Agric Hum Values (2015) 32:215–227
DOI 10.1007/s10460-014-9541-3

Bringing food desert residents to an alternative food market: a semi-experimental study of impediments to food access

Yuki Kato · Laura McKinney

Accepted: 30 May 2014 / Published online: 26 August 2014

Abstract The emerging critique of alternative food networks (AFNs) points to several factors that could impede the participation of low-income, minority communities in the movement, namely, spatial and temporal constraints, and the lack of economic, cultural, and human capital. Based on a semi-experimental study that offers 6 weeks of free produce to 31 low-income African American households located in a New Orleans food desert, this article empirically examines the significance of the impeding factors identified by previous scholarship, through participant surveys before, during, and after the program. Our results suggest economic constraints are more influential in determining where the participants shop for food than spatial and temporal constraints, and the study participants exhibit high levels of human and cultural capital regarding the purchase and consumption of locally grown produce. We also find them undeterred by the market's predominantly White, middle-class cultural social space, which leads us to question the extent to which cultural exclusivity discourages their participation in AFNs. For all five factors we find that the constraints posed to accessing the local food market were not universal but varied among the participants. Finally, the study reveals some localized social constraints, fragmented social ties in particular, as a possible structural hurdle to engaging these residents in the alternative market in their neighborhood. Conclusions point to the need for a multi-dimensional and dynamic conceptualization of "food access."

Y. Kato (✉) · L. McKinney
Department of Sociology, Tulane University,
220 Newcomb Hall, New Orleans, LA 70118, USA
e-mail: ykato@tulane.edu

Keywords Food security · Food desert · Food justice movement · Urban agriculture · Alternative food networks · Local food movement

Abbreviations

AFN	Alternative food network
CSA	Community supported agriculture
EBT	Electronic Benefits Transfer
HMF	Hollygrove Market and Farm

Introduction

The last decade or so has seen an expansion of scholarship on alternative food networks (AFNs), with an increasing number of scholars taking issues with the movement's limitations in addressing social justice issues, especially food insecurity among the poor and minority communities (e.g., Allen 2010; Bedore 2010; DuPuis et al. 2011). For example, despite the growing number of farmers' markets across Northern America, the proportion of minority customers at these markets remains substantially small (Guthman 2008a, p. 389). Amidst increasing public and policy concerns over the obesity epidemic and other health crises in low-income minority communities throughout the United States, it is exceedingly important to improve our understanding of how to better engage individuals and communities who are the most at risk to food insecurity in AFNs.

Research in this area has identified several possible impediments that may keep residents of so-called food deserts from participating in AFNs. These factors can be broadly categorized as spatial and time constraints, as well as

economic-, cultural-, and human capital. The "food desert" concept has come to embody the structural constraints that limit food access in many urban communities, based on the general premise that access is correlated with how close one lives to a supermarket. However, this position has been challenged by some recent studies that show only marginal links between the food desert residents' spatial proximity to food outlets and where they shop and what foods they buy (Cummins et al. 2014; LeDoux and Vojnovic 2013; Thomas 2010). By contrast, the critics of AFNs have faulted the movement's social and cultural exclusivity as discouraging minorities and the impoverished from engaging with the movement. For instance, AFNs' proposed solutions place too much emphasis on individual consumer actions without addressing the challenges of those without the financial and temporal means to make proposed alternative consumption choices (Alkon and Mares 2012; Allen and Guthman 2006; Buttel 1997). Studies have also illuminated the ways in which AFNs' embedding of their ideological framework and practices in mostly White, middle-class habitus contribute to the construction of a socially exclusive space (Alkon and Mares 2012; Guthman 2008a; Slocum 2007, 2008). These unintentionally or subconsciously exclusive practices, the scholars argue, highlight the social and cultural elements that need to be addressed in order to reach those who are currently not involved in AFNs.

Complementing research on the structural elements that may have impeded or discouraged participation in AFNs among low-income, minority individuals, there is emerging scholarship that seeks to better understand the disconnects between AFNs and the marginalized communities by examining the experiences of individuals living in so-called food deserts (Alkon et al. 2013; Whelan et al. 2002). The study by Alkon et al. (2013), for example, illustrates a variety of ways in which low-income residents strive to access food they like at a price they can afford. Their study challenges hypothesized linkages between food access and the spatial distance to food outlets, while simultaneously questioning the extent to which the lack of knowledge affects how to eat healthfully.

This study endeavors to build on this emerging body of scholarship on the *foodways* of the urban poor (Alkon et al. 2013) by examining the experiences of New Orleans food desert residents' introduction to a "local food" market in their neighborhood. To test how different factors may pose opportunities or challenges in enhancing access to fresh, local food in the low-income, predominantly African American neighborhood, we conducted a semi-experimental study of 31 local residents who received $25 worth of free produce for 6 weeks through the market. On the basis of participant surveys administered before, during, and after the program, supplemented by the researchers' own experiences of running the program, we consider the following questions. First, *prior to the program, what knowledge did the residents have about the market?* With this question we examine the local residents' knowledge regarding the products and services being offered at the alternative food market in their neighborhood. Of particular interest here is to understand if they were aware of the market prior to enrolling in the program, and how their knowledge (or lack thereof) may have influenced their engagement with the market. Second, *how did the theorized constraints affect the study participants' experiences during the free produce program?* By designing the study to test some of the postulated constraints, we aim to understand their influence on what the participants purchase and eat from the market, and how they view the produce they receive and the market space itself. The five types of constraints that we directly test in this study are economic-, cultural-, and human-capital, as well as spatial and temporal constraints.

The findings show that the study participants knew very little about the market's products and services, including the resident discount service that was specifically aimed to benefit them. This indicates that the market had not successfully extended its outreach to the nearby community, despite its intentions, and that the dismal participation by the local residents was not a result of conscious avoidance but rather due to lack of awareness. During the program, we found that spatial and temporal constraints did not significantly affect most participants' ability to access the market, while the economic constraints may have posed an initial hurdle in getting them to try out the market and its products. We also found that the participants exhibit high cultural and human capital regarding the consumption of locally grown fresh produce. Finally, we found some informal and unexpected evidence of community contexts, such as social ties among the residents, as posing challenges to resident involvement with the local food market.

While this is a case study, the use of semi-experimental study design allows us to examine more closely how each of the hypothesized impeding factors affect the individuals whose limited participation in AFNs has concerned many scholars (Alkon and Mares 2012; Allen 2010; Bedore 2010). In doing so, this study is also unique in focusing explicitly on the low-income minority community to understand the disconnect, since the much of the scholarship on the exclusion thus far has focused on the AFNs supporters and practices, with some notable exceptions such as Alkon and McCullen (2011) and Hinrichs and Kremer (2002).

Impeding factors to local food access

The food desert concept suggests that the absence of major food outlets in inner-city neighborhoods prohibits consumption of healthy food, thus highlighting *geography* as a key constraint in food access (Russell and Heidkamp

2011). Characteristically, food deserts are defined by the combination of very few food outlets and high poverty in a given geographic area (USDA Economic Research Service 2013); however, an increasing number of scholars are raising questions about the concept's meaning and application (Shaw 2006), citing problems with the overemphasis on supermarket chains (Bodor et al. 2007) or lack of distinction among these large-scale supermarkets, some of which are discount stores that carry few healthy items (Rose et al. 2009). Other studies find that residence in a food desert does not automatically confer a lack of access to food (Hubley 2011; Whelan et al. 2002), and the impediments vary across demographic groups within the same area (Whelan et al. 2002). More recent studies suggest that geographic distance to food outlets does not dictate where residents shop, which provides counterevidence to the core idea behind the food desert terminology (Cummins et al. 2014; Hallet and McDermott 2011; LeDoux and Vojnovic 2013; Thomas 2010). Further, Pearson et al. (2005) fail to find a correlation between proximity to a supermarket and fruit and vegetable consumption. In light of the increasing and somewhat haphazard use of the concept in activist and policy circles, Wrigley (2002) calls for systematic and critical research on the definitions and significance of the phrase, especially regarding how the "food desertness" of a place impacts the individuals who live there.

Aside from geographic factors, a key dimension of the food desert concept is the concentration of poverty. Not only are the residents of food deserts geographically removed from food markets, but they also face *economic* constraints that may make healthy food options virtually unattainable. The commodification of local or organic food (Guthman 2003) has resulted in perceived and actual higher prices for these products. Furthermore, some increasingly popular alternative food practices—such as community supported agriculture (CSA) programs—require advance financial commitments and lump sum payments, which constrict the possibilities of participation for households with limited savings or inflexible food budgets (Hinrichs and Kremer 2002). The acceptance of Electronic Benefits Transfers (EBTs), or food stamps, at these food outlets may offset some of these financial constraints (Young et al. 2011). Unfortunately, the extent to which such services can engage low-income households depends heavily on the availability of public and private programmatic funding, and recent efforts in the U.S. to substantially reduce the Supplemental Nutrition Assistance Program (SNAP) portion of the Farm Bill threaten the future viability of these programs (Weisman and Nixon 2013). Finally, the seasonality and irregular business hours of alternative food outlets, such as farmer's markets, create *temporal* challenges to those with less flexible schedules and fewer transportation options (Widener et al. 2011). Partially because of these economic and temporal constraints, the message imparted by leading alternative food movement advocates for individuals to "vote with your fork" reveals a general disregard for those who simply cannot afford to do so (Buttel 1997). Such approach also relies heavily on narrowly defined "ethical consumers" for action, resulting in the movement's ability to address only a few selective issues while leaving others out (Lockie 2009).

The emerging critique of AFNs also points to the failure of the White and middle-class undertone of the movement to account for the structural challenges faced by impoverished or minority communities in accessing and consuming healthy or locally grown food (Alkon and McCullen 2011; Guthman 2008a). In this regard, the "whiteness" of alternative food spaces is also indicted for making AFNs appear *socially* exclusive due to the dominance of White bodies in places such as farmer's market and CSAs (Slocum 2007, 2008). Furthermore, the hegemonic "good food" of the alternative food movement constructs, in some cases unintentionally, social places that appeal exclusively to White, middle-class consumers (Guthman 2008b; Slocum 2007). Thus, the emerging food justice frame (Alkon and Agyeman 2011) cautiously distinguishes "food sovereignty," or the ability to manage the food system, from "food access," in order to consider what food may be authentic and familiar to poor and minority communities (Allen 2008; DuPuis et al. 2011). Such arguments effectively shed light on the significance of *cultural capital*, or a particular taste and tacit knowledge about certain cultural practices that are often particular to socioeconomic status, in understanding how low-income, minority individuals may be discouraged from involvement with AFNs.

In a similar vein, well-intended educational narratives (e.g., "We need to show them how to…") among advocates who aim to encourage marginalized populations to eat more fresh, locally grown produce are predicated on the expectation of low *human capital*. Human capital refers to a set of skills or competencies that enables one to engage in economic or social transactions; formal education is often a proxy for this concept. In this study we conceptualize human capital as one's knowledge of how to cook fresh produce and the health benefits of eating locally grown food. The educational narratives in AFNs reflect the activists' and supporters' presumption that those who are not currently engaged in AFNs lack this form of human capital (Guthman 2008a; Kato 2013). The argument that tastes, values, and knowledge of poor minorities regarding food consumption are incongruent with the mainstream AFNs ideologies is a valid and compelling hypothesis, but the extent to which these factors impede or discourage the food desert residents' involvement with AFNs may require

further investigation, as demonstrated by the somewhat countering evidence by Alkon et al. (2013) that knowledge about food is less influential than economic constraints on food consumption behaviors among low-income households.

This study offers a modest, preliminary attempt to empirically test the theorized impediments outlined above. We do so by engaging a group of food desert residents with an alternative food market located in their neighborhood. To be sure, this is not the first case study to examine the effects of AFNs' enrollment of the poor. Previous efforts to involve low-income households in AFNs show varying degrees of success in spurring participant interest in community-building activities beyond food access (Andreatta et al. 2008; Hinrichs and Kremer 2002), paying competitive wages while keeping food prices low (Short et al. 2007), and reaching those in the lowest socioeconomic status (Hinrichs and Kremer 2002). These findings point to the complexities of food access interventions in food deserts, especially the difficulties of achieving social justice in areas beyond making food affordable or physically accessible. In introducing a group of low-income, minority households to a local food market in their neighborhood, we designed the study specifically to understand how some of the challenges may compare to or interact with each other. In doing so, the study responds to the call for research on consumer experiences with critical attention to the role of culture and community context in participation in the alternative food system (Goodman and DuPuis 2002; Passidomo 2013).

Research site: Hollygrove Market and Farm

Hollygrove Market and Farm (HMF)[1] is located in the Hollygrove neighborhood at the northwest corner of New Orleans. Hollygrove is a predominantly (92 %) African American community that has experienced a slow rate of repopulation since Hurricane Katrina, compared to other, more affluent neighborhoods. The area flooded in 2005 with six feet of water as a result of the levee breach in the aftermath of the hurricane.[2] Historically, Hollygrove is a working-class neighborhood, with just over 50 % of owner-occupied housing units. The average household income for 2006–2010 was $38,354 per annum, with 21.4 % of the residents living below the poverty line (Greater New Orleans Community Data Center 2012).

A local community development corporation established HMF in 2008 to address the lack of access to fresh produce in the area. At the time of the study, five full-time staff members operate the organization with assistance from a small number of part-time employees and volunteers. The model is a combination of a CSA and a farmer's market. The market offers a CSA-style "buyer's club" box for $25, which contains items that vary by market day. Unlike conventional CSAs, customers may purchase a box without membership or advance payment. This arrangement was intended to boost the appeal of the market to the lower-income neighborhood residents. Customers may also purchase produce and other products, such as locally sourced meat and dairy items, bread, pies, and other value-added goods, separately by volume or weight. HMF holds on-site markets as well as offering home delivery of the produce box for an additional $3 fee and advance payment options through its website. There are also community gardens on the property that may be utilized by anyone who is interested.

Previous research by the first author identifies the dismal involvement of local residents with HMF as volunteers, community gardeners, or customers, despite its offering a 20 % discount for neighborhood residents (Kato 2013). Conversations with the staff, volunteers, gardeners, and some residents elicit a number of possible explanations for the low levels of resident participation, which include financial, geographic, and sociocultural constraints. Nevertheless, these findings remained speculative and thus motivated us to design a semi-experimental study to examine how the residents would *actually* respond to the market, its space, products, and services.

In order to gain empirical footing on the postulated impediments to AFN participation among low-income minority residents, we conducted a semi-experimental study designed to provide produce to and illicit feedback from members of the community surrounding HMF. We were particularly interested in discerning if cultural and human capital constraints posed major hurdles to participation, though we also gathered information on additional factors including spatial, temporal, and economic constraints. We gained data through formal and informal procedures, as described below, to inform our ultimate conclusions on the aspects that did or did not condition residents' engagement with HMF. For example, our survey instruments asked specific questions on the importance of the price of food, the selection of organic products, and distance to the store and how each of these shaped decisions on where to shop for groceries. Additionally, we

[1] This is the actual name of the neighborhood and the organization.

[2] It is important to acknowledge that New Orleans neighborhoods continue to be shaped by gentrification (Gladstone and Préau 2008), repopulation (Elliott et al. 2009; Stringfield 2010), and related neighborhood dynamics (Elliott and Pais 2006; Fussell 2009) in wake of the devastation wrought by Hurricane Katrina. Nevertheless, we do not provide an elaborate discussion of these issues, partly because the food desert status of the neighborhood predates the Hurricane, but also because doing so is out of the scope of the current project. Instead, we refer the reader to the work cited above that explicitly addresses these concerns.

collected information on any problems residents experienced in accessing the market or with the foods they received. Such information was, in most cases, comprised of quantitative and qualitative data to understand the severity and nature of the problem, respectively. Conceptually, our goal was to provide residents the ability to participate in the AFN, free of economic commitments, so we could monitor their reactions to and experiences with their neighborhood market. Ultimately, we endeavor to add to the accumulation of knowledge on the theorized constraints that shape AFN participation among low-income minority populations, though we see our study as laying groundwork for further investigations. We elaborate on our study procedures, analytic approaches, findings, conclusions, and directions for future research below.

Study design

Semi-experimental study

Participants of this study consisted of residents in the Hollygrove neighborhood who had not been regularly shopping at the market. Recruitment of participants initially relied on an advertisement in a community newsletter as well as the market staff's existing contacts in the neighborhood. To expand our sample size and its diversity, we encouraged individuals who expressed interest in participating in the study to recruit others from the neighborhood to join. Overall we were contacted by 57 residents, out of which 31 participants were originally entered in the free produce program.

At the beginning of the study, we allocated each participant to one of two groups. Every 2 weeks for 2 months, participants were given a free box of produce or a voucher of equivalent value to be redeemed at the market, in an alternating pattern. Boxes were delivered to the participants' homes, whereas vouchers were redeemed at the market and could be used to purchase any produce, dairy, meat, or specialty items available there. The produce at the market varied somewhat from week to week, but during the study period (September 2012 to January 2013) typically included sweet potatoes, mushrooms, citrus fruits, greens, and other items based on local, seasonal availability.[3] After four rounds of alternating box deliveries and vouchers at bi-weekly intervals, participants in good standing chose which of the two options they preferred to receive for the final 2 weeks.

Prior to the study, the researchers held an information session at HMF to familiarize the participants with the space, introduce the study design, and collect consent forms and pre-study surveys from those who could attend. We gathered consent forms and pre-study survey from all other participants via postal mail. Pre-study survey asked questions about regular food purchasing and consumption behaviors and their knowledge about the operations and services of HMF in addition to gathering basic demographic information.[4] During the free produce program, we conducted a short consumption survey every other week to gather information about their previous week's experiences of shopping at the market, including how they consumed the food items they got from the market, and if not why. Two months after the program completion, a research assistant visited the remaining study participants at their home to gather responses for the post-study survey that asked about their overall reactions to the study, the market's produce and space, as well as some open-ended questions about their opinions and suggestions relating to the food access issues within the community. We coded quantitative data in SPSS and compiled and coded individuals' qualitative responses for analysis for the duration of the project.

The study was designed to explore several impeding factors that have been identified by previous studies. Table 1 highlights how different features of the study address these factors. We intended to test the economic constraints by providing produce valued at $25 to the participants every other week for 6 weeks through the local alternative food market.[5] Because of the 20 % resident discount offered at the market, during weeks that the participants received vouchers, they could use the $25 voucher to purchase items worth approximately $30 at the market. Whether or not the participants would return to the market after the free produce program ended was taken as another indicator of the significance of the economic constraints. If they did continue to shop at HMF, this would either mean that they were willing or could afford to spend their own money to make such purchases.

By providing a home box delivery option every other week during the first 4 weeks, we tested the time constraints that required the participants to be at the market during its relatively limited business hours, as well as the

[3] For example, 1 week's box included the following items: Sweet Potatoes, Apples, Eggplant, Mustard Greens, Pickling Cucumbers, Baby Heirloom Squash, Bell Peppers, Cajun Grain Rice, Red Frill Mustard, Natural Arugula, and Satsumas (October 23, 2013 box delivery content).

[4] Original pre- and post-study surveys, as well as bi-weekly market consumption survey used in the study can be made available upon requests to the authors.

[5] We acknowledge that this only reduced the residents' barriers to fresh food through the particular market, and not their food purchasing budget in general. The aim was to ease the risk of trying out the new market by providing an economic incentive, which turns out to be roughly equivalent to the average weekly fresh produce budget of our participants (see Table 2).

Table 1 Relevant study features by type of constraints in AFNs participation

Type of constraint	Description	Relevant study features
Geography	AFN food outlets are not located near the low-income communities	HMF is located in food desert
		Box delivery eliminates the need to visit the market
Economic capital	The poor cannot afford to participate in AFNs	Pre-study survey on importance of economic factors and weekly budget expenditures on food
		Provide free produce program
		Post-study survey to see if participants have returned to the market
Temporal	Poor families do not have time to shop at AFN food outlets, which often have limited hours	Box delivery eliminates the need to visit the market
		Bi-weekly surveys on challenges to participating in study and preparing food
Cultural capital	Foods sold in AFNs are culturally inappropriate for low-income, minority consumers	Vouchers provide options for the participants to select what they like
		Box delivery will show how they respond to unfamiliar food items
	AFNs market spaces are situated in the White, middle-class cultural habitus and thus uninviting to the low-income, minority consumers	Box delivery option will allow the participants to avoid going to the market
		Bi-weekly surveys on reactions to the market and its products when redeeming vouchers
Human capital	Low-income, minority households lack knowledge on how to consume fresh produce	Provide recipe/food preparation card
		Bi-weekly consumption survey
	Low-income, minority households lack knowledge of or are not interested in the health benefits of eating locally grown food	Pre-study survey on participants' consumption behaviors, priorities, and concerns

spatial access constraints, if the participants experienced difficulty visiting the market. The market hours expanded from 3 to 5 days a week during the last few weeks of the study duration.[6] The participants' choice of box delivery or voucher options during the final 2 weeks, we presumed, would indicate which option better suited their needs, and the post-study survey inquired about the reasons for their selection.

To examine the effects of the lack of human and cultural capital, pre-study survey gathered information about participants' food purchase and consumption behaviors prior to the study. We also monitored the participants' uses of and reactions to the produce in the bi-weekly consumption surveys, especially when they received items that were unfamiliar to them. Information about the box content is made available to HMF's regular box delivery customers through email, but we decided to print out the information for our study participants. Along with the list of box contents, each box and voucher delivery was accompanied by a recipe card and tips for storing and preparing seasonal items.[7] We intentionally incorporated recipes for less familiar items, such as turnips and bok choy, and healthier ways to cook familiar items, such as winter greens and broccoli. The bi-weekly surveys asked whether the participants found the recipe card and the produce care information useful, in order to test whether or not human capital, in terms of using fresh produce, posed any challenges. To further examine the effects of the cultural capital constraints, we used the bi-weekly surveys to assess what sort of items the participants were most likely to purchase with the vouchers, and whether there are notable differences in the types of food they purchase at the market and those offered in the box.

Sample

Table 2 presents data on household characteristics and weekly food expenditures gathered in the pre-study survey.[8] Our sample initially included 31 Hollygrove residents, but six were lost to attrition. The sample was mostly composed of older, African American women. Despite outreach efforts specifically targeted to vary the sample by age and gender, we were unsuccessful in retaining those participants. To

[6] The expanded business hours impacted only a handful of study participants who started a few weeks behind the others.

[7] HMF's website and weekly newsletters also feature recipe suggestions, but we used slightly different recipes for our study.

[8] Due to some participants not returning the surveys in a timely manner, we were not able to collect pre-study survey from all of the initially enrolled participants, making our survey data's total responses per question <31.

Table 2 Pre-study survey data on household characteristics and weekly food expenditures

	Age	Tenure in Hollygrove neighborhood	Tenure in New Orleans	Distance to HMF[a]	Household size	Number of children in household	Weekly grocery budget ($)[b]	Weekly produce budget ($)	Frequency of cooking dinner at home per week
Mean	62.69	37.5	54.78	0.72	2.17	0.54	59.63	22.63	4.48
Standard deviation	12.67	14.33	14.72	0.31	1.66	1.44	20.91	12.49	1.5
Minimum value	39	10	22	0.30	1	0	25	0	2
Maximum value	83	64	83	1.70	8	6	100	50	7

[a] Calculated by authors using addresses provided by participants; distances expressed in miles

[b] One extreme outlier removed

illustrate, we originally involved four men and three younger women (all African American) as participants, but all three younger women and two of the male recruits ceased correspondence and remained unresponsive to multiple attempts to regain their participation.[9] The resulting sample consisted of older African American individuals, two male and the rest female. Ages of participants range from 39 to 83, with a median age of 60; all reside in the Hollygrove neighborhood (on average, less than three-quarters of a mile from HMF). One is employed full-time, two have part-time employment, five are unemployed, and the rest are retired. The participants, on average, have lived in New Orleans for 59 years and in the Hollygrove neighborhood for 37.5 years. Twenty respondents own their residence, and 19 live in households of one or two individuals. Five report having at least one child live with them (three households have one child, one household has four children, and one has six children); the others have no children in the household.

Findings

As explained above, we designed our study to illuminate multiple possible constraints as experienced by our participants before, during, and after program implementation. As such, we organize our findings topically; that is, information gathered throughout various stages of the study are compiled thematically according to each theorized constraint treated above. We make references to the relevant survey data as presented in the Tables 2, 3, 4, and 5 throughout this section, to inform our findings on the various constraints theorized to impede food desert residents' involvement in AFNs.

[9] We contacted the individuals who ceased to participate to inquire if they would be willing to provide information on why they did not complete the study, but none responded to our multiple attempts at correspondence.

Geography

Our findings regarding the constraints posed by geographical factors are a bit mixed. As Table 3 shows, on the one hand, about 90 % cited the importance of the distance from the store when making food purchasing decisions. On the other hand, when asked about their current shopping patterns, 71 % of respondents report shopping at Walmart, 58 % at Rouse's (a regionally operated grocery chain), and 55 % at Save-A-Lot (a national discount food market chain), which seemingly belies the aforementioned preferences due to the distances to these outlets. Walmart has two stores that are each about six miles from the center of Hollygrove neighborhood, while Rouse's is approximately five miles from the neighborhood. Despite their close proximity to HMF and the reported importance of distance to the store, however, Table 4 shows that only about half of the sample had previously shopped at the market. This is despite the fact that, on average, the market is less than one mile from our participants' homes (see Table 2).

Economic capital

The pre-study survey results indicate that all of our participants rank price as an important consideration when shopping for food (see Table 3). Taken together with the findings regarding the importance of distance to the store elaborated above, we conclude that price tends to play a more central role in determining food purchase decisions relative to proximity. On average the participants' households spent approximately $60 per week on grocery, out of which about $23 was spent on produce (see Table 2). Notably, this expense is closely comparable to the price of the produce box offered by HMF once the resident discount is applied.

To be sure, financial constraints faced by the participants underscore the importance of purchasing only those items that will be consumed. Whereas high-end consumers or "foodies" have the luxury of approaching exotic items

Table 3 Pre-study survey data on what factors are important when shopping for food

	Price	Selection of produce	Selection of canned/frozen items	Selection of prepared food	Healthy food	Organic food	Locally grown/processed food	Business hours	Atmosphere of store	Distance from home
Important (%)	20 (100 %)	22 (17.3 %)	16 (72.8 %)	9 (45 %)	23 (100 %)	13 (59.1 %)	16 (76.2 %)	11 (52.4 %)	20 (90.6 %)	19 (86.3 %)
Not important/don't Know (%)	0 (0 %)	1 (4.3 %)	6 (27.3 %)	11 (55 %)	0 (0 %)	9 (40.9 %)	5 (23.8 %)	10 (47.6 %)	2 (9 %)	3 (13.6 %)
Missing	5	2	3	5	2	3	4	4	3	3

as culinary challenges, this is not the reality for many Hollygrove residents who lack the financial capital that might otherwise permit latitude in "trying out" unfamiliar items. Since the conclusion of the program, ten of the participants reported in the post-study survey that they had returned to HMF three or more times, with three reporting that they had not visited the market at all since. This seems to be a bit of a mixed bag insofar as about half of our participants continue to frequent HMF whereas others have not returned or have only returned sporadically.

Temporal factors

Our overall impression of the data collected suggests that spatial and temporal constraints were not exceedingly problematic for most of our participants.[10] In fact, only half of the participants indicated in the pre-survey that business hours were an important factor in food shopping decisions (Table 3). Our data included only three instances of program participants not having time to cook the produce they received through the program. Of those instances when individuals were not able to make it to the market to use their voucher before its two-weeks expiration date, the reasons were extremely specific and due to personal circumstances (e.g., one individual had health issues 1 week and another went out of town) and generally unrelated to the spatial and temporal constraints theorized above. In the end, all vouchers issued were used by the participants who remained active in the program, which again suggest that getting to the market to purchase food was not a major hurdle.

Further, when given the choice between voucher and produce box during the final two cycles of the program, the majority opted for the voucher. Specifically, during the fifth week, one participant preferred the box and 15 opted for vouchers; for the final week, three chose boxes and 13 selected vouchers. When asked about the reasons for their choice, many mentioned that they preferred being able to see the produce prior to purchasing, which made the voucher a more appealing option compared to receiving the box of preselected items. The participants' overwhelming preference toward voucher over box delivery corroborates the prior conclusion that, save highly specific personal circumstances, most were not deterred by spatial or temporal factors. In the post survey, only one respondent reported that her schedule was "somewhat challenging" for participation. Weekly schedule, work hours, childcare,

[10] One participant received box deliveries throughout the study due to personal mobility issues that prevented her ability to easily access the store, but this was the only exception in the altering options during the first 4 weeks.

Table 4 Pre-study survey data on prior patronage and knowledge of Hollygrove Market and Farm

	Ever shopped at HMF	Ever purchased a produce box	Know about the resident discount	Know about EBT acceptance	Know about home delivery service	Know about volunteering opportunities	Know that HMF buys from backyard gardeners
Yes (%)	13 (52 %)	6 (24 %)	8 (32 %)	2 (8 %)	3 (12 %)	1 (4 %)	1 (4 %)
No (%)	11 (44 %)	7 (28 %)	14 (56 %)	20 (80 %)	19 (76 %)	21 (84 %)	20 (80 %)
Don't know/not applicable	1	12	3	3	3	3	4
N	25	25	25	25	25	25	25

Table 5 Bi-weekly consumption survey results

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Reason items not used						
Did not know how to cook	1	3	2	2	0	0
Did not like vegetable	6	3	4	0	0	0
Did not have time to cook	1	2	0	0	0	0
Went bad	2	3	0	0	1	0
Stored for later	8	7	3	0	1	0
Gave away	7	5	3	1	0	0
Overall Experience						
Excellent/Good	21	19	17	13	11	16
Fair	0	0	1	0	1	0
Recipes						
Very helpful	17	13	8	6	8	9
Somewhat helpful	3	3	5	0	4	5
Not helpful	0	1	1	0	0	1
N	25	25	22	22	21	20

and family care were not challenging for any of the post-study survey respondents.[11]

Cultural capital

The cultural capital factors proposed to impede participation in AFNs include the lack of cultural appropriateness of the foods offered by AFNs. Quantitative and qualitative responses in the bi-weekly surveys indicated that the bulk of the participants liked the produce they received in the box. Participants routinely praised how fresh and delicious the produce was and how much they enjoyed using the items. Below are select comments that represent typical responses by the study participants:

> "Bought a papaya for my granddaughter. I cook and enjoy eating different foods." (Respondent #8)

> "I love the freshness of the produce; I had forgotten how wonderful fresh veggies taste." (Respondent #12)

> "Bok choy is a new vegetable for me. I cooked with cabbage and the results were wonderful." (Respondent #23)

> "The space is very beautiful." (Respondent #5)

Rare exceptions of negative comments were typically due to dietary restrictions or personal preferences (e.g., "I don't like mushrooms" or "the apples were hard to chew"), and often the participants indicated that they gave away these items. In terms of overall experience, the general pattern from the bi-weekly surveys was one of shared enthusiasm for eating healthier items and consuming fresh produce (see Table 5). Only one respondent in weeks 3 and 5 rated the experience as "fair," and all others classified their experience as excellent or good each week. Save these minor exceptions, the overall experience of the participants, week to week, was consistently favorable.

Another finding that emerged from the bi-weekly surveys is that the individuals who received vouchers tended to purchase produce items, with a few instances of dairy purchases, rather than the other value-added products (e.g., breads, pies, jams, jellies) for sale at the market. Thus, the purchases made with the vouchers tended to rather closely

[11] The fact that the majority of the study participants who remained in the study were seniors may contribute to their flexibilities with time, when compared to their younger counterparts.

resemble the box contents, which we take as another indication that cultural capital concerns did not pose major constraints to our participants' experiences of shopping at HMF.

Human capital

A notable discovery during the information session was that these individuals expressed acute interest in eating healthful foods. One resident candidly shared her struggle to lose weight and how the fresh vegetables might help her reach her goal. Another inquired about the connection between hormones in food and adolescents reaching puberty at earlier ages. Both at the information session and during the bi-weekly survey phone calls, many participants articulated a deep interest in popular concerns surrounding industrial food production (such as the effects of hormones in meat and chemicals applied to conventional produce) that parallel those voiced by the mainstream AFN advocates.

Pre-study survey data substantiated these preliminary findings, as all respondents cited the availability of healthy foods as an important concern when shopping and all but one respondent reported that the selection of produce is a very important factor in deciding where to shop (see Table 3). Additionally, over half of the participants indicated the importance of the selection of organic foods and over three-quarters listed the importance of the availability of local foods when shopping (see Table 3). These findings indicate that at least some, if not all, food desert residents are highly aware of the public discussions about the linkages between food choices and health outcomes, and do consider these issues when making decisions about their food consumption.

Another component of human capital constraints is the knowledge of how to cook fresh produce. The pre-study survey results found that, on average, the participants cooked dinner at home 4.5 times during the previous week, indicating that they regularly engaged in home-cooking (see Table 2). In addition, during the first two months of the program, a maximum of three reports surfaced in a week that respondents were unsure how to cook some items, but none expressed this as an issue in the final month (see Table 5). As expected, the items that the respondents struggled with preparing were mostly less-familiar items, such as tatsoi and bok choy, yet the qualitative comments in bi-weekly surveys indicated that many took this opportunity to experiment with preparing those items and most had positive reactions rather than aversion or disappointment.

Social capital

Finally, in addition to the five possible constraints for the AFNs involvement of low-income, minority communities identified by the previous scholarship, we found the lack of social capital to be one of the possible challenges to engaging Hollygrove residents with HMF. Social capital refers to ties among individuals that enhance access to information and other resources. In the Hollygrove neighborhood, information emerged in the early phases of our study and data collection efforts that led us to suspect that the fragmented nature of the social ties among the residents may have been a key deterrent to HMF's community outreach. Specifically, we noticed the lack of social capital among the residents who attended our initial information session and this was corroborated by the survey data regarding the participants' prior uses and knowledge of HMF.

To be clear, there are some active community organizations in the community, many headed or supported by local senior citizens. However, HMF's attempts to advertise through their organizational network channels seem to have been limited, given such lack of awareness among our study participants. For example, Table 4 shows very few of the study participants knew the market offers a discount to neighborhood residents (eight respondents or 32 % were knowledgeable), delivery services (three respondents), EBT acceptance (two respondents), or a free box in exchange for 3 h of volunteering (one respondent). We find the lack of knowledge that HMF accepts EBT particularly unfortunate since ten participants receive those benefits. Only one respondent knew that HMF purchased from local growers and backyard gardeners. In general, the absence of familiarity with the market's mission, services, and community outreach programming indicates that this organization has been unsuccessful in engaging the surrounding community despite its multi-faceted outreach efforts.

To this effect, we found some anecdotal but consistent evidence of fragmented social ties among our study participants, many of whom had lived in the neighborhood for decades. Indeed, the lack of successfully disseminating information about the market to the neighborhood and securing participation among residents gave impetus to conducting this research in Hollygrove. During the initial recruitment, we noted that participants were most likely to refer someone who lived within a block or two rather than across the neighborhood, if they did so at all. Introductions among many of the participants at the information session also revealed that nearly all of them had seen each other around the neighborhood, but had not previously interacted.

Discussion and conclusions

This study offers some preliminary empirical assessments of the theorized constraints to engaging low-income, minority households in AFNs. Although our small-sample, semi-experimental methodology limits generalizability of

results, in this section we extend our analysis to discuss how the findings from this study may address issues with the current conceptualizations of food access disparity and offer future research directions on this topic, especially in terms of which impediments need closer examination.

The findings from the study question the static spatial construct of "food deserts" that fails to integrate an interactive and dynamic understanding of how food access is experienced in inner-city neighborhoods. Our study of the neighborhood identified as a food desert in previous scholarship (Rose et al. 2009) supports recent work that questions the basic premise of the food desert concept—that the spatial divide is the major impediment to food access (LeDoux and Vojnovic 2013; Thomas 2010), because the majority of the study participants indicated that they are more likely to shop for food at big box retail outlets that are located farther from the neighborhood than at least three other grocery stores. The physical proximity of the newly established local food market did not immediately result in the residents' using the market. More importantly, our findings regarding the first research question (*Prior to the program, what did the residents know about the market?*) indicate that one of the primary reasons for this lack of engagement may be at least in part due to the lack of knowledge about the market, not conscious avoidance. Thus, we propose using caution in interpreting certain groups' lack of involvement in AFNs as intentional, for it may be a result of limited exposure due to the social structure of the food desert community, as we suspect in our case study. Lack of participation may also be due to the spatial, social, and cultural disconnects between AFNs advocates and the community.

The attrition of younger families from the free local produce program raises further questions about the appropriateness of geographic and aggregate designation of food insecurity, as it illuminates the variance of food insecurity among those who live in a food desert. Given these findings, we call for more in-depth, especially qualitative, studies of food insecurity to build on works by scholars such as Alkon and Mares (2012) and Passidomo (2013), to expand on how residents' life-cycle (Whelan et al. 2002) or other community context factors, such as social capital, may affect the potential for their involvement in AFNs.

Regarding the second research question (*How did the presumed constraints affect the study participants' experiences?*), the pre-study survey data indicate that cost is a primary concern shared by all residents when deciding where to shop for groceries, which likely explains why they frequent Walmart over other food outlets despite the distance. Nevertheless, we hesitate to conclude that this is an insurmountable hurdle to HMF's possibility in attracting the local residents as their customers, since more than half of the participants who completed the program have been back to the market since the study's conclusion.

We take these findings to indicate that even within food deserts those with strong interests in AFNs may participate, though at limited rate. The challenge, however, is gaining and retaining participation among those whose limited economic means pose challenges to engaging in AFNs, as even the current 20 % discount that HMF offers may not be sufficient to overcome this constraint. This is a bit of an impasse for AFN operations such as HMF in accomplishing multiple dimensions of food justice, as extensive subsidy may jeopardize fair payment for the growers and workers (Allen 2010; Short et al. 2007). In this regard, the AFNs, and the food justice movement in particular, might benefit from employing framing strategies similar to those used in the environmental justice movement (Agyeman 2005; Čapek 1993). However, access to and consumption of food may have more individual variance when compared to a more universal exposure to contaminated air, water, or soil at a given geographic location. The variance in experiences among our study participants in the free produce program is congruent with previous studies' findings that what food desert residents eat is not necessarily defined by where they live (Alkon et al. 2013; Hubley 2011; Whelan et al. 2002). The fact that consumption of food is not universal across individuals residing in a given geographic area may pose challenges to politicizing food access, though how impeding factors may affect these challenges requires further empirical investigation.

The study's findings also question the extent to which cultural and human capital constraints pose challenges to purchasing and consuming locally grown food among impoverished minorities. The survey data from this study indicate that the residents mostly had positive experiences with their engagement in AFNs, despite HMF's predominantly White and middle-class social space. In addition, our participants found the selection of produce at the market appealing and took pleasure in experimenting with new items and methods of preparation. Finally, the participants' purchasing and consumption behaviors mirror those of the regular customers, and their strong interests in eating fresh, local produce for better health outcomes are consistent with the mainstream AFNs' concerns.

Despite these findings, however, we caution against decisively concluding that cultural and human capitals do not matter in food access disparities. We acknowledge the possibility of self-selection bias in our sample—the individuals who volunteered to participate in the study may have been unique in their knowledge of cooking and interest in fresh, locally grown produce. Interestingly, responses to the post-study survey questions that asked about possible explanations for the high attrition rates among younger families ranged from indifference to citing the exact set of human and cultural capital deficiency stereotypes that our study debunks, such as "[the younger people] don't care" or

"they don't know" about eating healthy or fresh food. We interpret this finding as yet another indication of the fragmented social ties within this neighborhood; specifically, in this case we detect a divide between older and younger cohorts. Thus, while some residents in the food desert do exhibit the sort of human and cultural capital that is mostly consistent with mainstream AFN values and practices, these capitals may be concentrated and not disseminated, especially across generational lines. More research is needed to better understand the nature and distribution of cultural and human capital among younger families in food deserts regarding food access and consumption, and whether these factors pose substantial challenges to their interests and efforts in consuming fresh, locally-grown produce.

Finally, though this was not the original focus of the study, we observed the impact of the meso-level social structure of the neighborhood that might account in part for the difficulties encountered by HMF to engage the surrounding community. It seems, then, that in addition to critically evaluating financial constraints to participation, AFNs would benefit from efforts to strengthen social capital among members of the communities characterized as food deserts as an additional avenue to enhance participation in local food movements. Taken together with previous scholarship that points out residents of poor, urban areas are more reliant on social resources (Barnes 2003), we find the neighborhood's fractured social capital particularly troubling. We interpret these dynamics as evidence that food disparity must be understood as entrenched in broader social injustice, which also has implications for the community's role in resolving the social problems, including food access (Passidomo 2013). In this regard, our study supports Johnston and Baker's (2005) assessment that community food security approaches must "scale up and out" by addressing broader ecological, social, and policy issues relating to food production and consumption. Thus, we encourage future researchers examining food access to treat it not just as an isolated variable, but rather as an indicator of other social disruptions and broader injustices.

Acknowledgments Authors thank Melissa Moss, Sarah Denson, Sarah Sklaw, Tyler Minick, Jennifer Mirman, who assisted in conducting the free produce program in Hollygrove neighborhood, as well as Hollygrove Market and Farm for collaborating with us on the project. We thank the editor and the anonymous reviewers for their constructive comments and suggestions for improving the manuscript. We also thank the Center for Public Service at Tulane University for providing funding for the project through the Community-based Research Program grant.

References

Agyeman, J. 2005. *Sustainable communities and the challenge of environmental justice*. New York: New York University Press.

Alkon, A.H., and J. Agyeman. 2011. *Cultivating food justice: Race, class, and sustainability*. Cambridge, Massachusetts and London, England: The MIT Press.

Alkon, A.H., D. Block, K. Moore, C. Gillis, N. DiNuccio, and N. Chavez. 2013. Foodways of the urban poor. *Geoforum* 48(1): 126–135.

Alkon, A.H., and T.M. Mares. 2012. Food sovereignty in us food movements: Radical visions and neoliberal constraints. *Agriculture and Human Values* 29(3): 347–359.

Alkon, A.H., and C.G. McCullen. 2011. Whiteness and farmers markets: Performances, perpetuations… contestations? *Antipode* 43(4): 937–959.

Allen, P. 2008. Mining for justice in the food system: perceptions, practices and possibilities. *Agriculture and Human Values* 25(2): 157–161.

Allen, P. 2010. Realizing justice in local food systems. *Cambridge Journal of Regions, Economy, and Society* 3(2): 295–308.

Allen, P., and J. Guthman. 2006. From "old school" to "farm-to-school": Neoliberalization from the ground up. *Agriculture and Human Values* 23(4): 401–415.

Andreatta, S., M. Rhyne, and N. Dery. 2008. Lessons learned from advocating CSAs for low-income and food insecure households. *Southern Rural Sociology* 23(1): 116–148.

Barnes, S.L. 2003. Determinants of individual neighborhood ties and social resources in poor urban neighborhoods. *Sociological Spectrum* 21(4): 463–497.

Bedore, M. 2010. Just urban food systems: A new direction for food access and urban social justice. *Geography Compass* 4(9): 1418–1432.

Bodor, N.J., D. Rose, T.A. Farley, C.M. Swalm, and S.K. Scott. 2007. Neighborhood fruit and vegetable availability and consumption: The role of small food stores in an urban environment. *Public Health Nutrition* 11(4): 413–420.

Buttel, F.H. 1997. Some observations on agro-food change and the future of agricultural sustainability movement. In *Globalising food: Agrarian questions and global restructuring*, ed. D. Goodman, and M.J. Watts, 253–268. London, UK: Routledge.

Čapek, S.M. 1993. The "environmental justice" frame: A conceptual discussion and application. *Social Problems* 40(1): 5–24.

Cummins, S., E. Flint, and S.A. Matthews. 2014. New neighborhood grocery store increased awareness of food access but did not alter dietary habits or obesity. *Health Affairs* 32(2): 283–291.

DuPuis, E.M., J.L. Harrison, and D. Goodman. 2011. Just food? In *Cultivating food justice: Race, class, and sustainability*, ed. A.H. Alkon, and J. Agyeman, 283–307. Cambridge, Mass: The MIT Press.

Elliott, J.R., A.B. Hite, and J.A. Devine. 2009. Unequal return: The uneven resettlements of New Orleans' uptown neighborhoods. *Organization & Environment* 22(4): 410–421.

Elliott, J.R., and J. Pais. 2006. Race, class, and Hurricane Katrina: Social differences in human responses to disaster. *Social Science Research* 35(2): 295–321.

Fussell, E. 2009. Social organization of demographic responses to disaster: Studying Population–environment interactions in the case of Hurricane Katrina. *Organization & Environment* 22(4): 379–394.

Gladstone, D., and J. Préau. 2008. Gentrification in tourist cities: Evidence from New Orleans before and after Hurricane Katrina. *Housing Policy Debate* 19(1): 137–175.

Goodman, D., and E.M. DuPuis. 2002. Knowing food and growing food: Beyond the production–consumption debate in the sociology of agriculture. *Sociologia Ruralis* 42(1): 5–22.

Greater New Orleans Community Data Center. 2012. Hollygrove statistical area. http://www.datacenterresearch.org/pre-katrina/orleans/3/12/. Accessed 10 July 2013.

Guthman, J. 2003. Fast food/organic food: Reflexive tastes and the making of 'yuppie chow'. *Social and Cultural Geography* 4(1): 45–58.

Guthman, J. 2008a. Bringing good food to others: Investigating the subjects of alternative food practice. *Cultural Geographies* 15(4): 431–447.

Guthman, J. 2008b. "If they only knew": Color blindness and universalism in california alternative food institutions. *The Professional Geographer* 60(3): 387–397.

Hallet IV, L.F., and D. McDermott. 2011. Quantifying the extent and cost of food deserts in Laurence, Kansas, USA. *Applied Geography* 31: 1210–1215.

Hinrichs, C.C., and K.S. Kremer. 2002. Social inclusion in a Midwest local food system. *Journal of Poverty* 6(1): 65–90.

Hubley, T.A. 2011. Assessing the proximity of healthy food options and food deserts in a rural area in Maine. *Applied Geography* 31(4): 1224–1231.

Johnston, J., and L. Baker. 2005. Eating outside the box: FoodShare's good food box and the challenge of scale. *Agriculture and Human Values* 22(3): 313–325.

Kato, Y. 2013. Not just the price of food: Challenges of an urban agriculture organization in engaging local residents. *Sociological Inquiry* 83(3): 369–391.

LeDoux, T.F., and I. Vojnovic. 2013. Going outside the neighborhood: The shopping patterns and adaptations of disadvantaged consumers living in the lower eastside neighborhoods of Detroit, Michigan. *Health & Place* 19: 1–14.

Lockie, S. 2009. Responsibility and agency within alternative food networks: assembling the "citizen consumer". *Agriculture and Human Values* 26(3): 193–201.

Passidomo, C. 2013. Going "beyond food": Confronting structures of injustice in food systems research and praxis. *Journal of Agriculture, Food Systems, and Community Development* 3(4): 89–93.

Pearson, T., J. Russell, M.J. Campbell, and M.E. Barker. 2005. Do 'food deserts' influence fruit and vegetable consumption?—a cross-sectional study. *Appetite* 45(2): 195–197.

Rose, D.J., N. Bodor, C.M. Swalm, J.C. Rice, T.A. Farley, and P.L. Hutchinson. 2009. *Deserts in New Orleans?: Illustrations of urban food access and implications for policy*. Ann Arbor, MI: University of Michigan National Poverty Center/USDA Economic Research Service Research.

Russell, S.E., and C.P. Heidkamp. 2011. 'Food desertification': The loss of a major supermarket in New Haven, Connecticut. *Applied Geography* 31(4): 1197–1209.

Shaw, H.J. 2006. Food deserts: Toward the development of a classification. *Geofgrafiska Annaler. Series B. Human Geography* 88(2): 231–247.

Short, A., J. Guthman, and S. Raskin. 2007. Food deserts, oases, or mirages?: Small markets and community food security in the San Francisco Bay Area. *Journal of Planning Education and Research* 26(3): 352–364.

Slocum, R. 2007. Whiteness, space, and alternative food practice. *Geoforum* 38(3): 520–533.

Slocum, R. 2008. Thinking race through corporeal feminist theory: Divisions and intimacies at the Minneapolis Famers' Market. *Social and Cultural Geography* 9(8): 849–869.

Stringfield, J.D. 2010. Higher ground: an exploratory analysis of characteristics affecting returning populations after Hurricane Katrina. *Population and Environment* 31(1–3): 43–63.

Thomas, B.J. 2010. Food deserts and the sociology of space: Distance to food retailers and food insecurity in an urban american neighborhood. *International Journal of Human and Social Sciences* 5(6): 400–409.

USDA Economic Research Service. 2013. Food access research atlas: documentation. http://www.ers.usda.gov/data-products/food-access-research-atlas/documentation.aspx#.UioUS7yE4so. Accessed 6 Sept 2013.

Weisman, J., and R. Nixon. 2013. *House republicans push through farm bill, without food stamps. July 11, 2013*. New York: The New York Times.

Whelan, A., N. Wrigley, D. Warm, and E. Cannings. 2002. Life in a 'food desert'. *Urban Studies* 39(11): 2083–2100.

Widener, M.J., S.S. Metcalf, and Y. Bar-Yam. 2011. Dynamic urban food environments: A temporal analysis of access to healthy foods. *American Journal of Preventive Medicine* 41(4): 439–441.

Wrigley, N. 2002. 'Food deserts' in british cities: Policy context and research priorities. *Urban Studies* 39(11): 2029–2040.

Young, C., A. Karpyn, N. Uy, K. Wich, and J. Glyn. 2011. Farmers' markets in low income communities: impact of community environment, food programs and public policy. *Community Development* 42(2): 208–220.

Yuki Kato Ph.D., is an Assistant Professor of Sociology at Tulane University. Her research explores the broader social impacts of urban agriculture and alternative food movements, with a particular focus on social inequality, urban development and community recovery. Her most recent works have explored the spatial and social exclusivity of a local food market, as well as the implications of converting blighted properties into urban gardens and farms.

Laura McKinney Ph.D., is an Assistant Professor in the Department of Sociology at Tulane University. Her research, broadly characterized, consists of interdisciplinary examinations of nature-society interactions with an explicit focus on local and global sustainability dynamics. Recent work by this author spans the subfields of urban agriculture, disasters, environmental inequality, and ecological degradation across a variety of local, regional, and national contexts.