitigate them. Similarly, Breyer and Voss-Andreae found that retail options were plentiful in gentrifying areas, but prices were often too expensive for poor residents.⁴⁶

Poverty and Economic Coping Strategies

What these studies suggest, but do not actually measure, is that families engage in decision-making and develop strategies for where to shop and what to eat given their personal and environmental constraints. These strategies are likely related to the broader set of household economic coping strategies low-income families rely on to make ends meet on a limited budget.^{48–50} A handful of studies have examined coping strategies related to food acquisition within the context of socioeconomic disadvantage. For example, Whelan conducted focus groups in a “food desert” in Leeds and found that respondents had a heterogeneous set of considerations for where they shopped, with some prioritizing cost, others prioritizing quality, and others prioritizing convenience.^{51–53} Walker and colleagues interviewed residents of a food desert and a food oasis in Pittsburgh, PA and found that residents of the food desert were more likely to discuss food shopping as a means of survival while

residents of the food oasis were more likely to talk about it in terms of convenience and opportunity.⁵⁴ Zenk and colleagues interviewed women in Chicago, IL and found that they perceived many environmental barriers to acquiring food, but they also developed adaptive strategies to manage those barriers, such as shopping at multiple retailers, traveling longer distances, shopping only during daylight to minimize safety concerns, and threatening to contact regulatory agencies over poor-quality food.⁵⁵ Other factors that have emerged from qualitative research include the importance of transportation and nonstandard work schedules and child care.^{43,56–58}

The Present Study

In this study, we ask how economic and geographic constraints shape low-income residents' food procurement behaviors. We investigate what coping strategies they employ to access food in the context of personal and neighborhood disadvantage. We also examine how these strategies vary across personal risk or protective factors and across different neighborhood environments. We answer these questions using data from in-depth qualitative interviews with 66 residents of three urban neighborhoods that vary in their nutritional environments. The use of qualitative data allows us to uncover the mechanisms by which living in poor or rich nutritional environments shapes eating behaviors, the strategies families use to try to overcome environmental constraints, and the meanings such experiences hold for them.

DATA AND METHOD

Research Setting

This research took place in three neighborhoods in Philadelphia, PA. Philadelphia is a widely cited example of a city with a low density of supermarkets, relative to other large cities.^{59,60} Its food environment is also very unequal: the highest-income neighborhoods have 156 % more supermarkets than the lowest-income neighborhoods.⁶¹ This trend has started to reverse over the past decade, however, as a number of policy initiatives have increased the availability and accessibility of fresh foods. For example, the Fresh Food Financing Initiative attracted supermarkets to underserved areas during the 2000s, and its success has been a model for other states; the "Philly Food Bucks" program was designed to facilitate use of farmers' markets by food stamp recipients; and the Healthy Corner Store Initiative offers grants for convenience store owners to purchase and store healthy foods.

Within Philadelphia, we selected three neighborhoods that varied in their nutritional environments. Their demographic and economic characteristics are displayed in Table 1. Sharswood is located in North Philadelphia and contains a large, distressed public housing project called Norman Blumberg Apartments. This high-poverty, African American neighborhood meets many of the criteria for a food desert, with no large supermarket within a half-mile radius when the data for this study were collected. Mill Creek is located in West Philadelphia. This neighborhood is also predominantly African American, poor, and underserved in terms of retail food options. It once contained a notorious public housing project called Mill Creek, which gave the neighborhood its name, but the project has been demolished and new low- and moderate-income housing has been constructed in its place under the name Lucien E. Blackwell Homes. Finally, the Hawthorne neighborhood is bounded by downtown Center City to the north and the historically Italian neighborhood of

TABLE 1 Descriptive characteristics of study sample and neighborhoods

	Sharswood	Mill Creek	Hawthorne
	N=28	N=19	N=19
Respondent characteristics			
Black or African American (%)	96.42	88.23	26.31
Median age (years)	47	48	42
65 or older (%)	13.04	7.14	5.88
Married (%)	17.39	23.07	6.25
Children in household (%)	46.43	52.63	58.82
Median duration of residence (years)	6.50	6.00	3.00
Educational attainment			
Less than high school (%)	40.90	31.57	29.41
High school graduate (%)	45.45	52.63	41.17
At least some college (%)	13.63	15.78	29.41
Employed (%)	21.43	55.55	31.58
Government assistance			
SNAP (%)	78.57	46.66	66.66
TANF (%)	10.71	0.00	23.07
SSI/SSDI (%)	57.14	33.33	69.23
None (%)	3.57	26.66	7.69
Has a car (%)	3.57	43.75	29.41
Neighborhood characteristics			
Black or African American (%)	88.9	92.9	25.1
Hispanic (%)	4.1	2.5	5.5
Median age	36.0	37.4	32.9
Over 65 (%)	14.7	19.5	9.2
Under 18 (%)	25.4	27.4	14.7
Married family households (%)	11.3	12.7	26.1
Single parent households (%)	42.9	38.9	14.7
Lived in same house 1 year ago (%)	91.0	87.4	80.8
Educational attainment			
Less than high school (%)	27.1	25.0	10.3
High school graduate (%)	43.3	40.1	14.4
At least some college (%)	29.6	34.9	75.3
Employed (%)	39.9	35.6	77.2
Poverty rate (%)	44.1	37.1	7.7
Median household income	\$18,965	\$22,406	\$71,867
Food stamp receipt (%)	40.9	38.7	3.4

Notes: Neighborhoods are defined as census tracts. Census tract data come from the 2008 to 2012 American Community Survey and the 2010 Decennial Census obtained through Social Explorer

South Philadelphia to the south. Also once home to a high-rise public housing project called Martin Luther King Plaza, it is now an ethnically diverse mixed-income neighborhood that has experienced substantial gentrification and reinvestment over the past decade and now contains a high density of retail food options.

Participant Recruitment

We used purposive sampling to select the three neighborhood cases for this study, identifying the neighborhoods based on variation in their nutritional and socioeconomic environments. We then recruited respondents via a stratified random sample,

because a key objective of our study was to make comparisons among the three purposively defined neighborhoods.^{62,63} Thus, our sampling strategy reflects a “purposive random sampling.”⁶² To reach accurate conclusions about neighborhood-level similarities and differences, we sampled participants so that they were representative of low-income residents in that neighborhood. We identified low-income residents through their residence in the subsidized housing complexes located in each neighborhood. We then developed address rosters for all housing units in each subsidized housing complex and randomly sampled housing units from those rosters. We sent a letter or flyer to each sampled housing unit describing the study; interested residents were able to contact the research team to find out more about the study.

Within each neighborhood, we recruited samples of 30 residents. We obtained written informed consent before each interview, and the University of Pennsylvania IRB approved the protocol. For this paper, we restricted the sample to respondents whose family incomes placed them below the poverty line, which is proxied by receipt of a housing subsidy. Twenty-eight respondents in the Sharswood neighborhood, 19 respondents Mill Creek, and 19 respondents in Hawthorne met this criterion.* Table 1 presents the characteristics of the respondents in our sample.

In-Depth Interviews

We conducted an in-depth qualitative interview with one person in each sampled household. The interviews lasted about 1.5 h, on average, and respondents were compensated \$30 for their participation. All interviews were audio-recorded and transcribed verbatim. The interviews were semi-structured and asked open-ended questions to gauge respondents’ perceptions of and experiences in their neighborhoods as well as their food shopping behaviors and other ways that they accessed food—where they procured food, how they did so, and the reasons for those decisions. During the 3 months that the interviews were conducted, a team of three interviewers (including one of the authors of this paper) met weekly to share field notes and to discuss themes that were emerging from the interviews. To ensure consistency in the data collected across interviewers and across neighborhoods, interviewers initially conducted interviews in pairs and each interviewer worked in all three neighborhoods. We recruited participants in several waves; by the time we reached 30 interviews in each neighborhood, we felt we had achieved thematic saturation, as new themes and categories had stopped emerging from the interviews.⁶⁴

Data Analysis

We analyzed the interview data using content analysis. Our units of analysis were themes, which were represented by excerpts of text that varied in length from one sentence to several paragraphs.^{65,66} Our analysis of the transcripts was both theory driven, using categories derived from the literature about food deserts, and

*The samples of poor respondents are smaller in the latter two neighborhoods because the housing developments where respondents were recruited were mixed-income developments; some sampled residents therefore had low-to-moderate incomes but were not below the official poverty line and did not qualify for a housing subsidy.

inductive, including analysis of themes that emerged from open-coding of a subset of transcripts and were confirmed in the rest of the transcripts.⁶⁵

The entire research team first coded the qualitative responses to open-ended questions deductively into large topical categories related to different food procurement strategies and developed “code families” (e.g., “corner stores,” “chain grocery stores,” “farmers markets,” “social networks,” etc.). Then, the authors created secondary, more detailed, theory-driven codes. For example, the literature indicates that corner stores are an important source of food access to low-income families because of their proximity, but that they also have less variety of products and higher prices. Based on this, we coded excerpts about corner stores according to mentions of price, location, and variety of food. Finally, we identified all other food-related discussions that respondents mentioned throughout the interviews that were not captured by the previous deductive codes and approached these data inductively. Codes that emerged about corner stores during this process referred to lack of trust of store owners and convenience of stores as places where kids can easily access food when mothers do not have time to cook. Our final coding scheme had 12 code families and 65 secondary codes.

We maximized the reliability of our codes by establishing clear definitions of codes that were mutually exclusive, ensuring that coders were knowledgeable in the subject, and thoroughly discussing each code’s application and overall appropriateness as a team.^{67,68} Each code and samples of quotes were discussed until we achieved “inter-coder agreement.”^{69†} After all themes in the transcripts were identified, one researcher went back and coded all transcripts for those themes relying on notes and input from other researchers involved in other phases of the analysis.

RESULTS

What coping strategies did residents employ to access food and how did the strategies vary across neighborhood environments? What meanings did residents associate with various strategies for procuring food? To answer these questions, we first present descriptive results to characterize the food environments of each of the three neighborhoods. We then turn to the qualitative data to examine the criteria families used to decide where to shop, how these criteria influenced their food shopping behaviors, and additional strategies used to secure food beyond grocery stores and supermarkets. We conclude with a discussion of meanings attached to food procurement, including symbolic consumption, neighborhood reputation, and exclusion.

Neighborhood Nutritional Environments

Residents of Sharswood lived in a prototypical food desert: The closest supermarket or large grocery store was located nearly a mile away, and it was known for high prices, which meant there were few options—and no affordable options—within close proximity (Fig. 1a). There were two large corner stores within a quarter mile, and a proliferation of small corner stores, selling a limited variety of groceries and

†According to Campbell, inter-coder agreement “requires that two or more coders are able to reconcile through discussion whatever coding discrepancies they may have for the same unit of text.”⁶⁹

general goods, scattered throughout the neighborhood. Because there were no supermarkets or large grocery stores nearby, Sharswood residents traveled the farthest for their routine grocery shopping trips, about 1.35 miles on average. The most popular destinations were Cousins (1.9 miles away), Save-a-Lot (1.2 miles away), and Fresh Grocer (0.9 miles away).

Mill Creek residents also experienced a shortage of supermarkets and grocery stores in close proximity (Fig. 1b). Their perspective differed from Sharswood residents, however, because a large discount supermarket (Save-a-Lot)—the only one in the neighborhood—had closed recently. As a result, Mill Creek residents had gone from *not* living in a food desert to living in one. After the closing of Save-a-Lot, there were no supermarkets or large grocery stores within an easy walk and only a few small markets and corner stores. Residents now traveled about 1.3 miles on average for their routine grocery shopping, with the most popular destinations being a more distant Save-a-Lot (1.5 miles away) and Fresh Grocer (1.1 miles away).

Hawthorne residents experienced a neighborhood food environment that was markedly different from Mill Creek and Sharswood residents (Fig. 1c). There were three large supermarkets within a half-mile walk—discount store Save-a-Lot, moderately priced Superfresh, and high-end Whole Foods—as well as a number of retail convenience stores and a host of fresh markets, including Philadelphia’s famous Italian Market. As a result, Hawthorne residents had the shortest commutes for grocery shopping, about 0.4 miles on average.

Grocery Shopping: Choice within Constraint

How did low-income families decide where to shop, and what influenced their food shopping behaviors? In response to a series of questions about where they shopped and why they shopped there, respondents across the three neighborhoods told us that cost was the most important consideration, followed by accessibility, particularly for those without a car (Table 2). Within these two constraints, families valued quality and variety and had a number of strategies to maximize these values within their limited budgets.

Economic Constraint. Cost was the most important consideration across the three sites, and it strongly influenced residents’ decisions about where to shop. Cost was mentioned as an important consideration by 76 % of Sharswood residents, 69 % of Mill Creek residents, and 73 % of Hawthorne residents. They were keenly aware of the prices for staple items on their grocery lists and tried to reduce costs by searching for items on sale, buying in bulk, or buying store brands. They often went to multiple stores to get the lowest price for each item. Kennedy, a middle aged Hawthorne resident, described these strategies[‡]:

Like my noodles, like when I wanna make spaghetti, I get that from Aldi’s. I get my sugar from Aldi’s, my cooking oil from Aldi’s. I get different stuff from different [markets], 'cause I know it's cheaper than Fresh Grocer [a high-end store]. See, like my regular box of cereal I will get them from like Fresh Grocer. I catch them on sale. I just don’t go shopping, I budget.

Geographic Constraint. Distance affected residents’ perceptions of how accessible stores were, but this was only an important constraint for residents without cars. Few

[‡]Respondents’ names and other potentially identifying details have been changed to preserve confidentiality.

FIG. 1 a Map of retail food outlets in Sharswood neighborhood. b Map of retail food outlets in Mill Creek neighborhood. c Map of retail food outlets in Hawthorne neighborhood.

TABLE 2 Shopping criteria by neighborhood and resident characteristics

	Cost	Accessibility	Quality
Sharswood (N=28)			
Overall	76.00	52.00	40.00
Car ^a	N/A	N/A	N/A
No car	76.00	52.00	40.00
Mill Creek (N=19)			
Overall	68.75	31.25	56.25
Car	83.33	16.67	66.67
No car	66.67	55.56	57.14
Hawthorne (N=19)			
Overall	73.33	46.67	33.33
Car	75.00	25.00	25.00
No car	55.56	55.56	33.33

Note: Values indicate percentage of respondents who reported the criteria

^aOnly one respondent in Sharswood reported owning a car, so percentages were not tabulated by vehicle ownership for Sharswood

residents with cars mentioned geographic distance as an important consideration for where they shopped or what they purchased. In neighborhoods without large grocery stores, car ownership broadened residents' options. Car owners often chose to go to stores that were farther away to buy cheaper or higher-quality products. But among those without cars, about half (44 % in Mill Creek, 52 % in Sharswood and 56 % in Hawthorne) mentioned that distance determined where and how they shopped. They prioritized the closest stores (even if they were more expensive), the stores that offered food delivery services, or whatever store they could get to via transportation offered by friends and family. For example, Mill Creek resident, Precious, 76, said that "a lot of times it's not always easy for me to get to the market... So I try to get everything I need and keeping it fresh and then it last until I—it's just, I be thinking so hard sometimes I don't know." Precious' quote reveals that the accessibility of stores also influenced the types of foods respondents bought. About half of the Sharswood and Mill Creek respondents said they bought food that could be stocked so that it would last the whole month (e.g., frozen, dry, or canned food), mainly because they could not go to the grocery store more than once a month.[§] As Kiara, a Sharswood resident, explained, "Basically, what I got in the freezer I'll use this month. And next month I'll just pack the freezer again." The frequency of shopping trips was also limited by the cost of food delivery services (fees as well as the required minimum purchase amount), the limited availability of public transportation or transportation from friends and family, and the amount of time it took to travel to stores.

In Hawthorne, the neighborhood with many supermarkets close by, residents used the same stores regardless of whether they owned a vehicle, few used their cars for grocery shopping, and most were able to walk. For residents of this grocery-rich

[§]Some residents stated that they also bought frozen, dry and canned food because they tried to take advantage of sales, or because they used their food stamps all at once (and therefore did the bulk of their grocery shopping at once). The prevalence of these reasons did not differ across neighborhoods.

neighborhood, distance was seen as a matter of convenience rather than a constraint. Alexis’ description of where she shops reflects this convenience and variety: “Even though I don’t have a car I go to Super Fresh, sometimes Acme if I feel like going that way, but again South Street is right there. I go to Whole Foods, Super Fresh, and CVS, Rite-Aid—everything is, like, within walking distance. I carry them [the groceries]. That’s how I stay in shape!”

Quality and Variety. The foods consumed by residents in all three sites were not only a result of price and distance to markets, but also of conscious efforts to buy what they perceived to be *quality* food. When interviewees talked about “perceived quality,” they normally referred to (a) freshness of fruits, vegetables, or meat; (b) availability of canned good from certain brands or with low contents of sodium, salt, and/or sugar; (c) certain specialty products (hot food bar, premade sandwiches, sushi); or (d) the variety of food products offered in a certain store. For example, 12 Sharswood residents said that they preferred to shop at Fresh Grocer despite its high prices because the store offered a higher quality and greater variety of food than other places—their produce was always “a little freshier,” as Ebony, 23, said. The rationale was similar in Mill Creek, where resident Aliyah, 34, said that Fresh Grocer “is a little high priced but it is worth it—I love it because they have the big green seedless grapes that I love.” Most interviewees who were concerned about buying quality food also said they were concerned about their health. Many had gone through a health scare or had a family member who had gone through one. They mentioned trying to avoid salty food, food with high sodium content, sodas, potatoes, fried food, junk food, and certain meats because of concerns about health problems—heart attacks, diabetes, and obesity were the ones they mentioned most frequently. This also influenced food purchasing, as Laila, 54, of Sharswood, explained: “Yeah, and food is so expensive and you see people go to places like Aldi’s or Save-A-Lot [discount grocery chains]. They [these stores] don’t have nothing that you need there when you’re diabetic.”

Alternative Food Acquisition Strategies

Grocery stores and supermarkets were the main sources of food for all respondents in our sample, but respondents also relied on a number of additional strategies for securing food. Table 3 summarizes these strategies, and we describe them in more detail below.

Corner Stores. Almost all residents in the two food desert neighborhoods—Sharswood and Mill Creek—used corner stores. Corner stores offered easy and quick access to a few essentials, such as snacks, drinks, canned or

TABLE 3 Alternative food acquisition strategies by neighborhood

	Sharswood	Mill Creek	Hawthorne
Corner/convenience stores	85.71	69.23	28.57
Takeout/restaurants	77.27	78.95	100.00
Charitable donations	63.16	15.38	0.00
Farmers markets	0.00	27.78	47.36
Personal networks	26.32	30.76	44.44

Note: Values indicate percentage of respondents who reported the criteria

jarred produce, and even prepared meals. Most Sharswood and Mill Creek residents said they used corner stores because they were close, it took too long to travel farther away to a grocery store, and it was a convenient way to get food (especially for children) when they could not or did not want to cook. Jazmine's approach to corner stores was typical: "I do one big grocery [trip] and get my odds and ends from the corner stores. You know bread, milk and whatever." Despite these conveniences, respondents also had negative perceptions of corner stores, including high prices, low quality, and lack of trust. These themes emerge in Raven's story:

You use 'em [corner stores] for like snacks maybe, beverages, but not too many of the shelf products because they set their prices at any time they feel like it. I had an experience once. I went to the store right across the street and bought a box of Advil. Okay. It was \$3.29, so it must have been a pickup in the customers that wanted it because the next week I went by it was \$5.59 and then it went all the way up to \$7.39 for the same exact size bottle.

Although prior research has recognized the important role that corner stores play in food deserts, our data suggest that they may also have an important role in gentrifying areas such as Hawthorne. About half of Hawthorne respondents—all of whom lacked a car—wished there were more corner stores in their neighborhood. Kayla, 60, remarked,

I would love to see—one thing I do miss and I—I don't know if it's a good thing or a bad thing. I miss the neighborhood corner stores.[...]They don't have that around here and that's something I think that would really be—it's other than having to go in a supermarket it would be nice to have—you know—a nice, little grocery store just in the area.

Restaurants. Most respondents ate out at least occasionally for entertainment, to treat their kids, or simply when they needed a break from cooking. Hawthorne residents did this most often and reported using the largest number and variety of restaurants: while they still have access to chain restaurants, many of them also mentioned local Italian bistros, Vietnamese restaurants, and bakeries. Sharswood and Mill Creek residents, on the other hand, had access mainly to fast food or chain restaurants. The types of restaurants they mentioned most often were McDonalds, Applebee's, Olive Garden, pizza shops and Chinese carry outs. *Charitable Donations.* In the long-standing food desert of Sharswood, residents were aware of many charitable food sources including nonprofit food pantries and programs (run by organizations like Philabundance or SHARE) and food distribution events at nearby churches, schools, and public housing projects. Kiara, an elderly Sharswood resident, told us how "whenever it's SHARE come everybody in the building can get something... They line it up and they give everybody some of everything." These options were perceived to be less available in the other sites. For example, Mill Creek resident Diamond, 19, wished there was a "food pantry, somewhere I can go and be helped with food like when it runs short." And Hawthorne resident Brianna, 35, also wished her neighborhood had some charitable food options even if "just the free lunches for the children." *Personal Networks.* Personal networks were an important resource at all three sites. Respondents ate at family members' houses, used family members' food stamps, and either borrowed money for food or actual

food items. Sharswood resident Jada, 53, explained that she was “borrowing money, like going to my mother’s house to eat half the time,” because “by the 15th [she] still got some money left [from food stamps], and that’s just to help [her] get through, [she is] barely making it.” Mill Creek resident Hannah, 32, also relied on family support. She said, “I have plenty of family I can borrow money from until [I get food stamps for the following month] So, I makes a way. My family are very supportive, so they’ve helped me with a lot of things.” *Farmers Markets*. Farmers markets and fresh food markets were the least common resources used by residents of all neighborhoods. For the minority who did use them, use was closely associated with distance. No residents in Sharswood were aware of or utilized farmers markets or fresh food markets in their area, which reflects the fact that such markets were not present (see Fig. 1a). A minority of residents in Mill Creek used such markets. Residents of Hawthorne had access to one of the largest markets in the city—the famous Italian Market—and about half reported frequenting this market.

Symbolic Consumption and Exclusion

Higher-quality stores and purchases were important to residents not just for their material offerings but also for their symbolic value. The presence of many stores, close stores, or high-quality stores influenced residents’ perceptions of their neighborhoods as good or bad places to live. Their remarks reveal the symbolic meanings attached to food availability and food consumption.

Symbolic Consumption. Sometimes individuals weren’t aware that the foods they were eating were of low quality because that was what they were used to. When nicer stores and products became available, though, they changed their frame of reference. For example, as a result of the gentrification process in Hawthorne, the neighborhood attracted more upscale grocery stores and restaurants. Hawthorne middle age resident Jordan remarked that

You’d be surprised because, you know, when we first went in there [a recently opened bakery], I ain’t paying no \$3.00 or \$4.00 for that little piece of cake! ‘til somebody bought it and they tasted it. And it turned out it’s worth it. So, then you start seeing what quality is like. You get a taste of quality, you know? And you be willing to work for it and get out and try, you know, do it.

Similarly, Mill Creek resident Isis, 19, said that she bought certain fresh produce at Fresh Grocer, even though the store was more expensive, because of the quality of its products: “some certain things you can’t afford *not* to spend for.” In other words, paying more for certain items was worth it to her.

Jordan’s and Isis’ statements reflect a practice we found to be common: Respondents enjoyed making small purchases at places they perceived as high-quality, even if they were more expensive. They could not afford to buy the bulk of their groceries in such stores, but they ‘treated themselves’ by buying a few items in high-quality grocery stores, bakeries, and restaurants. These items had symbolic value for low-income consumers, who felt, at least at that moment, as part of the middle class.

Neighborhood Reputation. The presence of high-quality stores not only influenced respondents’ consumption habits, but also their perceptions of the neighborhood.

Hawthorne residents referred to their neighborhood as well-located, attractive, privileged, central, and full of options: “Everything’s close. Ain’t got to worry about nothing...everything that I want is here around me,” Trinity, 19, told us. The opening of supermarkets also boosted neighborhood reputations. Raven, 54, of Sharswood did not shop at Fresh Grocer and thought the store was expensive but still believed that “y’all gotta like that [...] they did the neighborhood a great thing putting in another supermarket.” On the other hand, most respondents in Mill Creek referred to their neighborhood as far from points of interest, unattractive, and requiring that people have access to cars. Mill Creek residents voiced the strongest negative perceptions about their neighborhood, which might be due to the then-recent closure of the neighborhood Save-a-Lot supermarket. This made residents feel that their neighborhood was unsafe, unattractive for business, that there was no competition (and therefore higher prices), and that they had additional barriers to accessing food. As Madison, 54, told us

One thing I don’t like about this neighborhood, they cannot keep a market, a supermarket at all [...] We can’t keep one. They keep closing ‘em down. The last one we had was Save-a-Lot. Now you know that’s bad when we can’t keep a Save-a-Lot in the neighborhood and that’s what we can afford. ‘Cause we can’t afford fresh fruits... Save-a-Lot was good but it shut down ‘cause they kept stealing and robbing and doing things.

Exclusion. The opening of high-quality stores did not guarantee that residents felt they could utilize these neighborhood resources, however. Some interviewees felt priced out of or uncomfortable at higher-quality stores in their neighborhoods. Jordan of Mill Creek, said that: “I go all the way to 56th and Market to go shopping, and I live way over here. There is a new shopping center they built at 52nd and Parkside, and it’s called ShopRite, but it’s a little bit too high for the prices; it’s too high. *So you have to go where you can get in, where you fit, so I go all the way to 56th and Market*” (our emphasis added).

DISCUSSION

Building on the growing body of literature documenting racial and economic disparities in neighborhood nutritional environments in the United States,^{1–5,30} this paper examined the micro-level decision-making processes and strategies that poor residents employed to access food in three urban neighborhoods with varying nutritional environments. In-depth qualitative interviews with 66 poor residents of the three neighborhoods revealed that economic and geographic constraints strongly influenced where and how residents shopped. Cost was the most important factor across all three neighborhoods, and residents developed strategies to minimize cost including searching for items on sale, buying in bulk, buying store brands, and going to multiple stores to get the lowest price for each item.

Geographic accessibility was also important, but this meant something different to residents depending on their neighborhood environment. In ‘food desert’ neighborhoods without supermarkets, residents without cars prioritized the closest stores (even if they were more expensive), the stores that offered food delivery

services, or whatever store they could get to via transportation offered by the city or friends or family. Car ownership broadened residents' options in these neighborhoods, and allowed them to travel further for cheaper or higher-quality products. In contrast, few residents in the non-food desert neighborhood used cars for shopping, and distance was seen as a matter of convenience rather than a constraint.

Our findings about the importance of cost, accessibility, transportation are consistent with prior research in this area.^{51–55} But, given these economic and geographic constraints, we also found that residents placed a great deal of value on high-quality groceries. This was in part because of their material benefits (such as health benefits), but also for their symbolic value. The presence of many stores, close stores, or high-quality stores offered residents opportunities for symbolic consumption—small purchases that allowed respondents to feel “middle class,” at least for that moment—and also boosted neighborhood reputations.⁷⁰

Residents of the two ‘food desert’ neighborhoods in our study clearly felt the repercussions of not having a supermarket nearby, but our findings also reveal important differences between these two neighborhoods. First, satisfaction with neighborhood amenities seemed to be benchmarked to expectations. Residents of Sharswood, where there had been no neighborhood store in recent memory, seemed to be more accepting and almost fatalistic about the lack of resources in their neighborhood. In contrast, residents of Mill Creek, where a grocery store had closed recently, had more negative perceptions of the neighborhood and complained about the lack of amenities in a more vigorous way. Second, however, alternative food options were more institutionalized in the long-standing food desert of Sharswood—corner stores were more common, residents were aware of more charitable food options, and food delivery services at farther-away grocery stores were used frequently. In contrast, residents of Mill Creek were less aware of such resources in their neighborhood. This lack of awareness is likely due in part to a true lack of resources and in part to a lack of knowledge about existing resources. Adjudicating between these two explanations is beyond the scope of this study, but these findings suggest that there can be important differences between seemingly similar “food desert” neighborhoods, particularly in terms of the institutionalization and awareness of non-supermarket food resources. Proximity does not necessarily entail utilization if residents are either unaware of, or unsatisfied with, those amenities.

Our work also highlights certain unintended consequences of living in environments where high-quality food retail options are plentiful. Although poor residents appreciated the array and convenience of the amenities in their neighborhood, they also reported some downsides: feelings of exclusion that limited their use of certain retailers, and the disappearance of long-standing resources for staple items, like corner stores and charitable food assistance. This suggests that, at least in certain respects, this neighborhood was a ‘food mirage,’ where food seems plentiful but high prices limit affordability,^{46,47} which reinforces the point that proximity does not necessarily entail utilization. Proximity is clearly an important first step, but researchers and policymakers should be aware of other potential barriers that may limit poor residents from taking advantage of those resources. Researchers and policymakers should also be sensitive to the possibility that new resources may displace old resources, causing gaps in the services and amenities traditionally utilized by low-income residents.

Our study has several limitations that should be kept in mind when interpreting and generalizing our results. First, our respondents were poor residents receiving housing subsidies, which is a distinct—and likely more disadvantaged—subset of all

neighborhood residents. As a result, the economic and geographic constraints we observed were likely more acute in our sample than they would be in the general population. Given that, it is perhaps surprising that residents still placed great value on the quality of food products for both their material and symbolic value, even if those products constituted only a small fraction of their total purchases. Second, our stratified random sample of residents offers representative descriptions of each neighborhood, but limits our ability to uncover more nuanced differences among residents that we could have pursued with a more purposive sampling strategy; our samples were also too small to analyze potential subgroup differences by race, class, or other characteristics, like age or family type. These features may shape economic coping strategies as well as their health consequences, and are an important area for future research. Finally, our study is based on qualitative interviews where residents told us about their shopping behaviors, we did not observe their behaviors directly; thus, there may be some bias (intentional or unintentional) in how respondents' described their behaviors to us.

Neighborhood food environments are highly unequal and have important consequences for population health disparities, but the characterizations of resource-poor neighborhoods in the literature tend to overlook the meanings residents attach to low-quality food environments and the agency they exhibit in adapting to such environments. Our qualitative work revealed that residents within deprived neighborhoods value high-quality food for its material and symbolic value. They also engage in a number of adaptive strategies to secure food given their neighborhood and personal constraints. The literature would benefit from additional qualitative research that investigates in greater detail the symbolic meanings attributed to high-quality food that we discovered in the present study. Our study was focused on low-income residents, but the literature would also benefit from more in-depth examinations socioeconomic and racial inequalities in the time, resources, and energy devoted to obtaining high-quality food. And it would be fruitful for future research to identify and study neighborhoods that constitute "negative cases"—places where the "gap" we identified between desired quality and purchased quality has been overcome—that could provide information on best practices for wider public health interventions.

Our findings offer several lessons for policymakers and practitioners who wish to improve retail food options in underserved neighborhoods. First, residents are not always aware of the food options in their neighborhoods, so efforts to increase access might be more successful if they are linked to the existing food resources already utilized in the community. Second, not all underserved neighborhoods are underserved for the same reasons. The gap between residents' desired food quality and their purchased food quality varies across neighborhoods, and these gaps emerge for different reasons. Thus, local efforts to promote access may be more successful if they are informed by the distinct barriers at play in a targeted neighborhood. Finally, evaluations of investments to promote access to healthy, affordable food should look for potential symbolic benefits—which may, for example, take the form of better subjective wellbeing or improved neighborhood reputations—while also monitoring neighborhoods for unintended instances of social exclusion. Incorporating the symbolic costs and benefits of neighborhood food environments would allow policymakers and practitioners to make more informed decisions about equitable and efficient investments that will enhance the wellbeing of residents in underserved communities.

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REFERENCES

1. Powell LM, Chaloupka FJ, Bao Y. The availability of fast-food and full-service restaurants in the United States: associations with neighborhood characteristics. *Am J Prev Med.* 2007; 33(4): S240–S245. doi:10.1016/j.amepre.2007.07.005.
2. Baker EA, Schootman M, Barnidge E, Kelly C. The role of race and poverty in access to foods that enable individuals to adhere to dietary guidelines. *Prev Chronic Dis.* 2006;3(3). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1636719/>. Accessed March 31, 2015.
3. Alwitt LF, Donley TD. Retail stores in poor urban neighborhoods. *J Consum Aff.* 1997; 31(1): 139–164. doi:10.1111/j.1745-6606.1997.tb00830.x.
4. Zenk SN, Schulz AJ, Hollis-Neely T, et al. Fruit and vegetable intake in African Americans: income and store characteristics. *Am J Prev Med.* 2005; 29(1): 1–9. doi:10.1016/j.amepre.2005.03.002.
5. Morland K, Wing S, Roux AD. The contextual effect of the local food environment on residents' diets: the atherosclerosis risk in communities study. *Am J Public Health.* 2002; 92(11): 1761–1768. doi:10.2105/AJPH.92.11.1761.
6. Walker RE, Keane CR, Burke JG. Disparities and access to healthy food in the United States: a review of food deserts literature. *Health Place.* 2010; 16(5): 876–884. doi:10.1016/j.healthplace.2010.04.013.
7. Rundle A, Diez Roux AV, Freeman LM, Miller D, Neckerman KM, Weiss CC. The urban built environment and obesity in New York City: a multilevel analysis. *Am J Health Promot.* 2007; 21(4s): 326–334. doi:10.4278/0890-1171-21.4s.326.
8. LaVeist TA, Thorpe RJ Jr, Galarraaga JE, Bower KM, Gary-Webb TL. Environmental and socio-economic factors as contributors to racial disparities in diabetes prevalence. *J Gen Intern Med.* 2009; 24(10): 1144–1148. doi:10.1007/s11606-009-1085-7.
9. Nelson MC, Gordon-Larsen P, Song Y, Popkin BM. Built and social environments: associations with adolescent overweight and activity. *Am J Prev Med.* 2006; 31(2): 109–117. doi:10.1016/j.amepre.2006.03.026.
10. Chang VW. Racial residential segregation and weight status among US adults. *Soc Sci Med.* 2006; 63(5): 1289–1303. doi:10.1016/j.socscimed.2006.03.049.
11. Diez Roux AV. Investigating neighborhood and area effects on health. *Am J Public Health.* 2001; 91(11): 1783–1789.
12. Laveist TA. Racial segregation and longevity among African Americans: an individual-level analysis. *Health Serv Res.* 2003; 38(6p2): 1719–1734. doi:10.1111/j.1475-6773.2003.00199.x.
13. Grady SC. Racial disparities in low birthweight and the contribution of residential segregation: a multilevel analysis. *Soc Sci Med.* 2006; 63(12): 3013–3029. doi:10.1016/j.socscimed.2006.08.017.
14. Williams DR, Collins C. Racial residential segregation: a fundamental cause of racial disparities in health. *Public Health Rep.* 2001; 116(5): 404–416.
15. Lopez RP. Neighborhood risk factors for obesity. *Obesity.* 2007; 15(8): 2111–2119. doi:10.1038/oby.2007.251.

16. Glanz K, Sallis JF, Saelens BE, Frank LD. Nutrition environment measures survey in stores (NEMS-S): development and evaluation. *Am J Prev Med*. 2007; 32(4): 282–289. doi:[10.1016/j.amepre.2006.12.019](#).
17. Block D, Kouba J. A comparison of the availability and affordability of a market basket in two communities in the Chicago area. *Public Health Nutr*. 2006; 9(07): 837–845. doi:[10.1017/PHN2005924](#).
18. Chung C, Myers SL. Do the poor pay more for food? An analysis of grocery store availability and food price disparities. *J Consum Aff*. 1999; 33(2): 276–296. doi:[10.1111/j.1745-6606.1999.tb00071.x](#).
19. Laraia BA, Siega-Riz AM, Kaufman JS, Jones SJ. Proximity of supermarkets is positively associated with diet quality index for pregnancy. *Prev Med*. 2004; 39(5): 869–875. doi:[10.1016/j.ypmed.2004.03.018](#).
20. Rose D, Richards R. Food store access and household fruit and vegetable use among participants in the US Food stamp program. *Public Health Nutr*. 2004; 7(8): 1081–1088. doi:[10.1079/PHN2004648](#).
21. Moore LV, Diez Roux AV, Nettleton JA, Jacobs DR. Associations of the local food environment with diet quality—a comparison of assessments based on surveys and geographic information systems. *Am J Epidemiol*. 2008; 167(8): 917–924. doi:[10.1093/aje/kwm394](#).
22. Harrison K, Bost KK, McBride BA, et al. Toward a developmental conceptualization of contributors to overweight and obesity in childhood: the six-Cs model. *Child Dev Perspect*. 2011; 5(1): 50–58. doi:[10.1111/j.1750-8606.2010.00150.x](#).
23. Currie J, DellaVigna S, Moretti E, Pathania V. The effect of fast food restaurants on obesity and weight gain. *Am Econ J Econ Policy*. 2010; 2(3): 32–63. doi:[10.1257/pol.2.3.32](#).
24. Davis B, Carpenter C. Proximity of fast-food restaurants to schools and adolescent obesity. *Am J Public Health*. 2009; 99(3): 505–510. doi:[10.2105/AJPH.2008.137638](#).
25. Sturm R, Datar A. Body mass index in elementary school children, metropolitan area food prices and food outlet density. *Public Health*. 2005; 119(12): 1059–1068. doi:[10.1016/j.puhe.2005.05.007](#).
26. An R, Sturm R. School and residential neighborhood food environment and diet among California youth. *Am J Prev Med*. 2012; 42(2): 129–135. doi:[10.1016/j.amepre.2011.10.012](#).
27. Laska MN, Hearst MO, Forsyth A, Pasch KE, Lytle L. Neighborhood food environments: are they associated with adolescent dietary intake, food purchases and weight status? *Public Health Nutr*. 2010; 13(11): 1757–1763. doi:[10.1017/S1368980010001564](#).
28. Lee H. The role of local food availability in explaining obesity risk among young school-aged children. *Soc Sci Med*. 2012; 74(8): 1193–1203. doi:[10.1016/j.socscimed.2011.12.036](#).
29. Bader MDM, Schwartz-Soicher O, Jack D, et al. More neighborhood retail associated with lower obesity among New York City public high school students. *Health Place*. 2013; 23: 104–110. doi:[10.1016/j.healthplace.2013.05.005](#).
30. Moore LV, Diez Roux AV. Associations of neighborhood characteristics with the location and type of food stores. *Am J Public Health*. 2006; 96(2): 325–331. doi:[10.2105/AJPH.2004.058040](#).
31. Morland K, Filomena S. Disparities in the availability of fruits and vegetables between racially segregated urban neighbourhoods. *Public Health Nutr*. 2007; 10(12): 1481–1489. doi:[10.1017/S1368980007000079](#).
32. Hendrickson D, Smith C, Eikenberry N. Fruit and vegetable access in four low-income food deserts communities in Minnesota. *Agric Hum Values*. 2006; 23(3): 371–383. doi:[10.1007/s10460-006-9002-8](#).
33. Block JP, Scribner RA, DeSalvo KB. Fast food, race/ethnicity, and income: a geographic analysis. *Am J Prev Med*. 2004; 27(3): 211–217. doi:[10.1016/j.amepre.2004.06.007](#).

34. Lewis LB, Sloane DC, Nascimento LM, et al. African Americans' access to healthy food options in south Los Angeles restaurants. *Am J Public Health*. 2005; 95(4): 668–673. doi:[10.2105/AJPH.2004.050260](https://doi.org/10.2105/AJPH.2004.050260).
35. Kwate NOA. Fried chicken and fresh apples: racial segregation as a fundamental cause of fast food density in black neighborhoods. *Health Place*. 2008; 14(1): 32–44. doi:[10.1016/j.healthplace.2007.04.001](https://doi.org/10.1016/j.healthplace.2007.04.001).
36. Wrigley N. “Food deserts” in British cities: policy context and research priorities. *Urban Stud*. 2002; 39(11): 2029–2040. doi:[10.1080/0042098022000011344](https://doi.org/10.1080/0042098022000011344).
37. Kaufman PR, MacDonald JM, Lutz SM, Smallwood DM. *Do the Poor Pay More for Food? Item Selection and Price Differences Affect Low-Income Household Food Costs*. United States Department of Agriculture, Economic Research Service; 1997. <http://ideas.repec.org/p/ags/uerser/34065.html>. Accessed April 10, 2015.
38. Martin MA, Frisco ML, Nau C, Burnett K. Social stratification and adolescent overweight in the United States: how income and educational resources matter across families and schools. *Soc Sci Med*. 2012; 74(4): 597–606. doi:[10.1016/j.socscimed.2011.11.006](https://doi.org/10.1016/j.socscimed.2011.11.006).
39. Goodman E. The role of socioeconomic status gradients in explaining differences in US adolescents' health. *Am J Public Health*. 1999; 89(10): 1522–1528.
40. Haas JS, Lee LB, Kaplan CP, Sonneborn D, Phillips KA, Liang S-Y. The association of race, socioeconomic status, and health insurance status with the prevalence of overweight among children and adolescents. *Am J Public Health*. 2003; 93(12): 2105–2110. doi:[10.2105/AJPH.93.12.2105](https://doi.org/10.2105/AJPH.93.12.2105).
41. Cawley J. An economic framework for understanding physical activity and eating behaviors. *Am J Prev Med*. 2004; 27(3): 117–125. doi:[10.1016/j.amepre.2004.06.012](https://doi.org/10.1016/j.amepre.2004.06.012).
42. Stark JH, Neckerman K, Lovasi GS, et al. Neighborhood food environments and body mass index among New York City adults. *J Epidemiol Community Health*. 2013; 67(9): 736–742. doi:[10.1136/jech-2013-202354](https://doi.org/10.1136/jech-2013-202354).
43. Clifton KJ. Mobility strategies and food shopping for low-income families a case study. *J Plan Educ Res*. 2004; 23(4): 402–413. doi:[10.1177/0739456X04264919](https://doi.org/10.1177/0739456X04264919).
44. Leung CW, Ding EL, Catalano PJ, Villamor E, Rimm EB, Willett WC. Dietary intake and dietary quality of low-income adults in the supplemental nutrition assistance program. *Am J Clin Nutr*. 2012. doi:[10.3945/ajcn.112.040014](https://doi.org/10.3945/ajcn.112.040014).
45. Todd JE. *Changes in Eating Patterns and Diet Quality among Working Age Adults, 2005–2010*. Washington DC. US Department of Agriculture; 2014.
46. Breyer B, Voss-Andreae A. Food mirages: geographic and economic barriers to healthful food access in Portland. *Oregon Health Place*. 2013; 24: 131–139. doi:[10.1016/j.healthplace.2013.07.008](https://doi.org/10.1016/j.healthplace.2013.07.008).
47. Short A, Guthman J, Raskin S. Food deserts, oases, or mirages? Small markets and community food security in the San Francisco bay area. *J Plan Educ Res*. 2007; 26(3): 352–364. doi:[10.1177/0739456X06297795](https://doi.org/10.1177/0739456X06297795).
48. Stack CB. *All Our Kin*. New York, NY: Basic Books; 1974.
49. Edin K, Lein L. *Making Ends Meet: How Single Mothers Survive Welfare and Low-Wage Work*. New York, NY: Russell Sage Foundation; 1997.
50. Sherman J. Coping with rural poverty: economic survival and moral capital in rural America. *Soc Forces*. 2006; 85(2): 891–913. doi:[10.1353/sof.2007.0026](https://doi.org/10.1353/sof.2007.0026).
51. Whelan A. Life in a “Food Desert.” *Urban Stud*. 2002;39(11):2083–2100. doi:<http://usj.sagepub.com/content/by/year>.
52. Munoz-Plaza CE, Filomena S, Morland KB. Disparities in food access: inner-city residents describe their local food environment. *J Hunger Environ Nutr*. 2008; 2(2-3): 51–64. doi:[10.1080/19320240801891453](https://doi.org/10.1080/19320240801891453).
53. Withall J, Jago R, Cross J. Families' and health professionals' perceptions of influences on diet, activity and obesity in a low-income community. *Health Place*. 2009; 15(4): 1078–1085. doi:[10.1016/j.healthplace.2009.05.006](https://doi.org/10.1016/j.healthplace.2009.05.006).

54. Walker RE, Fryer CS, Butler J, Keane CR, Kriska A, Burke JG. Factors influencing food buying practices in residents of a low-income food desert and a low-income food oasis. *J Mix Methods Res.* 2011; 5(3): 247–267. doi:[10.1177/1558689811412971](https://doi.org/10.1177/1558689811412971).
55. Zenk SN, Odoms-Young AM, Dallas C, et al. “You have to hunt for the fruits, the vegetables”: environmental barriers and adaptive strategies to acquire food in a low-income African American neighborhood. *Health Educ Behav.* 2011; 38(3): 282–292. doi:[10.1177/1090198110372877](https://doi.org/10.1177/1090198110372877).
56. Kegler MC, Escoffery C, Alcantara I, Ballard D, Glanz K. A qualitative examination of home and neighborhood environments for obesity prevention in rural adults. *Int J Behav Nutr Phys Act.* 2008; 5(1): 65. doi:[10.1186/1479-5868-5-65](https://doi.org/10.1186/1479-5868-5-65).
57. Yeh M-C, Ickes SB, Lowenstein LM, et al. Understanding barriers and facilitators of fruit and vegetable consumption among a diverse multi-ethnic population in the USA. *Health Promot Int.* 2008; 23(1): 42–51. doi:[10.1093/heapro/dam044](https://doi.org/10.1093/heapro/dam044).
58. Dubowitz T, Acevedo-Garcia D, Salkeld J, Cristina Lindsay A, Subramanian S, Peterson KE. Lifecourse, immigrant status and acculturation in food purchasing and preparation among low-income mothers. *Public Health Nutr.* 2007; 10(04): 396–404. doi:[10.1017/S1368980007334058](https://doi.org/10.1017/S1368980007334058).
59. Giang T, Karpyn A, Laurison HB, Hillier A, Perry RD. Closing the grocery gap in underserved communities: the creation of the Pennsylvania fresh food financing initiative. *J Public Health Manag Pract.* 2008; 14(3): 272–279. doi:[10.1097/01.PHH.0000316486.57512.bf](https://doi.org/10.1097/01.PHH.0000316486.57512.bf).
60. Cotterill R, Franklin A. Cotterill. *The Urban Grocery Store Gap*, No 08, Issue Papers, University of Connecticut, Department of Agricultural and Resource Economics, Charles J. Zwick Center for Food and Resource Policy; 1995.
61. Weinberg, Zy. “No place to shop: food access lacking in the inner city.” *Race, Poverty & The Environment.* 2000;22–24.
62. Sandelowski M. Focus on research methods combining qualitative and quantitative sampling, data collection, and analysis techniques. *Res Nurs Health.* 2000; 23: 246–255.
63. Teddlie C, Yu F. Mixed methods sampling a typology with examples. *J Mix Methods Res.* 2007; 1(1): 77–100. doi:[10.1177/2345678906292430](https://doi.org/10.1177/2345678906292430).
64. Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods.* 2006; 18(1): 59–82.
65. Guest G, Namey EE, Mitchell ML. *Collecting Qualitative Data: A Field Manual for Applied Research.* Thousand Oaks, CA: SAGE; 2012.
66. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006; 3(2): 77–101.
67. Morse JM, Barrett M, Mayan M, Olson K, Spiers J. Verification strategies for establishing reliability and validity in qualitative research. *Int J Qual Methods.* 2008;1(2): 13–22.
68. Merriam S. What can you tell from an N of 1?: issues of validity and reliability in qualitative research. *PAACE J Lifelong Learn.* 1995;4: 50–60.
69. Campbell JL, Quincy C, Osserman J, Pedersen OK. Coding in-depth semistructured interviews problems of unitization and intercoder reliability and agreement. *Sociol Methods Res.* 2013; 42(3): 294–320. doi:[10.1177/0049124113500475](https://doi.org/10.1177/0049124113500475).
70. Cummins S, Findlay A, Higgins C, Petticrew M, Sparks L, Thomson H. Reducing inequalities in health and diet: findings from a study on the impact of a food retail development. *Environ Plan A.* 2008; 40(2): 402–422. doi:[10.1068/a38371](https://doi.org/10.1068/a38371).