

2016

Finding Our Direction: The Process of Building a Community-University Food Mapping Team

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Recommended Citation

Kaiser, Michelle L.; Rogers, Christy; Hand, Michelle D.; Hoy, Casey; and Stanich, Nick (2016) "Finding Our Direction: The Process of Building a Community-University Food Mapping Team," *Journal of Community Engagement and Scholarship*: Vol. 9 : Iss. 2 , Article 3. Available at: <https://digitalcommons.northgeorgia.edu/jces/vol9/iss2/3>

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Finding Our Direction: The Process of Building A Community-University Food Mapping Team

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Abstract

Multifaceted causes and consequences of food insecurity require collaborative work across multiple academic disciplines and with various community partners in order to build sustainable solutions. Interdisciplinary teams require thoughtful considerations of time devoted to team-building exercises, paying particular attention to understanding members' values. Teams must find points of convergence, develop mutually agreed upon common language, and openly discuss needs and expectations. This paper describes the process of building a community-university Food Mapping Team to address food security. The FMT initiative allows for a well-coordinated exploration of data collection methods that capitalize on the diverse interdisciplinary expertise and resources of university researchers and extensive knowledge of community partners, whose work can inform, and be impacted by, these efforts. We provide a set of processes used to form our partnership and describe our decision-making process in the development of a community food security research project. We also include a self-assessment of the research planning and implementation process that our team used and describe areas of improvement for other community-university groups to consider.

To build sustainable solutions, multifaceted causes and consequences of food insecurity require collaboration among multiple academic disciplines and a variety of community partners. The Food Mapping Team (FMT) was established to explore ways that interdisciplinary, engaged community research, including geo-coded surveys, data analysis, and mapping, can be used to 1) provide a greater understanding of multi-dimensional food systems at local, state, and regional levels; 2) display geographic disparities associated with poverty, race, food insecurity, and health; 3) layer data sets related to food access, availability, distribution, and production; and 4) explore community-led interventions to address food insecurity and inequity.

This paper describes the process of building a community-university partnership to address food security. We discuss the background, rationale, and institutional support associated with the development of a food mapping team, the ways in which members were recruited and have (or have not) been retained, the impacts and benefits for community and university partners, the methods used to engage members in the work, and the ways in which FMT members were involved in the development and implementation of a specific community research project. We also include a self-assessment of the two-year research planning

and implementation processes that our team used and describe areas of improvement for other community-university groups to consider.

Background and Rationale for Addressing Community Food Security

Our FMT was built, in part, upon relationships established through an existing and evolving collaborative partnership aimed at addressing food insecurity and healthcare access called the Hunger.FOOD.Health Initiative. This section provides a background of the issues that were being discussed in the community and the university at the time the research team was formed.

Food security is "access by all people at all times to enough food for an active, healthy lifestyle," measured annually through a validated survey (United States Department of Agriculture [USDA], 2013). Food insecure households report reduced diet quality, variety, intake, or desirability (USDA, 2013). Health consequences of food insecurity include reduced consumption of fresh produce and higher rates of chronic health problems (Adams, Grummer-Strawn, & Chavez, 2003; Rose, 1999), which can lead to limited mobility and work impairment (Hamelin, Habicht, & Beaudry, 1999); depression, anxiety, social isolation (Casey, Goolsby, Berkowitz, Frank, Cook, Cutts, Black, Zaldivar, Levenson, Heeren, & Myers., 2004); and

impacts on child development (Alaimo, Olson, & Frongillo, 2001; Cook, Frank, Berkowitz, Black, Casey, Cutts, Meyers, Zaldivar, Skalicky, Levenson, Heeren, & Nord, 2004). Health outcomes resulting in low economic productivity and decreased social participation can negatively impact economically disadvantaged places (Hamelin, Habicht, & Beaudry, 1999).

The community food security [CFS] framework has been used by academics and community practitioners to reduce obesity and food insecurity by encouraging collaboration across different sectors to: 1) invest in food production, 2) retain localized food knowledge, 3) increase capacity for food-related economic opportunities, and 4) address nutritional quality in communities (American Dietetic Association, 2010; Hamm & Bellows, 2003; Story, Hamm, & Wallinga, 2009; Wallinga, 2009).

To understand how issues like consumer perceptions of safety and physical limitations interact with the food environment to determine how food and health outcomes could be improved through structural and behavioral interventions using the CFS framework, initial assessment of the community's food environment is necessary. The food environment has been operationalized in the following ways: affordability, in terms of price variations among food sources and between processed food and fresh produce (Chung & Myers, 1999; Drewnowski & Specter, 2004; Kozikowski & Williamson, 2009); accessibility in terms of transportation and distance to stores (Apparacio, Cloutier, & Shearmur, 2007; Short, Guthman, & Raskin, 2007; VerPloeg, Breneman, Farrigan, Hamrick, Hopkins, Kaufman, Biing-Hwan, Nord, Smith, Williams, Kinnison, Olander, Singh, A., & Tuckermanty, 2009); and availability of food sources and food varieties (Cohen, Andrews, & Kantor, 2002).

Geographic Information Systems (GIS) is one method that has been used to show spatial differences of food access, availability, and health outcomes that may differ in terms of income, race, population density, transportation, types of stores, and availability of alternative food markets (Apparacio, Cloutier, & Shearmur, 2007; Paez, Gertes, Farber, Morency, & Roorda, 2010; Sharky & Horel, 2008; Short, Guthman, & Raskin, 2007). GIS allows multiple datasets to be updated efficiently and analyzed to compute distance and buffers. Mapping can help determine community assets and liabilities (Cohen, et al., 2002). Mapping is

useful in terms of 1) communicating large amounts of technical information in a compact, visual way for different audiences, 2) identifying targeted intervention areas, and 3) communicating universal problems (Kirwan Institute, 2009).

History of Food Mapping Team Development

In 2008, The Ohio State University, where FMT members work, embarked on a strategic planning process that resulted in significant investment and support for initiatives that sought to address challenging global issues. Three focus areas emerged: Food Production and Security, Health and Wellness, and Energy and the Environment (The Ohio State University, n.d.a.). Shortly thereafter, an investment of \$3.75 million by the university supported the development and maintenance of the Food Innovation Center (FIC) for a five-year period (The Ohio State University FIC, n.d.b.). The purpose of this center was to encourage collaborative interdisciplinary teams interested in co-creating knowledge and solving global issues like obesity and food insecurity. The FIC supported the development of collaborative research teams with \$2,500 Team Award grants and larger project-specific one-year innovation initiative grants (\$50,000). The FMT began in November 2012 with a Team Award after interest for such work grew out of the FIC-funded Hunger.FOOD.Health Initiative's strategic think tank event in July 2012 that involved over 60 community and university stakeholders. The Team Award enabled community partners and faculty interested in exploring food mapping to come together each month from January 2013–May 2013, resulting in successfully obtaining an Innovation Initiative grant in the summer of 2013. The primary investigator (PI) and first author, who is a university faculty member, was awarded the funds and managed them; no funds paid for faculty research time for any team members. Details of the work that took place over this time period are included in subsequent sections to provide a set of processes that we used and the purpose of each of those processes.

Significance of the FMT Research

The institutional support for, and the community investment in, addressing the causes and consequences of food insecurity cannot be understated. The FMT organically developed from conversations with community agency leaders, food industry professionals, and university faculty and students in response to the need to address local food insecurity. This organic evolution paralleled

the development of the university's focus areas. The university and community support for the work of the FMT has created the infrastructure necessary to better understand and improve food security at the household, community, and regional levels.

While national data sets and maps provide a solid starting point for communities to understand food environment disparities, their shortcomings have led several nationally recognized food security leaders to recommend improved methods to integrate localized primary data collection. The layering of data at several scales can lead to a better understanding of food access in terms of its spatial, temporal, cultural, economic, personal, social, and service delivery domains (Freedman, Blake, & Liese, 2013). The FMT initiative allows for a well-coordinated exploration of data collection methods that capitalize on the diverse interdisciplinary expertise and resources of university researchers, along with the knowledge of community partners, whose work can inform, and be impacted by, these efforts. Ultimately, we seek to select and test sustainable interventions to improve food security and community health in different localities.

Team Members

We developed an initial list of potential Food Mapping Team members through newly formed and existing relationships among faculty and community agencies, participants of the Hunger. FOOD.Health Initiative, and Food Innovation Center members. Then, we used a snowball strategy, aiming to keep the group open and diverse. During this initial phase, we focused on exploring common interests and collaborative relationships. Though some of the initial community and the university members have decided to no longer participate (e.g., due to job changes, different research interests, competing work responsibilities), other group members have been added, and the group is always open to new members. Our core team consists of 12 faculty across five colleges (Arts & Sciences, Social Work, Medicine, Health Sciences and Dietetics, and Engineering), two schools (Public Affairs and Architecture), five departments (Geography, Family Medicine, Medical Dietetics, City and Regional Planning, Horticulture and Crop Science), three institutes or programs (Agroecosystems Management Program, Center for Urban and Regional Analysis, and the Kirwan Institute for the Study of Race and Ethnicity), a non-profit urban farm, a non-profit local food advocacy organization, a large regional foodbank,

the city health department, representatives from the local food policy council, a healthy corner store program, and graduate students from a wide range of disciplines. Most participation has been unpaid and voluntary, with the exception of campus parking passes and light snacks and meals during meetings. The second grant (\$50,000) supported a part-time project coordinator, two community-based research assistants, and two student assistants. Departments where faculty and staff reside also occasionally provided funding for graduate students working on the project.

Building Our Team

The FMT spent the first four months participating in a wide range of facilitated discussions aimed at helping build team rapport. Much literature exists on the challenging aspects of creating successful community-university partnerships because of the extensive work needed to quell conflict, adapt to different personalities, and manage power and control (Cottrell, Lord, Martin, & Prentice, 1996; Nelson, Prilleltensky, & MacGillivray, 2001; Strand, Marullo, Cutforth, Stoecker, & Donahue, 2003). Other hurdles include navigating differences in ways research is conducted (Cottrell, et al., 1996; Williams, Labonte, Randall, & Muhajarine, 2005) and faculty concerns about whether community-university research is rigorous enough or will be accepted widely in scholarly journals (Galinsky, Turnbull, Meglin, & Wilner, 1993; Lundy, Rippey-Massat, Smith, & Bhasin, 1996). Time commitment is also important to all involved (Bevilacqua, Morris, & Pumariega, 1996; Lundy, et al., 1996; McWilliam, Desai, & Greig, 1997).

The PI is trained in social work, a professional discipline rooted in values of social justice, service, and the value of every individual and human relationship (National Association of Social Workers, 2008). The PI's background and training, in addition to experience facilitating service learning, set the stage for the deliberate process of utilizing asset-based community engagement methods (Kretzmann & McKnight, 1993) and researching the creation of successful, collaborative interdisciplinary teams in which each person felt their ideas and expertise were valued (see Ditkoff, Allen, Moore, & Pollard, 2005; Helm, Holt, Conklin, Parrisseau, & Pearson, 2010; Suarez-Balcazar, Harper, & Lewis, 2005). The PI received funding to attend an Art of Hosting leadership training to learn methodologies and practices for hosting meaningful dialogue among diverse groups (see Art of Hosting, n.d.).

Meeting One: January 2013

The first meeting brought with it much energy and uncertainty, as potential interested members interacted with old friends, colleagues, and people they had never met. The objectives of the first meeting were to have potential members recognize the diversity of thought and valued resources among their peers, revisit the initial purpose and intent of the group, discuss what food mapping meant to different participants, and develop objectives for moving forward as an emerging team. First, small break-out discussions were used. Groups were asked to discuss how they felt team meeting time should be used and how the team should work together to move forward. Each group brainstormed project ideas, wrote them on large sheets of paper, and shared them.

Once each small group shared their work, the large group discussed the wealth of ideas. The PI helped the participants theme the ideas into three core areas. The first related to values. In the first meeting, a certain level of uncertainty about purpose and time commitment existed. Four ideas emerged related to values. First, the group wanted to ensure that mapping tools and outputs were easy to access, simple enough for non-experts, and useful for a range of consumers. Second, building trusting and meaningful relationships was deemed critical. Third, the team determined that transparency was needed to gain public trust. Fourth, the team decided that the work be undertaken not only for academic research but also to provide information necessary to shape policy initiatives and behavioral change. Key themes of trust, respect, communication, results-oriented collaborative work, and mutually beneficial relationships are common in the community-university literature (Israel, Schulz, Parker, & Becker, 2001; Strier, 2011; Thompson, Story, & Butler, 2003).

The second core focus related to the community. The team determined that it was important to have an impact on the local level, and to support and inform the work of community agencies. The team identified the need to intentionally create partnerships that would have the greatest impact in an efficient way. Lastly, members determined the need to ensure that the community's voice was at the table and to be mindful of other initiatives perceived to slight or ignore the localized needs of residents. These considerations parallel other findings that show communication, community decision-making,

making information broadly available, and disseminating results to the public are important to community-based participatory research (Pivik & Goelman, 2011).

The third core focus area related to needs of university participants with an emphasis on working synergistically and developing interdisciplinary relationships. It was important for members to acknowledge the responsibilities of the academic community to publish. This served, in part, to inform others who were unfamiliar with requirements of faculty at a research-based institution. Members also reiterated that the purpose of the FMT was to solve identified complex problems and ask questions, lending itself to the assurance of quality translational research. These issues have appeared in other work, such as Cortes's (1998) study that revealed that incentive systems within higher education (such as valuing publication over service) are structurally misaligned with collaborative community-university work, while McWilliam, et al. (1997) note that the time commitment needed can leave faculty feeling disappointed that results do not come faster.

Team members were also asked to reflect on a series of questions disseminated via email, compiled, shared, and discussed. Questions included: 1) What does "food mapping" mean to you? 2) What brought you to the FMT table? 3) What about the FMT excites you? 4) What do you expect the FMT to accomplish over the next four months? This document was uploaded to a shared drive for easy accessibility and has been periodically revisited. By having transparency during our entire process, we have a mechanism for accountability for all group participants; anyone can review where we started and whether needs are being met or have shifted. It also serves as a starting point for new members interested in learning about other FMT members.

Meeting Two: February 2013

The FMT hosted a social event in which we could continue to get to know one another over a meal, and to learn from each other through team member-initiated presentations. The event was held at the foodbank facility of one of our community partners. Five faculty members presented on various topics, including: integrating health and geographic data into functional models of risk identification, understanding how psychological

distortions of physical maps may be used for food access measures, basic spatial analysis techniques, research on mapping the cost of a balanced diet, and research related to a national food systems project. Five community partners presented on various projects: a public health department mapping tool, the use of mapping to identify potential food production sites for urban agriculture, the use of data and mapping at a foodbank and food pantry affiliates, and reports on programs related to childhood obesity. Three university partners affiliated with Extension and on-campus institutes or centers also presented on various mapping projects, capacity, skills, and resources available to the FMT.

The low-stress, communal event garnered excitement, and served the purpose of recognizing the extensive expertise within the group. Cherry and Shefner (2004) note that one of the common pitfalls of community-based research is the idea that university knowledge supersedes community knowledge and the expertise of research faculty, in particular, can serve to create a power dynamic in which university experts dominate decisions. By inviting all members to present at this forum, we sought a way to recognize the wide range of experiences and expertise that members were bringing to the FMT.

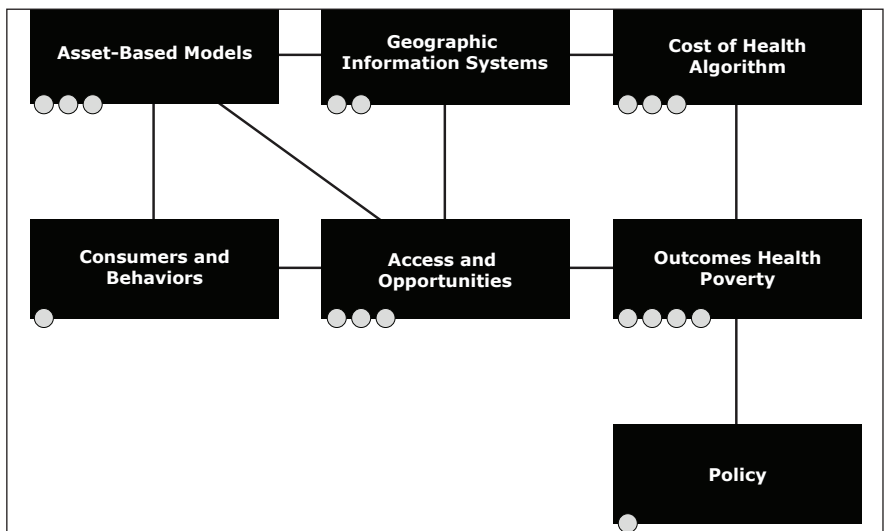
This gathering also generated an initial cognitive map, which is a recognized method of illustrating complex aspects of qualitative systems, according to Lee and Kwon (2014), who also found that cognitive maps are valid and useful within several disciplines, making this method an ideal approach to explore key procedures, variables, areas of focus, policies and outcomes discussed among core members of our community-university team. In addition to effectively capturing several perspectives within large diverse groups to foster greater communication among stakeholders pertaining to system requirements, cognitive maps have

been used to explore the strength of a concept's impact on overall system objectives (Hanafizadeh & Aliehyaei, 2011). Thus such representations can shed light on the relevant content and context that are needed to develop effective interventions (Shewchuk, Franklin, Harrington, Davies, & Windle, 2004). The initial cognitive map shows methodologies along the top, variables and topics of interest, and the linkages with outcomes and policy. Then the names of partners with specific expertise, represented by circles, were overlaid with this initial figure (see Figure 1).

Meeting 3: March 2013

During the third meeting, we employed "Open Space Technology" (Owen, 2008), one of the methods taught in the Art of Hosting (n.d.) training. The goal of this method was to maximize the participants' time by creating a way for people to engage around issues of most importance to them. Once the participants had shared expectations in the January meeting and participated in the learning event in February, it was appropriate to delve into deeper conversations about topics that the group could consider focusing on for an initial community-university research project together. One of the benefits of using the Open Space method is its alignment with FMT values: participants value their time, they need to have intention behind their work, and they desire to have an equitable distribution of power. The basic premise is that the group is setting their own agenda for the meeting (Owen, 2008). For our group, we had two 30-minute rounds of

Figure 1. Cognitive Mapping of Event: People-Access-Modeling



four conversations each. In Open Space, anyone can pose a question to the group and invite a conversation. The person writes the question or topic on a large sticky note that gets placed in view of the group with the person's name at the bottom. People are welcome to pose questions until all slots are filled, with room to adapt to whatever the group's needs are for the day (i.e., less or more conversations). This is another way in which we addressed the need to have all voices heard, with no particular voice more important or dominant than another. Participants can remain with one group during the entire session or go between groups as they please, contributing in whatever way they see fit. Table 1 shows the Open Space board of questions that were posed by group members (unedited).

Table 1. Open Space Technology

	1	2	3	4
Conversation 1	Predictors → food access → health outcomes	What do we want to learn about low income families?	Can we map the level of community support for possible changes in the food environment for obesity prevention?	How do we translate knowledge into action?
Conversation 2	Can we map non-physical health determinants, skills, motivations, & community leaders related to physical activity and nutrition?	Metrics – is the food desert still a useful construct? If not, how can we improve policy to get change? How do we define?	What resources need to accompany the food mapping to make it a practically useful resource for advocates?	What is preventing urban farming from becoming a funded priority in regard to the city's urban planning framework?

At the end of each Open Space conversation, participants shared three points of convergence. For example, the group discussing what they wanted to learn about low income families (Conversation 1-2) listed the following: 1) How do we give voice to the voiceless and make the invisible visible? 2) Need to understand that hunger is a subset of poverty. 3) Do families understand the health issues with hunger? The group discussing food desert metrics (Conversation 2-2) went beyond discussing different variables and methods used to classify food deserts. Their group also described the politics of funding that was perceived to be driving the classification and methods widely used, as well as the question of “how consumers are understanding and experiencing food issues.”

Interestingly, members of the aforementioned groups had strong quantitative data analysis and methodological skills, but their ultimate focus acknowledged the desire to engage people experiencing food insecurity in order to ensure that the work completed by the FMT was responding to community-identified needs. Additionally, they were interested in incorporating the underlying

social and political contexts of geographic spaces and challenging assumptions about people experiencing poverty. Seedat and Suffla (2012) describe how research generally excludes “community voices” (p. 483), which is representative of power dynamics in the traditional “research-researched dyad” (p. 484). The group's conversation is reflective of these critiques, including the importance of understanding contextual elements where research is occurring and relational dynamics (Israel, Eng, Schulz, & Parker, 2005; Seedat & Suffla, 2012).

Meeting 4: April 2013

The purpose of the fourth meeting was to identify the FMT's first specific research project. Members were ready to apply for a \$50,000 grant to support a research project. Meeting attendees revisited areas of interest and discussed options for a one-year project. Throughout the discussion, participants continually identified the overall group's purpose as related to research, outreach, and education that reflected the university members' responsibilities to carry out the mission of land grant institutions (Jongbloed, Enders, & Salerno, 2008) and the community members' professional roles and organizational missions to engage in community organizing, advocacy, and direct service with residents.

The meeting results can be divided into three categories. First, the group discussed methodological approaches to understanding the food environment. This resulted in redefining food security in terms of food access (i.e., food affordability, food availability, transportation, and perceptions). The discussion also reiterated the need to move beyond a large number of existing public data sets to include community voices through primary data collection. Additional conversations about the geographical focus reflected the need to consider research feasibility. The second category can be described in terms of assets and opportunities, which included a discussion of the importance of mapping assets (e.g., healthcare utilizations, social service programs) and potential areas where community food security intervention strategies related to food production and distribution opportunities could take place. Topics included the impact of urban farms on health outcomes and food security and the potential for determining how various food markets might provide economic and social opportunities in the community. The third category reflects an expansion of intentions, outcomes, and impacts that participants stated in their expectations during the first meeting. Participants reiterated the importance of focused work that could improve health disparities and inform policy options. They also discussed underlying economic conditions and opportunities for research that could address sociopolitical contexts of food insecurity.

Finding Our Direction: The Development of Our First Project

While the availability of funding was the driver of the fourth meeting, the FMT began to collectively agree on their purpose around that time. Barker (2004) identified five practices of community-university partnerships. The FMT's approach falls within four of those areas, which includes: the importance of including community members' voices in the process of co-creating knowledge (participatory research), highlighting community assets and opportunities (public information networks), and providing reliable information to the public that can inform policy (civic skills/literacy) (Barker, 2004). The FMT also decided that they needed to recognize power dynamics, sociopolitical climates, and work with community partners to determine how this work could begin to dismantle oppressive conditions (community partnership) (Barker, 2004).

During the course of the team-building process, group membership continuously shifted as the FMT began to determine their course of action and purpose. Some of the university participants were unable to contribute time due to time constraints mostly related to funded work on other research projects. Community participants reflected similar sentiments, stating that the focus was not in line enough with the mission of their organization (e.g., we were focusing more on food access instead of childhood obesity) or that they were balancing too many projects. Most people communicated the desire to continue to receive updates and have access to the shared file folders, stating they would re-engage if it fit in with their schedules and interests. A core community-university team had emerged.

The next challenge for the FMT was writing a collaborative grant that was feasible and incorporated the emergent values and expectations of community and university participants. The grant's purpose statement and objectives are indicative of the conversations that occurred during the four months of team building. For example, our purpose statement includes key indicators of food access that were outlined in the fourth meeting and discussed in several of the Open Space conversations. Additionally, the ultimate purpose of the project focuses on selecting sustainable interventions that may be tested to improve food security and community health. This idea is a direct reflection of continued statements by team members about considerations of how this research can be used by community groups to improve the community's health in areas of greatest need.

The FMT's direction pointed to research that was mutually beneficial for community and university members. Community-university partnerships have the potential to produce relevant, meaningful results that have real world implications (Bringle & Hatcher, 2002; Strier, 2011). Months of team building had helped the group solidify a common purpose and desire for research to be relevant to academics, policymakers, and community agencies, as well as impactful, transparent, and methodologically rigorous.

The process of writing a grant proposal and research protocol with the aforementioned intentions was a challenging endeavor. This was a phase in which the PI enlisted ideas and editing from others based on group decisions made about the research project the group wished to pursue.

Many decisions had to be made, including where the study would take place, what methodologies would be used, and how this one-year project would fit into the broader mission of the FMT. Ultimately, The FMT's objectives specified the development of a comprehensive, user-friendly food access data hub to maximize community benefit, the integration of primary and secondary data sets for use in translational outcomes-based research, and the integration and enhancement of existing mapping and modeling methodologies to test and improve food environment indicators for use in evaluating policy interventions.

Determining the Study Area

Community and university members identified a study area that was determined by many factors, including feasibility of conducting surveys with limited time and funding, and the recognition that some neighborhoods in the large metropolitan community have been unintentionally overburdened with research, in large part, due to their proximity to the university and the high prevalence of social and health issues. The groups determined that the study needed to take place along a north-south corridor that included neighborhoods that were diverse in terms of socioeconomic status, race and ethnicity, and levels of investment by the city and university. One of the community partners who operates an urban farming non-profit relied on insights gleaned from a class he taught as a graduate student in which students were required to write about areas of the community in great detail. These insights were paired with community members' priority areas for their own work and potential geographic areas for intervention to finalize the study area.

Developing the Survey

Several months were spent developing a comprehensive survey that would be administered online and in-person at sites throughout the neighborhoods of the study area. During this time, the FMT reviewed a range of smaller, community-based surveys and large national surveys. This iterative process brought forth the collective expertise of all involved. Though using a survey was one major aspect of the methodology, the importance of developing and conducting a survey that would engage community members in a meaningful way was still important. This part of the process took over four months and included compromises by all involved.

Much of the methodological discussions point to differences in epistemology and ontology, which, along with values are important when determining how research will be conducted (Creswell, 2005). Reviewing the themes of the team-building exercises points to a large number of participants who would lean toward interpretivism because of their interest in learning more about how people are experiencing their food environment and why those food environments in different geographic communities are not equitable. This interest in community members' experiences lends itself to particular approaches to inquiry (e.g., open-ended survey questions) (Creswell, Hanson, Plano Clark, & Morales, 2007; Morse & Field, 1995). On the other hand, FMT members discussed the need to obtain basic baseline objective descriptive data to begin their work together. This largely positivist view was evident in discussions about the importance of replicating the survey that was being developed in future projects and using pre-existing reliable and valid surveys with data that could be compared to ours.

The FMT developed a 20-minute survey that included questions about food access, food security, perceptions of the neighborhood environment, health conditions, participant background information, and behavioral patterns related to shopping, cooking, and consumption. While the positivists are more represented in the survey methodology, the content is reflective of community interests. The survey is a precursor for additional work that will include a focused attempt at obtaining more personal stories and patterns and relationships through mapping.

Administering Surveys

Fifteen survey sites were chosen based on their proximity to the study areas, their clientele offering a potentially representative sample to U.S. Census tracts in our study area, and their willingness to work with the FMT. The fact that it was a community-university research project helped open doors to gain access to various sites and helped the team gain exposure, including conversations with city councilmembers and a food policy group. Prospective participants, regardless of their completion of a survey, were provided with a four page "Food Access Resource Guide" consisting of information about 40 local food pantries, free meal sites, community gardens, referral sources for a variety of food-related assistance programs, and financial and

transportation resources. The distribution of this guide reflects a key unintentional consequence of the FMT group. Members were more aware of resources and the importance of sharing these resources because part of the time at meetings was devoted to sharing information about events and programs. Since time was spent on members' underlying values of this work, it is not surprising that a guide would be an important way to share important information with survey participants who were food insecure.

Universities have institutional power and we relied upon our university networks to recruit student volunteers to be trained to administer the surveys. The FMT had several discussions about who would deliver the surveys to residents living across our study area, with many community FMT members in particular wanting to train people outside of the university to administer the surveys and be paid for their time. Ultimately, it came down to feasibility in terms of financial resources and time. Ohio State students are always looking for educational and research experiences beyond the classroom, and many faculty members saw this as an opportunity to educate students while also conducting research.

This method was highly successful, and 25 students attended a training led by the project coordinator to deliver the surveys. This experience was extremely valuable to students. After data collection was complete, we provided students with examples of how their work could be translated for their personal résumés and also asked them to reflect on their experiences. We asked students to discuss how they became involved, what surprised them about the experience, what was challenging for them, what they learned about themselves, what skills they learned, how it related to their coursework or career path, what they learned from the people they met, and what they felt were the community's most pressing needs. The student quotes included here are reflective of many students' experiences.

This experience has helped me to prepare for my personal research by providing me with a degree of familiarity with the process of conducting research, and also by adding to my knowledge and experience in the arena of food access/food security. Both my practice placement and my master's project will likely build upon this experience.

It was challenging for me to listen to some of the stories people had about their experiences around food. Some of the interviewees would answer the questions with stories from their past, and some of these stories were heartbreaking.

I feel that I learned a lot about some of the issues surrounding food from a first person perspective. In several of my classes there have been discussions about food deserts and poverty in the area, but this experience has helped me put a face on those problems.

Students reported improving their communication skills, learning how to work with others, understanding research protocols, practicing patience at slow sites, and recognizing the importance of actively listening to people taking the surveys. Several students have continued their involvement by attending monthly meetings, writing reports and manuscripts, presenting at conferences, coding data, entering data, and analyzing data.

Status of Research Project

During the time we have been working together, interest has grown significantly around developing a citywide food plan and addressing the food insecurity that exists. Several of our FMT members are affiliated with a new 18-month collaborative initiative with city, county, and nonprofit advocacy groups. We anticipate our research project will help inform the food plan and serve as an important component of neighborhood community conversation and surveys the group is conducting. Our FMT is analyzing over 900 surveys. The group has agreed that results must be disseminated in multiple ways, as we have maintained the importance of easy access and transparency throughout the past two years. Any scholarly manuscript that will be submitted to a peer-reviewed academic journal would have an accompanying output for public consumption. This could be a brief summary, infographic, video, press release, or web-based document. For example, FMT members interested in looking at geographic disparities of food access across neighborhoods using geo-coded points of participant data will also create web-based profiles that are accessed through clicking on an area of the map of interest. We have developed a 100-page descriptive report

of all 10 representative ZIP codes. ZIP codes were used because many of the community agencies involved have eligibility and programming tied to the ZIP code in which people live. We are also finalizing an executive summary that will be available on our website and include preliminary maps. Lastly, we developed two-page infographics about food access, food security, and health for each ZIP code. These have been disseminated to community groups and are being used for educational purposes, grant writing, and dialogue about developing intervention specific to the needs of those communities.

Self-Assessment of Our Research Process

Group Membership

Characteristics of effective community-university partnerships include working together to understand goals and interests, co-creating a research agenda that meets all needs, seeking outcomes that will make people feel like their time has been well spent, and reminding the group that part of the process is also engaging in sharing knowledge and building the capacity of the work together (Holland & Gelmon, 1998). Open communication about expectations between community-university partnerships and flexibility during the engagement process is also important (Baum, 2000). Our FMT has always operated as an open group. During the formation of the core community-university team, it was clear that different stakeholders had different needs. These needs were often reflective of professional responsibilities and personal values. The FMT members sought ways to build trusting relationships with one another, despite sometimes having competing interests. For example, some academic partners desired to produce published research papers and explore the development of integrated methodologies and “big data” sets for future interdisciplinary partnerships, while other team members (community and university) had an interest in informing policymakers through the research. Some community members expressed an interest in having baseline data to inform grant applications about community issues or to inform the development of community-based interventions. In order to reconcile the interests of a large number of professionals from the community and university and to account for changing membership, we revisited values and goals through a University Extension-facilitated conversation in the winter of 2014. FMT members

also have the opportunity to check in periodically during routine research meetings, and the PI has made an attempt to meet with members to ensure their needs are being met. This process is time consuming, but open communication has been crucial and being realistic about expectations is vital for the collaborative process (Baum, 2000).

For our team, it was important to share explicit needs and recognize that when we moved to develop the first research project, some interests would not be prioritized, though they may be part of a broader research agenda addressed through a different project. Since the group was formed to explore a wide range of issues together and we have been meeting for nearly three years, it is expected that some attrition will occur and new members with assets, interests, and values will participate. This makes the group more dynamic, and sometimes more challenging as interests, values, outcomes, and future projects must continuously be communicated.

Addressing Expectations

Our FMT group boasted members from the community and university who were driven by (and some trained in) dismantling racism and oppression because of the view that it was an underlying issue of the distinct health disparities and food insecurity faced by residents across our study area. In reality, our study does not change the current socio-political climate of our city, though it has the potential to be read by policymakers. This continues to be a challenge for university researchers and amplified in the development and sustainment of community-university relationships. If the ultimate goal is to have a city in which all people have access to enough food for optimal health, baseline studies and incremental change can be trying for communities, especially those who have been marginalized and do not see change occur (Green & Mercer, 2001). In reality, our FMT members have had to practice patience with the research process and the time it takes to develop and nurture relationships and learn about each other’s motivations (Reid & Vianna, 2001). We needed a starting point and subsequent project to begin our work together, but the FMT members recognize that we must invest in this project as a longitudinal partnership (Begun, Berger, Otto-Salaj, & Rose, 2010) to see large-scale change happen in our community.

Addressing Power Dynamics

The FMT recognizes that the university has institutional power, and since the university provided the grant to the group, on some level, that money is a source of power. One of the issues that was brought up was compensation for time. University members did not receive any release time or extra salary for their participation in the research project. Benefits of the work beyond money include stronger networks among university faculty and researchers, better relationships with community partners, and opportunities to conduct translational research that may lead to publications, funding, and improved health and social conditions. Community members were motivated more by the possibility that this work could inform policy, help agencies in the development of community-based interventions, and complement their work. The meetings were generally held on campus, which made it easier for university members to attend, but harder for community members, who generally had to drive or bike to the large campus, find parking, obtain a parking pass or pay for parking, and navigate traffic back to their work space. Several people asked the PI whether any of the \$50,000 could go for their time since, in many ways, membership on the FMT was not mandated for their job and they were fitting it in to their work (in hopes it would be meaningful and productive). The FMT hired a project coordinator who was a recent graduate and research assistants. Two paid research assistants were community members, but others were students who received compensation. We raffled off grocery gift cards to survey participants and provided food and water as an appreciation of their time. It deserves some thought in the future about different models for compensation for community-university research teams in order to keep momentum going and to recognize the value of people's time and contributions to this work.

Most team meetings were led by the PI and the paid project coordinator, though they used information from conversations with team members to inform the process of meetings, methods used to engage members, and topics of importance for the agenda. Ultimately, the power rested with the PI, and this is important to recognize since the PI is a university faculty member from a social work discipline. Future work together is likely to have a shared leadership model to ensure opportunities for others, though

generally if grant-funded the authority rests on the PI for the project. If more funding comes from the university, for example, care should be made to ensure that current and potential community partners are engaged and equal partners in the process.

Several decision-making processes related to the research project had to be made, which inevitably left certain communities out of the survey area. While the FMT made every attempt to be sensitive to communities that had potentially experienced research fatigue, the survey area limited our work geographically in a way that left out communities that have been underserved and are disenfranchised. For example, our city has the second largest Somalian population in the United States (American Immigration Council, 2015), 14 percent speak a language other than English, and over 5 percent are Latino (U.S. Census, 2014), yet the communities in the geographic area we surveyed do not include a large percentage of these subpopulations. Many of the families live just outside of the study area near an airport and a casino that employ many immigrant residents. Thus, our FMT's first project — while inclusive of low-income residents, persons who are homeless, African American residents, and senior citizens who live in the study area — suggests that our future work must extend to areas that are more inclusive. In addition, of course, attention must be paid as to how to engage with community agencies and residents in those areas to ensure that research is done with the community, as opposed to doing research on the community. This may mean modifying questions, employing translators and interpreters, or approaching research with different methods that are more exploratory, like focus groups. It may also mean that we spend a considerable amount of time building relationships and communicating about intentions.

Another decision that was made based mostly on feasibility was limiting our survey administrators to university students (except for one community partner who also administered surveys). For our community partners who work on issues related to poverty, providing short-term jobs and experiences could have been a valuable financial contribution to community residents and an opportunity for residents to be engaged more in the process. In future projects, especially as it relates to communities where English is not the first language most people speak, this may be a valuable asset that residents can provide. More

conversations among team members will need to address the underlying reasons community members should conduct the surveys, including issues like IRB certification and approval (without a university email address), training time, and logistics regarding the handling of surveys and confidential data.

The FMT is exploring including more community voices in the project. While this mapping project is unique because we now have geo-coded primary data from a large metropolitan area (i.e., not reliant upon national level data), the team would like to proceed with engaging residents in more conversations about their experiences now that baseline data have been collected. Participants are interested in conducting in-depth interviews or video/photography-based journaling to better understand perceptions about people and their food environment, what types of social supports exist, and, literally, how the community appears at different times. Recently, grants have been written to engage residents in HEAL MAPPS (Healthy Eating Active Living: Mapping Attributes using Participatory Photographic Surveys), which endeavors to support documentation of people's experiences about the food and health in their community in order to facilitate conversation and action (Oregon State University Extension, 2016).

Conclusion

The issues our FMT is addressing require collaborative networks of partners embedded in the community and university. Interdisciplinary teams require thoughtful considerations of time devoted to team-building exercises, paying particular attention to understanding members' values. Teams must find points of convergence, develop mutually agreed upon common language, and openly discuss needs and expectations. Periodically, teams should re-visit intentions, especially with open groups. Teams should find ways to ensure that power is distributed equitably, recognizing the diversity of skills, networks, and ideas. Our example provides a set of processes and decisions used to build a strong community-university collaboration that seeks to work together to improve the community's health and well-being.

References

Adams, E.J., Grummer-Strawn, L., & Chavez, G. (2003). Food insecurity is associated with

increased risk of obesity in California women. *Journal of Nutrition*, 133(4), 1070–1074.

Alaimo, K., Olson, C.M., & Frongillo, E.A., Jr. (2001). Food insufficiency and American school-aged children's cognitive, academic, and psychosocial development. *Pediatrics*, 108(1), 44–53.

American Dietetic Association. (2010). Position of the American Dietetic Association: Food insecurity in the United States. *Journal of the American Dietetic Association*, 110(9), 1368–1377.

American Immigration Council. (2015). *New Americans in Ohio*. Retrieved from <http://www.immigrationpolicy.org/just-facts/new-americans-ohio>.

Apparacio, P., Cloutier, M.S., & Shearmur, R. (2007). The case of Montreal's missing food deserts: Evaluation and accessibility to food supermarkets. *International Journal of Health Geographics*, 6(4), 1–13. Retrieved from <http://www.ijhealthgeographics.com/content/6/1/4>.

Art of Hosting. (n.d.). *What is the art of hosting conversations that matter?* Retrieved from <http://www.artofhosting.org/what-is-aoh/>.

Barker, D. (2004). The scholarship of engagement: A taxonomy of five emerging practices. *Journal of Higher Education Outreach and Engagement*, 9(2), 123–131.

Baum, H.S. (2000). Fantasies and realities in university-community partnerships. *Journal of Planning Education and Research*, 20(2), 234–246.

Begun, A.L., Berger, L.K., Otto-Salaj, L.L., & Rose, S.J. (2010). Developing effective social work university-community research collaborations. *Social Work*, 55(1), 54–62.

Bevilacqua, J.J., Morris, J.A., & Pumariega, A.J. (1996). State services research capacity: Building a state infrastructure for mental health services research. *Community Mental Health Journal*, 32(6), 519–533. Retrieved from <http://dx.doi.org/10.1007/bf02251063>.

Bingle, R.G., & Hatcher, J.A. (2002). Campus-community partnerships: The terms of engagement. *Journal of Social Issues*, 58(3), 503–516. Retrieved from <http://dx.doi.org/10.1111/1540-4560.00273>.

Casey P., Goolsby, S., Berkowitz, C., Frank D., Cook J., Cutts D., Black, M.M., Zaldivar, N., Levenson, S., Heeren, T., Myers, A., (2004). Maternal depression, changing public assistance, food security, and child health status. *Pediatrics*, 113(2), 298–304. Retrieved from <http://dx.doi.org/10.1542/peds.113.2.298>.

- Cherry, D., & Shefner, J. (2004). Addressing barriers to university-community collaboration: Organizing by expert or organizing the experts? *Journal of Community Practice*, 12(3/4), 219–233.
- Chung, C., & Myers, S.L., Jr. (1999). Do the poor pay more for food? An analysis of grocery store availability and food price disparities. *Journal of Consumer Affairs*, 33(2), 276–296. Retrieved from <http://dx.doi.org/10.1111/j.1745-6606.1999.tb00071.x>.
- Cohen, B., Andrews, M., & Kantor, L.S. (2002). *Community food security assessment toolkit*. USDA E-Fan No. (02-013). Retrieved from <http://www.ers.usda.gov/Publications/EFANO2013>.
- Cook, J.T., Frank, D.A., Berkowitz, C., Black, M.M., Casey, P.H., Meyers, A.F., Zaldivar, N., Skalicky, A., Levenson S., Heeren T., Nord, M., Nord, M. (2004). Food insecurity is associated with adverse health outcomes among human infants and toddlers. *Journal of Nutrition*, 134(6), 1432–1438.
- Cortes, M. (1998). Public-policy partnerships between universities and communities. *National Civic Review*, 87(2), 163–168. Retrieved from <http://dx.doi.org/10.1002/ncr.87206>.
- Cottrell, B., Lord, S., Martin, L., & Prentice, S. (1996). *Research partnerships: A feminist approach to communities and universities working together*. Ottawa, Canada: Canadian Research Institute for the Advancement of Women.
- Creswell, J.W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, New Jersey: Pearson Education.
- Creswell, J.W., Hanson, W.E., Plano Clark, V.L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist*, 35(2), 236–264. Retrieved from <http://dx.doi.org/10.1177/0011000006287390>.
- Ditkoff, M., Moore, T., Allen, C., & Pollard, D. (2005). *The ideal collaborative team*. Retrieved from <http://www.ideachampions.com/downloads/collaborationresults.pdf>.
- Drewnowski, A., & Specter, S.E. (2004). Poverty and obesity: The role of energy density and energy cost. *The American Journal of Clinical Nutrition*, 79(1), 6–16.
- Freedman, D.A., Blake, C.A., & Liese, A.D. (2013). Developing a multicomponent model of nutritious food access and related implications for community and policy practice. *Journal of Community Practice*, 21(4), 379–409. Retrieved from <http://dx.doi.org/10.1080/10705422.2013.842197>.
- Galinsky, M.J., Trumball, J.E., Meglin, D.E., & Wilner, M.E. (1993). Confronting the reality of collaborative practice research: Issues of practice, design, measurement, and team development. *Social Work*, 38(4), 440–449.
- Hamelin, A.M., Habicht, J.P., & Beaudry, M. (1999). Food insecurity: Consequences for the household and broader social implications. *Journal of Nutrition*, 129(2s supplement), 525s–528s.
- Hamm, M.W., & Bellows, A.C. (2003). Community food security and nutrition educators. *Journal of Nutrition Education and Behavior*, 35(1), 37–43. Retrieved from [http://dx.doi.org/10.1016/s1499-4046\(06\)60325-4](http://dx.doi.org/10.1016/s1499-4046(06)60325-4).
- Hanafizadeh, P., & Aliehyaei, R. (2011). The application of fuzzy cognitive map in soft system methodology. *Systemic Practice & Action Research*, 24(4), 325–354. doi:10.1007/s11213-011-9190-z.
- Helm, D.T., Holt, J., Conklin, K., Parrisseau, C., & Pearson, S. (2010). *Interdisciplinary training guide*, 4th edition. Association of University Centers on Disabilities National Training Director's Council. Retrieved from http://www.aucd.org/docs/councils/ntdc/2010_id_guide_web.pdf.
- Holland, B.A., & Gelmon, S.B. (1998). The state of the “Engaged Campus”: What have we learned about building and sustaining university-community partnerships? *AAHE Bulletin*, 51(2), 3–6.
- Israel, B.A., Eng, E., Schulz, A.J., & Parker, E.A. (2005). *Methods in community-based participatory research for health*. San Francisco, California: Jossey-Bass.
- Israel, B.A., Schulz, A.J., Parker, E.A., & Becker, A.B. (2001). Community-based participatory research: Policy recommendations for promoting a partnership approach in health research. *Education for Health*, 14(2), 182–197. Retrieved from https://depts.washington.edu/ccph/pdf_files/EducforHealthIsrael.pdf.
- Jongbloed, B., Enders, J., & Salerno, C. (2008). Higher education and its communities: Interconnections, interdependencies and a research agenda. *Higher Education*, 56(3), 303–324. Retrieved from <http://dx.doi.org/10.1007/s10734-008-9128-2>.
- Kirwan Institute for the Study of Race and Ethnicity. (2009). Utilizing GIS to support advocacy and social justice. *Using Maps to Promote Health Equity: June 2009 report*. Retrieved from http://www.kirwaninstitute.osu.edu/reports/2009/06_2009_GIStoSupportSocialAdvocacyandJustice_Kirwan_JointCenter.pdf.
- Kozikowski, D., & Williamson, M.E. (2009). Understanding the paradox and the need: Talking

on hunger and obesity in America. *Tikkun*, 24(3), 38–40.

Kretzmann, J.P., & McKnight, J.L. (1993). *Building communities from the inside out: A path towards finding and mobilizing a community's assets*. Chicago, IL: ACTA Publications.

Lee, H., & Kwon, S.J. (2014). Ontological semantic inference based on cognitive map. *Expert Systems With Applications*, 41(6), 2981–2988. doi:10.1016/j.eswa.2013.10.029.

Lundy, M., Rippey-Massat, C., Smith, J., & Bhasin, S. (1996). Constructing the research enterprise: Building research bridges between private agencies, public agencies and universities. *The Journal of Applied Social Sciences*, 20(2), 169–176.

McWilliam, C.L., Desai, K., & Greig, B. (1997). Bridging town and gown: Building research partnerships between community-based professional providers and academia. *Journal of Professional Nursing*, 13(5), 307–315. Retrieved from [http://dx.doi.org/10.1016/s8755-7223\(97\)80109-3](http://dx.doi.org/10.1016/s8755-7223(97)80109-3).

National Association of Social Workers. (2008). *Code of Ethics*. Retrieved from <http://www.socialworkers.org/pubs/code/code.asp>.

Morse, J.M., & Field, P.A. (1995). *Qualitative research methods for health professionals*. Thousand Oaks, California: SAGE Publications, Inc.

Nelson, G., Prilleltensky, L., & MacGillivray, H. (2001). Building value-based partnerships: Toward solidarity with oppressed groups. *American Journal of Community Psychology*, 29(5), 649–677.

Oregon State University Extension Service. (2016). *Grow healthy kids and communities: HEAL MAPPs*. Retrieved from <http://extension.oregonstate.edu/growthkc/tools/heal-mapps>.

Owen, H. (2008). *Open Space Technology: A User's Guide*, 3rd Edition. San Francisco, California: Berrett-Koehler Publishers, Inc.

Pivik, J.R., & Goelman, H. (2011). Evaluation of a community-based participatory research consortium from the perspective of academics and community service providers focused on child health and well-being. *Health Education and Behavior*, 38(3), 271–281. Retrieved from <http://dx.doi.org/10.1177/1090198110372876>.

Reid, P.T., & Vianna, E. (2001). Negotiating partnerships in research on poverty with community-based agencies. *Journal of Social Issues*, 57, 337–354.

Rose, D. (1999). Economic determinants and

dietary consequences of food insecurity in the United States. *The Journal of Nutrition*, 129(2S Supplement), 517S–520S.

Seedat, M., & Suffla, S. (2012). Community engagement: Conceptualisation, methods, and illustrations. *Journal of Psychology in Africa*, 22(4), 483–488.

Shewchuk, R.M., Franklin, F.A., Harrington, K.F., Davies, S.L., & Windle, M. (2004). Using cognitive mapping to develop a community-based family intervention. *American Journal Of Health Behavior*, 28(1), 43–53. <http://dx.doi.org/10.5993/ajhb.28.1.5>.

Short, A., Guthman, J., & Raskin, S. (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, 352–364. Retrieved from <http://dx.doi.org/10.1177/0739456x06297795>.

Story, M., Hamm, M.W., & Wallinga, D. (2009). Food systems and public health: Linkages to achieve healthier diets and healthier communities. *Journal of Hunger & Environmental Nutrition*, 4(3–4), 219–224. Retrieved from <http://dx.doi.org/10.1080/19320240903351463>.

Strand, K., Marullo, S., Cutforth, N., Stoecker, R., & Donohue, P. (2003). Principles of best practice for community-based participatory research. *Michigan Journal of Community Service Learning*, 9(3), 5–15.

Strier, R. (2011). The construction of university-community partnerships: Entangled perspectives. *Higher Education*, 62(1), 81–97. Retrieved from <http://dx.doi.org/10.1007/s10734-010-9367-x>.

Suarez-Balcazar, Y., Harper, G.W., Lewis, R. (2005). An interactive and contextual model of community-university collaborations for research and action. *Health Education and Behavior*, 32(1), 84–101. Retrieved from <http://dx.doi.org/10.1177/1090198104269512>.

The Ohio State University (n.d.a.). *Discovery themes*. Retrieved from <https://discovery.osu.edu/about/>.

The Ohio State University Food Innovation Center. (n.d.b.). *About us*. Retrieved from http://www.kirwaninstitute.osu.edu/reports/2009/06_2009_GIStoSupportSocialAdvocacyandJustice_Kirwan_JointCenter.pdf.

Thompson, L.S., Story, M., & Butler, G. (2003). Use of a university-community collaboration model to frame issues and set an agenda for strengthening a community. *Health Promotion*

Practice, 4(4), 385–392. Retrieved from <http://dx.doi.org/10.1177/1524839903255467>.

United States Census Bureau. (2014). *State and county quick facts: Columbus, Ohio*. Retrieved from <http://quickfacts.census.gov/qfd/states/39/3918000.html>.

United States Department of Agriculture Economic Research Service[USDA ERS]. (2013). *Food security in the U.S.: Overview*. Retrieved from <http://www.ers.usda.gov/publications/err-economic-research-report/err173.aspx>.

VerPloeg, M., Breneman, V., Farrigan, T., Hamrick, K., Hopkins, D., Kaufman, P., Biing-Hwan, L., Nord, M., Smith, T.A., Williams, R., Kinnison, K., Olander, C., Singh, A., & Tuckermanty, E. (2009). Access to affordable and nutritious food-measuring food deserts and their consequences: Report to Congress. *USDA ERS Administrative Publication No. (AP-036)*. Retrieved from <http://www.ers.usda.gov/publications/ap-administrative-publication/ap-036.aspx>.

Walling, D. (2009). Today's food system: How healthy is it? *Journal of Hunger & Environmental Nutrition*, 4(-4), 251–281. Retrieved from <http://dx.doi.org/10.1080/19320240903336977>.

Williams, A., Labonte, R., Randall, J.E., & Muharjarine, N. (2005). Establishing and sustaining community-university partnerships: A case study of quality of life research. *Critical Public Health*, 15(3), 291–302. Retrieved from <http://dx.doi.org/10.1080/09581590500372451>.

Acknowledgments

We recognize and appreciate the support of the Food Innovation Center at The Ohio State University. We want to thank all the members of the Food Mapping Team, student volunteers, and the many community members who have generously given their time and expertise to the food mapping project.

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