



Research article

Community context of food justice: reflections on a free local produce program in a New Orleans food desert

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Abstract: Food justice discourse has emerged partly in response to the critique of alternative food networks during the last decade, but its *justice* conceptualization tends to be too narrowly focused on food-related injustices rather than broader social injustices that shape food access and food sovereignty, a gap we address. Our analysis of a semi-experimental free local food program we administered in a New Orleans food desert demonstrates that several community context factors shape the residents' access to a local food market in this neighborhood: fragmented social ties, digital and generational divides, perpetual infrastructural failure, and the location of the market within the neighborhood. We argue that food justice discourse needs to incorporate social and cultural community contexts in its operationalization of food access and sovereignty, especially regarding how the latter concept is defined and executed in practice.

Keywords: food justice; alternative food networks; food desert; community

1. Introduction

The alternative food network (AFN) movement gained visibility and popularity in the United States, as well as in many other nations, during the last decade by advocating for alternative food production and consumption systems to counter the current mass food production and consumption systems, which the movement finds to be harmful to health and the environment. In recent years, however, scholars have pointed out that the movement has been largely oblivious to the underlying white, middle-class ideologies that shape its definitions of *good food* and *localism* [1,2]. There are also concerns that the presumed color-blindness of AFN activities and social spaces, such as farmer's

markets and community-supported agriculture (CSA) organizations, send unintended exclusionary messages to poor and minority individuals [3,4]. While acknowledging that “access to healthy food is shaped not only by the economic ability to purchase it, but also by the historical processes through which race has come to affect who lives where and who has access to what kind of services” [5], many of these critiques focus on the presumptions and obliviousness of the activists and supporters of the AFNs [6,7], rather than examining how those who are supposedly being excluded perceive and react to the AFN movement.

More recently, food justice discourse has emerged, partially in response to the critique of the AFNs, to focus more specifically on the social injustice surrounding food production and consumption issues [8-10]. This relatively new discourse shares some core ideas with the environmental justice movement, such as its concerns with institutional racism. Nevertheless, food justice discourse departs in some areas from the environmental justice discourse, especially in terms of how food consumption and production can be linked to civil rights. In particular, how “community” as a unit of social justice operates on the ground has not been empirically examined. This article aims to fill the gap in the scholarship, with particular focus on how community context shapes food access and sovereignty in a food desert.

The article is based on a semi-experimental free local produce program that the authors designed and ran during fall 2012 and spring 2013 in a New Orleans neighborhood that has been designated as a food desert [11]. We primarily draw data from the surveys we collected from the residents of the low-income, predominantly African American neighborhood who received \$25 worth of local produce selections for six weeks from a nearby alternative food market. We conducted surveys with the participants before, during, and after the study to gain insights into their food purchase and consumption patterns, as well as their reactions to the market and to the produce they received during the study. In addition to the survey, we also incorporate our experiences in managing the program, which revealed some information about the spatial, social, and personal contexts in which the participants experience challenges in accessing locally grown produce. In particular, several community contextual factors appear to contribute to the residents’ views and behaviors regarding food consumption, namely, the fragmented social ties within the community, digital and generational divides, perpetuate infrastructural failure, and the location of the market within the neighborhood. Our findings highlight limitations of the current food justice discourse, and indicate a more nuanced and dynamic understanding of how food access and food sovereignty, two core concepts of food justice, may be experienced in so-called food deserts.

1.1. Emergence of the food justice discourse

The food justice discourse [8] that has emerged in the last decade among scholars and alternative food movement advocates responds to the AFNs’ failure to engage with the social justice dimension of food reform. AFNs have consistently faced challenges as a social movement due to their ideologically driven solutions and lack of a concrete and singular aim [12]. The “fuzziness” of the AFN concept [13] stems from the fact that it is defined mostly by what it is *not*. The AFN movement’s agenda presumes two oppositional extremes: capitalistic industrial food production with more social harm than benefits and alternative agriculture that has a grassroots nature and is socially embedded [14]. As Allen [15] points out, such extreme dichotomy poses challenges in how the movement could build sustainable local food systems while also resolving the social inequality in the

access to the local food. Questions have been raised about the distance that should be considered local, and whether locality can necessarily be equated with higher quality [1,16,17], but such scrutiny does not go far enough to ask *who* constitutes the local community, especially from the consumers' point of view. Framing of the AFNs as revolutionary or subversive in relation to the "mainstream" agricultural production and consumption networks has been met with some skepticism in recent years among scholars who point to the movement's overreliance on individual actions in bringing about food reform [18,19] and reflection of neoliberal ideologies rather than a structural social welfare approach. McClintock [20] argues that coming to terms with the contradictory nature of the AFNs, in their reliance on the very market system they challenge as a solution, could actually strengthen the transformative potential of the movement. Nevertheless, these broad concepts do not effectively address the structural challenges that shape who has access to what kind of food in a society.

To this effect, the AFN practices and scholarship thus far have focused primarily on producers and activism, with little attention to the consumers, especially the predominantly minority communities that experience financial strains [12,21-24]. Even on the producer side, the vulnerability of minority urban farmers' practices has not garnered as much attention, with few exceptions [25]. Thus, why some consumers do not participate in AFNs has not received sufficient attention by scholars [12]. Where consumers are concerned, scholarship on the topic has been primarily focused on consumer choices as solutions to the problems of industrial agriculture, instead of calling for larger policy changes [26]. However, many activists and supporters are often oblivious to the fact that AFNs, while presumed to be color-blind, are, in practice, nearly exclusively situated in white, middle-class cultural habitus [2-4]. For example, Shaw's identification of ability, asset, and attitude as three forms of impediments to food access focuses on individual characteristics rather than structural constraints [27].

The food justice discourse emerging in the last decade addresses some of these concerns by placing explicit emphasis on structural inequality and injustice relating to food production and consumption. In doing so, some aspects of the new food justice movement borrow from the "environmental justice frame" [28] to empower marginal communities in establishing "food sovereignty" [8] as well as food access. Nevertheless, the food justice discourse, at least the way it has thus far been conceptualized and applied, has some challenges and limitations, most notably how these concepts are applied in practice.

1.2. Challenges and limitations of the current food justice discourse

Ironically, current food justice movements also suffer from fuzzy definitions of *justice* [9,29,30]. DuPuis et al. [31] critically examine how justice may be construed in the food justice discourse, but thus far the literature does not include sufficient empirical studies to illustrate how *food injustice* may be experienced. The food justice discourse also focuses too much on food and less on broader social contexts [32], such as the community's social and infrastructural conditions, despite its own critique that the AFNs do not address such considerations. In particular, how food injustice intersects with other aspects of social injustice within a particular locale requires further investigation. For example, some successful food justice projects (e.g., Growing Power, Detroit Black Community Food Security Network) are embedded in communities [33,34], but there has not been extensive research on cases in which the food justice movement fails to effectively mobilize the community and, importantly, the factors that may account for this failure.

Food access, one of the two pillars of the food justice discourse, according to Alkon and Agyeman [8], is most evident in the food desert concept. The food desert concept considers both retail locations and poverty rates [35,36] in determining the areas that lack food access, with emphasis on how locations of food outlets affect access [37], but it has come under criticism for several reasons. Focusing on large-scale grocery stores overlooks the role that small corner stores might play in providing fresh produce in urban settings [38], though the potential of these outlets for enhancing local food access for the low-income population may be limited [39]. Even among large-scale grocery stores, so-called discount food retailers must be distinguished for the lack of fresh and healthy options on their shelves compared to other food retailers [11]. Moreover, there has been a dearth of studies of the “lived experiences” or the “foodways” of the poor [40,41], especially how people who live in food deserts have varying access to food. For example, Hallet and McDermott [42] find that the boundaries of food deserts vary by individuals’ preferences and transportation access in relation to the location of food outlets.

The food desert concept seemingly shifts the focus away from the individual consumers’ choices to the structural options. However, its presumption about how living in a particular geographic location affects the residents’ food access has not included information beyond availability of food outlets and the residents’ economic capital, which is often measured by the poverty rate in the area. This concept leaves out other factors that may affect the food desert residents’ food purchase and consumption behaviors. Our study aims to identify which *other factors* should be examined to better understand how the limitations or opportunities of food access are experienced in so-called food deserts.

Unlike food access, *food sovereignty* has no established method of measurement. The concept, modeled after the environmental justice movement’s call for procedural justice in environmental pollution cases, calls for “a greater distribution of power in the management of food and environmental systems” [8]. This power can be understood as one’s ability to define what food to eat and how food is produced, accessed, and consumed. But how this ability is experienced or how we can empirically define and measure the concept remains underdeveloped in the literature, especially when compared to food access. Part of the problem here is that the concept does not make clear where the power resides: at the individual, group, or community level?

If sovereignty is attributed to individuals, it risks falling more in line with the individual-oriented food consumption view of the mainstream AFNs, the very thing that the food justice discourse aims to critique. By contrast, if sovereignty is attributed to a community, then what or who constitutes this community requires careful consideration, especially given the food desert concept’s overreliance on geographic aggregation of households. Our study begins with an operationalization of “community” as an urban neighborhood, and empirically illustrates the wide-ranging factors that seem to affect the residents’ food access. In the end, we problematize this operationalization of community, especially in regard to food sovereignty, because our data show the complexity of identifying “what the *community* wants” relative to the residents’ power over where their food comes from and how they access and consume it. In doing so, this article aims to fill the void in the literature by examining food desert residents’ exposure to the local food market in their neighborhood, with a particular focus on how the community context shapes their experiences.

2. Materials and Methods

In this semi-experimental study, we offered six weeks of free produce access at Hollygrove Market and Farm (HMF) to thirty-one residents of the Hollygrove neighborhood. Hollygrove is a working-class neighborhood in New Orleans whose residents are predominantly African American (92%). Many parts of the neighborhood suffered significant flooding during the days following Hurricane Katrina in 2005. In the decade since the disaster, the area has recovered much more slowly than other areas in the city, and it received little national media attention. As of 2010, just over 50% of the neighborhood housing units were occupied by owners, approximately 27 % of the residents live in poverty, and the average household income for 2008–2012 was estimated to be \$32,665—approximately half of the city-wide average household income for the same period, which was estimated at \$60,280 [43]. The neighborhood has been identified as a food desert shortly after Hurricane Katrina [11], and at the time of data collection, there were only two supermarkets within 1 mile of the neighborhood boundary, which catered to wealthier clientele.

HMF was established in 2008 to address the limited access to locally grown produce in the immediate neighborhood as well as in the entire city. The founders were strongly influenced by the writings of popular alternative food proponents such as Michael Pollan and Wendell Berry. HMF's site consists of a daily market space that sells locally grown produce, meat and dairy products, and other value-added goods (e.g., breads, jams, and coffee), as well as about a quarter acre of growing space tended by community gardeners and two mentor gardeners. Customers may purchase either a pre-set produce box of the day for \$25 or buy items à la carte by weight or volume. Despite the CSA-style system of the produce box, the market purchase does not require any membership or advance payment, in an effort to make it more accessible to those who could otherwise not afford to shop there. At the time of the study, the market also offered home delivery of the pre-set produce box on selected date and time (either a weekday or a weekend afternoon). The market has been quite successful, and its business hours expanded from one day a week to seven days a week over the last five years, though it experienced challenges in encouraging the nearby residents to patronize the market, even with its 20% Hollygrove resident discount. Thus, HMF collaborated with our research team to identify how the market may better serve the needs of the neighborhood.

We recruited residents to participate in the study through multiple methods: a community newsletter, the market staff's existing contacts in the neighborhood, and snowball sampling. We immediately acknowledge our use of qualitative methods with snowball sampling techniques does not allow us to generalize our findings to the population of the neighborhood or food desert residents. Nevertheless, our general findings regarding the difficulties experienced in regularly accessing the market shed light on the heterogeneity of the experiences in food deserts, and the types of individuals who are most likely to be food insecure in these communities, without making a specific quantitative claim on the rate of such risk. We were careful to enroll residents who had not been regularly shopping at the market, and we encouraged those who contacted us to spread the word. We selected 31 participants in an effort to make the demographic diversity of the sample as representative as possible of the neighborhood, with particular regards to the race and family structure information that we gathered during the initial recruiting process. In the end, our initial sample consisted of 31 residents, including 25 women and 6 men. All but one participant identified as African American. The participants' average age was 63 years, with nine participants, all females, being under 50 years of age. Eight participants (26%) had at least one child living at home, while the majority of the

participants either lived alone (29%) or lived with another adult but no children (29%). Prior to starting the free produce program, we held an information session at the market during nonbusiness hours to inform the participants about the basic project design and to gather their consent forms and pre-study surveys. About one third of the participants were able to attend this session, and all others received the information via postal mail. In total, we collected 24 pre-study surveys from the participants.

Once the program began, we assigned each participant to one of two groups. Every other week for the first two months, each group received either a free box of produce (\$25 value) delivered to their door or a \$25 voucher to be redeemed at HMF within two weeks. We designed the program to give alternating options to the groups each week to account for the varying content of the produce box, reflecting what was in season, and the additional offerings at the market. Our aim was to understand how the participants responded to the pre-set produce selection in the box delivery and if they indicated particular preferences for certain items when using vouchers. For example, we were interested in finding out if they would rather purchase dairy products, meat, or value-added goods than produce, since the delivery box only contained fresh produce except for occasional bags of sugar or rice. After each week of box delivery or voucher dispensation, we surveyed the participants about their reactions to the items they received or purchased, if and how they consumed the items, and any problems they experienced. Overall, the methods of gathering the information consisted of a combination of mail, phone calls made by research assistants, and survey drop-off at the market. We modified the communication methods over the course of the study to respond to the challenges we faced in the field, a point we return to below. The participants who completed the fourth round of the weekly consumption surveys could choose to receive either the box delivery or the voucher option for the remaining two weeks. This design encouraged the participants to respond to our weekly consumption surveys during the first two months and indicated which of the two purchase options better suited their needs.

To provide information about the items and possibly facilitate their consumption, we included a list of the produce items in box deliveries and provided a recipe card each week of the study (see Figure 1). Produce information sheets simply listed the name of the items and where they were grown, without any visual illustration of the items (see Figure 2). One side of the recipe cards provided care and storage instructions for some produce items included in the box that week, and the other side gave a recipe for a dish using one of the items. In selecting the recipe and produce care information, we tried to incorporate the vegetables we anticipated to be less familiar to the participants, such as turnips and bok choy, or to provide healthier ways of cooking items that were likely familiar to them, such as broccoli or collard greens.

At its conclusion, we administered a post-study survey to the nineteen participants who completed the program. Unlike other surveys, a research assistant visited the participants and filled out the last survey with them. We used this method partially to ensure data collection, as there were no longer any incentives for participation since the free produce program had ended, but also because of correspondence issues we encountered throughout much of the program, mostly due to the unreliable postal service. Over the approximately four months of the program, we shifted the survey data gathering methods from the postal service to phone surveys, drop-off of surveys at the market, and personal delivery and pickup of surveys, a point elaborated below. The shift in collection techniques resulted in more complete data; indeed, improvising our data collection methods was necessary for the analysis.

Tips for Storing & Using Produce

Fruit/Vegetable	Storage Method/Time	Tips
Turnips	Refrigerator crisper: 1-2 weeks	Remove green tops, store vegetables in plastic bags. Wash before using.
Radish	Refrigerator crisper: 1-2 weeks	Trim taproots from radishes, store in plastic bags. Wash before using.
Collards	Refrigerator crisper: 4-5 days	Wrap leaves in moist paper towels and place in sealed plastic bag. When ready to use, wash thoroughly.
Squash	Refrigerator: 2-3 days	Wipe clean and store in plastic bags. Wash before eating.

Speedy Sauteed Turnips and Greens

Turnips can be eaten raw, sliced on salads, roasted with other root vegetables or cooked in stir-fries. Here's a recipe for cooking the turnips and greens.

<p>Ingredients</p> <p>2 bunches turnips with greens ½ Tablespoon olive oil ½ Tablespoon olive oil Salt & pepper to taste ¼ c. white wine (OR juice from 1 satsuma plus 1 teaspoon vinegar; OR ¼ cup chicken broth)</p>	<p>Directions</p> <p>Rinse turnips and greens well. Cut greens from the turnips and chop into 2-inch pieces. Trim straggly roots from turnips and discard. Cut turnips into quarters or eighths, depending on size. In sauté pan with a lid, heat olive oil and butter. Add turnips, sprinkle lightly with salt & pepper. Saute until crisp-tender, about 5 minutes. Remove turnips from pan. Add greens to the pan, cover and allow to cook until just tender (6-8 minutes). Add white wine and cook until almost all liquid is gone. Return turnips to pan, heat 1-2 minutes. Enjoy!</p>
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Figure 1. Recipe card example, front and back sides (from October 19, 2012).

Box content for 10/23 (Tuesday)	
-Sweet Potatoes (Pointe Coupee Minority Farmers Co-op)	-Baby Heirloom Squash (Covey Rise Farms-Husser, LA)
-Apples (Cherry Creek Orchards, Pontotoc, MS)	-Bell Peppers (Covey Rise Farms-Husser, LA)
-Eggplant (Covey Rise Farms-Husser, LA)	-Cajun Grain Rice (Cajun Grain-Kinder, LA)
-Mustard Greens (Fekete Farm- Hungarian Settlement/Covey Rise-Husser, IA)	-Red Frill Mustard (Covey Rise Farms-Husser, LA)
-Pickling Cucumbers (Covey Rise Farms-Husser, LA)	-Natural Arugula (Macon Fry Garden Guy)
	-Satsumas (Tarver Citrus Farm-Chauvin, LA)

Figure 2. Box content information sample for October 23, 2012.

In addition to the surveys, the authors took field notes on the recruitment process, the information session held at the market prior to the beginning of the project, and all communications with the participants during the study, especially when collecting the weekly consumption surveys. Some participants wanted to share more information about their reactions to the produce and the market with our research assistants when they called for the weekly surveys; any additional details were noted as supplemental qualitative data. We used SPSS to code and analyze the quantitative data for all of the surveys. Qualitative data across all surveys, as well as those captured in our program management notes, were coded manually for organization and analysis.

3. Results

In the following sections, we present a series of empirical examples from the study that illustrate how community context shaped food access and food sovereignty in the Hollygrove neighborhood. We draw data from the surveys we conducted with the free produce program participants in addition to our field notes.

3.1. *Fragmented social ties*

One factor that we quickly identified as posing significant challenges in HMF's ability to market itself in the neighborhood was the fragmented nature of social ties within the community. While managing the food program, we found several manifestations of this fragmented nature: at the information session, during the recruitment process, one weekend during the program, and in the post-study survey.

At the pre-study information session we noted that among the individuals who attended the session, numbering approximately a dozen, only a few recognized each other. Even those who acknowledged "having seen" each other had never made an interpersonal connection. Particularly striking was the revelation that some had lived just a few doors down from each other for years, but still had not exchanged basic introductions. We initially did not make much of this lack of acquaintance among these residents, all but one of whom eventually joined the study. However, we were puzzled once we reviewed the demographic information gathered in the pre-study survey. Specifically, those data revealed that the mean tenure in the Hollygrove neighborhood among participants was 37.5 years, with the majority having lived there for more than 40 years (see Table 1). This initially drew our attention to the potentially fragmented nature of social ties among the residents of this neighborhood, which had a total population of approximately 7000 of which 50% were homeowners [44].

Table 1. Participants' tenure in Hollygrove Neighborhood.

	No.	Percent
10–19 years	2	8.3%
20–29 years	5	20.8%
30–39 years	4	16.7%
40–49 years	7	29.2%
50–59 years	5	20.8%
60–69 years	1	4.2%
Total	24	100%

Additional indications of the weak social ties among the residents were observed during the recruitment process. All interested residents who contacted us to participate in the study were encouraged to pass on the information to their acquaintances in the neighborhood. We asked the potential participants how they found out about the study, and we noted individuals who networked via personal referrals. According to the records of these calls, about 3 of the residents made multiple referrals, but only 10 of the 52 individuals we put on our contact list found out about the study from another resident or a family member. Another peculiarity was that a slew of calls poured in from individuals who were not Hollygrove residents. We never told the interested residents to stop inviting their friends in the neighborhood to call us, because we initially compiled all contacts on a waiting list so we could be selective in who we would ultimately choose to participate in the study. But our phones stopped ringing after a week. We interpreted these events as an indication that the residents, some of whom were very excited about the opportunity, either did not know many other residents or did not feel comfortable referring them to the study. Furthermore, despite our statements that we were seeking younger families to enroll, referrals were not made across age groups. To be clear, we do not intend to imply that the residents in Hollygrove neighborhood had no social ties among themselves. There were several active senior groups as well as a non-profit organization in the neighborhood that HMF had partnered with in the past in order to reach out to the community. Our observation from the study shows why these previous attempts of outreach may have missed those who were not connected to these core organizations or groups in the neighborhood.

We also identified other signs of cross-generational disconnects in the neighborhood during our study. During the recruitment process, we made conscious efforts to enroll as many younger families into the study as possible. We initially enrolled nine participants who were under 50 years old, five of whom had younger children in the household. Among those, only one participant completed the program. Over the course of the program, we made several attempts to reestablish participation or at least to reconnect with those who had ceased correspondence in order to find out why they stopped participating in the study. For example, we sent a holiday card around Christmas to these five participants, accompanied with a one-page survey about their reasons for leaving the study, along with a stamped return envelope and a \$5 voucher to be redeemed at HMF. Unfortunately, they neither returned the surveys nor redeemed the vouchers at the market.

Given the lack of information from the participants who left the study, we asked the remaining participants in the post-study survey if they could offer some insights on what might explain the departure of these younger individuals from the study. Their responses ranged from no opinion (42%) to attributing the attrition to the younger families' lack of interest in health (21%), lack of home-cooking practices (16%), and laziness or irresponsibility (11%) (see Table 2). We preliminarily interpret these responses as one indication of the generational disconnect within the neighborhood. Regardless of the reasons for the senior residents' lack of opinions about the younger people's departure from the study, which we analyzed to be an indication of a lack of regular or positive interactions across generations, it is notable that the specific speculative reasons mentioned in the survey largely point to individually oriented factors, such as responsibilities or interests, rather than structural ones, such as lack of child care or lack of transportation. Ironically, these individually oriented speculations echo the undertone of the mainstream AFN rhetoric that the lack of participation in the movement is a result of a lack of education or interest [2], despite evidence that many residents of these economically and socially marginalized communities are aware of their food insecurity and make conscious efforts to address these issues despite limited resources [40].

Table 2. Participants' responses to the question: Most of the younger families we involved in the study dropped out without completing the participation. Do you have any ideas why?*

	No.	Percent
No opinion	8	42.1%
They do not care about or interested in being healthy	4	21.1%
They do not cook at home	3	15.8%
They are lazy or irresponsible	2	10.5%
Market does not carry the selection they like	1	5.3%
They don't have time to cook	1	5.3%

*Multiple answers allowed, resulting in total percentage to be more than 100%.

3.2. Digital divide

Possibly because of the older average age of the participants, combined with their lower socioeconomic status, HMF's primary reliance on digital communication (e.g., social networking sites, email) for disseminating information about its products and services likely contributes to the lack of awareness of the market among these residents prior to their study participation. The market's information about the contents of the weekly produce box is regularly posted on its website, emailed to list subscribers, and distributed via social networking sites such as Facebook and Twitter.

The study participants' disadvantages in not using these digital communication services became evident one anomalous weekend when the market ran out of food. During the first weekend of 2013, the market experienced unusually high customer turnout and ran out of most food items on Saturday. That evening the authors received the following notification through HMF's electronic mailing list:

Due to an unusually large Saturday market (our biggest in almost a year), we will not have produce boxes available for tomorrow, Sunday, January 6th. We just wanted to let you know so that you don't make the trip out to the market for nothing. We will be open normal hours, though the selection will be limited. (Email communication from Hollygrove Market and Farm, 5 January 2013)

The email also listed the six produce items in stock and mentioned that dairy, meats, coffee, and eggs would still be available on Sunday. We received several calls the following Monday from study participants, whose vouchers expired that day, reporting that they went to the market on Sunday only to discover that the market had completely run out of boxes and lacked sufficient stock of other foods to sell. We immediately reissued new vouchers to these participants, but learned from the staff that the market was quiet most of Sunday, likely indicative of many potential customers' successfully receiving the update and deciding not to visit the market that day. After this incident, we decided to disseminate manual (hard-copy) announcements about HMF when possible, such as the new expanded hours that began toward the end of the program period. Otherwise, we suspect, many residents would not have learned about the additional days and extended weekend hours at the market.

Another indication that the study participants did not rely on online resources was their responses to the recipe and produce care information cards we included in their box deliveries and voucher mailings. Each week we asked the participants whether or not they utilized the recipe and produce information cards. During the post-study survey, 18 out of 19 participants said that the recipe cards and the produce information cards were helpful, though 4 of them told us that they experienced difficulties identifying some of the vegetables. One participant who did not use the

recipe card claimed not to need it, and others told us they modified the recipe or tried friends' suggestions for cooking the items that were new to them. Interestingly, none of them mentioned utilizing online resources to search for recipes or to help identify vegetables, a stark contrast to the first author's earlier study that found prevalent use of the Internet for finding recipes among the typical customers at HMF [45]. HMF's weekly newsletter also contains links to online recipes. Although in this particular example the lack of technological aids did not deter individuals from consuming locally grown foods, we find the contrast between the practices of this population and those of the dominant supporters of AFNs to be of notable importance. As AFNs attempt to diversify their audience and deepen their reach, the use of alternatives to web communication might be necessary to realize those objectives.

The digital divide is not simply a technological disconnect between the market and the neighborhood, but reflects the general tendencies of the mainstream alternative food movements to be uncritically situated in the white, middle-class *habitus*, or a particular cultural taste and dispositions of a social group. Such unintentional yet exclusive cultural tendencies shape how concepts such as *good food* and *localism* are defined and practiced [1,2], sending exclusionary messages to poor and minority individuals [3,4]. In the case of HMF, the market did attempt to inform the neighborhood about its opening using physical flyers and announcements in local newsletters, but the day-to-day operational communication primarily relied on digital technology. This resulted in many residents not being aware of the newer services that the market eventually implemented including the resident discounts, EBT acceptance, home delivery or expansion of purchase options beyond preset buyers' box. As such, the information on the very improvements that were aimed at easing the market's access to the lower income residents were not reaching the target demographics. Thus, we contend that the digital divide significantly limited HMF's ability to attract larger community participation.

3.3. Infrastructural failure

Another insight into the structural challenges in this community came when we had to modify our survey administration logistics at several instances in the data collection process. While sometimes frustrating and time-consuming, these challenges granted us opportunities to converse directly and more frequently with the participants about their experiences of participating in the study. They also provided a glimpse of the impacts of broader infrastructural failures on food access disparity, beyond the factors that we were explicitly testing in the study, such as economic capital, cultural capital, and mobility.

Our original strategy was to distribute and receive the surveys through the US Postal Service (USPS), but two weeks into the study it became clear that as much as one-fourth of the mail we sent or the participants sent back got lost and was never received. The delivery failure was consistently inconsistent, meaning that some of the addresses received our mail one week but not the other, while some residents were seemingly unaffected by these issues. After lodging numerous complaints regarding the lost mail at the local post office that happens to be located in the neighborhood the postal service staff hinted that temporary mail delivery personnel may have caused some of the problems. In the end, the majority of the missing mail never turned up in our university mailboxes, despite using envelopes with the departmental return address.

By the fourth week we began hand delivering the biweekly surveys to the participants' homes

and shifted our survey collection methods to over-the-phone communications. This new survey collection method involved two undergraduate research assistants making daily calls to the participants to make sure they received the survey or the voucher if applicable, and to take down the information about the participants' purchase and consumption behaviors from the previous week. We then learned that some participants could not be reached easily because of their busy schedule or because they did not have a direct phone line. Thus, by the sixth week we began asking the participants to drop off the surveys at the market when they visited while continuing to use the phone surveys as a backup data collection method.

During the weekly phone calls, some of the participants described the missing mail issues rather nonchalantly as something that happens "all the time." Given these events, we posed the following questions during the post-study survey to get all of the remaining participants' insights on this matter: "We had chronic issues with the US Postal Service—is this an ongoing issue for the residents? What should/can be done about it?" To our surprise, the responses were bifurcated. Eight of the 19 post-study survey respondents claimed that they did not have issues with USPS delivery, while nine suggested that it was a problem, though four of the latter mentioned that it had improved in recent years or that the problem was sporadic rather than persistent. The lack of consensus on the presence or absence of issues with the USPS can also be symptomatic of the general absence of social capital across members of the community, as the issue was not recognized as a collective concern by the community members. That is, the ties that might otherwise serve to unite and mobilize communities to seek solutions to community-wide problems were not in place. Concomitantly, the relative lack of financial and political capital in the community likely perpetuates service failures such as these.

3.4. Significance of the market location

While residing in a food desert may not necessarily result in one's lack of food access and sovereignty, our data indicate that space does matter, but in a more localized and socially contextualized manner than the bulk of food desert scholarship would suggest. On the basis of our conversations with the study participants and the first author's interviews with the neighborhood residents prior to the current study, we attribute their lack of knowledge and use of HMF prior to program enrollment to several possible spatial factors, including the dissected nature of traffic flow within the neighborhood, the fringe location of the market, and the historical segregation of the park across the street.

First, the market's location on a one-way street heading into the neighborhood from a major traffic artery may have prevented residents from casually passing by it, unless they use that particular street to enter the neighborhood. Furthermore, several multi-lane boulevards intersect the neighborhood diagonally, making access to the market complicated even for those living a short distance from it. This situation was especially problematic for residents without private modes of transportation or those with physical disabilities.

Furthermore, the first author's previous study of the neighborhood revealed that the athletic field directly across from the market was historically segregated; thus black residents in the area may not have had a general habit of visiting this particular corner of the neighborhood (see Kato 2013 [45]). Given these findings, we propose future efforts to identify food deserts consider traffic flow patterns in addition to distance as part of the spatial access to food outlets, and why some people may avoid certain spaces regardless of proximity. Such avoidance may be due to spatial and traffic flow

constraints, historical spatial memory, or social concerns, such as sense of safety, racial and class boundaries, and other highly localized phenomena.

4. Discussion

Upon analysis of the post-study survey, we were surprised at the lack of expectations among the participants for HMF to enhance efforts to reach out to the community or to make the produce that they enjoyed more affordable to them. According to the survey results, seven participants listed health concerns, which were typically connected to the need for healthy food, as one of the major needs in the neighborhood. Nevertheless, when asked what HMF could do to serve the community's needs, participants proposed very few concrete solutions, aside from providing healthy eating or gardening education for the seniors and the youth; one of the participants specifically expressed doubts as "Don't know how Hollygrove can help," a finding that is consistent with prior work (see Kato 2013 [45]).

Similarly, we asked participants in the post-study survey for suggestions on how HMF could better advertise itself in the neighborhood and were disappointed to find their feedback to be either too broad (e.g., "Market itself better") or something that HMF had already attempted in vain (e.g., "More fliers" or "More advertising" in the neighborhood). Notably, six respondents attributed the lack of neighborhood involvement to a lack of knowledge or interest in "eating healthy." Half of those who made such assessments also offered similar speculations on the younger families' attrition, citing their lack of interest in or concerns for health. These findings indicate these Hollygrove residents view local food as an important way to improve their health, but are more likely to consider food access as an outcome of individual choices rather than of structural impediments, which is more consistent with the mainstream AFN attitudes than with food justice views.

5. Conclusions

After six months of managing the study, we were able to gain a more nuanced understanding of the study participants' experiences at the market, views on health and food, and assessment of community issues. We contend that our study design, though it did not originally intend to measure such factors, exposed us to the everyday challenges in the food desert that exist, including those factors beyond food access. The experimental and longitudinal nature of the study provided glimpses into these community context factors, at every level of the data collection process, from recruitment to follow-up surveys. In short, some of the challenges the residents experienced in participating in the study made us consider how the same set of challenges may affect their food access, even though the participants themselves did not necessarily link the two.

The insights we gained conducting the study have implications for scholarship on food access disparity and the alternative food movement. First, our study shows that *food access* is shaped by multiple interacting factors that are often not directly related to food outlets' location or what food is available at these stores. Building on the critique of the food desert concept [11,46,47], we argue that grouping households as being at risk in terms of food access solely on the basis of their residential location overlooks those who are most vulnerable in the city when it comes to consuming fresh, locally grown produce. In the Hollygrove neighborhood, fragmented social ties and the digital divide pose additional challenges to the effective dissemination of information about HMF's presence or

services that are pertinent to the residents, such as the resident discount. The lack of social capital also presents questions about who is most vulnerable within the food desert, as our data indicate that those who are socially isolated and constrained in terms of time and money may be more at risk of experiencing poor food access, while others with resources such as transportation, social support, and funds could simply leave the food desert to access the foods of their choice, regardless of where the food outlet is located. Similarly, HMF's direct distance proximity does not accurately measure *how* the residents get to the market and whether or not going there is convenient or part of their daily routine. Future research should more carefully study when, how, and with whom food desert residents shop for food, in addition to simply where and what they buy, to better understand food access as a dynamic process rather than a simple transaction independent of the broader context of their lives. Finally, we find that the general infrastructural failure within the neighborhood, exemplified by the inconsistent and unreliable postal services, indicates that the area suffers from multiple resource access impediments. More research is needed to better understand how the community residents assess the urgency of food access in comparison to other resources, and most importantly whether or not the limited access is viewed as social injustice more generally. Moreover, practices to address food insecurity should account for broader structural constraints that could hinder *access* to programs and services to improve food security among the most vulnerable populations.

Our study more acutely highlights the challenges of identifying and establishing *food sovereignty* in practice. We argue that the unit of analysis for this concept becomes problematic because of the gap between the scholarly operationalization of food sovereignty that views power as residing in the community, and our study participants' view of food consumption as individual choice and actions. We do not propose abandoning community as the unit of analysis in food sovereignty research, because our findings regarding food access clearly show that community contexts matter. We do, however, question the appropriateness of using geographically defined communities, such as neighborhoods or census tracts, as a way to accurately measure food access or sovereignty. Socially- and individualistically-oriented indicators of food insecurity, contextualized alongside the structural risks associated with a geographic location, provides a more nuanced understanding of the barriers to accessing healthier food options.

As mentioned previously, our study participants tended not to view the community's lack of access to fresh, local food as a "community problem" but rather as a result of individual choices or challenges. This finding is consistent with the tendency of many AFN supporters to view their participation as personal actions that hopefully have some positive effects on social and environmental equality, rather than as explicitly political actions [48]. If such is the case in food deserts, how do we envision and execute food sovereignty at a community level, especially when the neighborhood lacks a coherent and representative structure that could tackle the issue? To be clear, the Hollygrove neighborhood has several active social organizations, such as senior citizens' groups, a neighborhood association, a community development corporation, and a nonprofit that focuses on housing and family matters. Even if HMF were to build strong rapport and partnerships with these organizations, which it has attempted over the years, challenges remain in mediating how the local organizations envision and prioritize food sovereignty in their practices.

Furthermore, if community contexts that affect food access are shaped by historical racial and class injustices, the idea that food sovereignty should result in "culturally appropriate food" for the community members could become highly contested in practice. The food justice discourse has not sufficiently addressed what "culturally appropriate food" means to a particular community, as it

presumes the existence of some normative good food or taste among a particular social group—without testing this presumption empirically or asking how such taste may have come to exist. Nearly all participants in our study exhibited strong interests in trying new food items or learning healthier ways of cooking, though they were already competent in preparing fresh produce and often made dishes that were familiar to them. Participants expressed general sentiments that the cooking methods and dishes they were familiar with were not as healthy as they should be, though we did not explicitly ask in-depth questions to find out what “healthy food” meant to them. These findings indicate the need for more critical and in-depth qualitative studies of how *good food* is conceptualized, and more importantly on what basis. We also find this conceptualization to be a challenge unique to food justice concerns, in contrast to the environmental justice discourse, in which the definition of *good* water, air, and soil [28] results in less culturally specific understandings of these concepts.

In this regard, we reiterate our critique that the food justice discourse’s emphasis on food-related social injustice may limit or impede efforts to build fundamental and necessary mobilization tools in some cases [32]. Presenting the community with the idea of food sovereignty may not be immediately fruitful, especially if food consumption is viewed as an individual matter. However, once residents are mobilized to address social injustices that may be more readily understood as structural and community issues, such as postal services, road repair, or crime, food justice themes may resonate better as part of a “getting back the community” agenda. On the basis of our findings, we cast doubts on the food justice frame as the catalyst for such mobilization, and add that many of the existing successful food justice projects simultaneously tackle multiple dimensions of social justice, including food-related injustices [34]. Nevertheless, whether such rearticulations of food justice discourse could effectively mobilize social justice movements is an empirical question to be investigated in future research.

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Conflict of Interests

Authors have no conflicts of interests.

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