

RACE, ETHNICITY AND TRADITIONAL FOOD MARKETS: TOWARD A
MULTIDIMENSIONAL FOOD SECURITY

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ABSTRACT

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Food insecurity has received considerable attention from academics and policymakers alike for its negative health, economic, social and environmental consequences. Sociologists concerned with social justice have particularly noted the unequal distribution of food insecurity across groups, as it serves as a powerful manifestation of existing discrimination and inequality in current food systems. With the majority of scholarship focusing on the economic contributors of food insecurity, our current knowledge of the non-economic factors that affect food security is limited and incomplete.

To address this gap, this dissertation examines across-group food security heterogeneity from the perspective of race and ethnicity, whose significance to minority populations' achievement of food security is often overlooked. In the first chapter, a systematic review of major local and national food security programs in the United States acquaints readers with existing efforts to reduce domestic food insecurity and identifies key areas for improvement. The second chapter builds on the findings from the first paper by investigating the ways through which access to traditional food markets impacts racial and ethnic minority populations' food security in a case study in Honolulu, Hawai'i. The third chapter analyzes the barriers and challenges of traditional food markets from the same case study, serving as a basis on which to offer theoretical and empirical suggestions for food security improvement. By making clear the positive role of traditional food markets in racial and ethnic minority groups' achievement of food security, this dissertation advances our understanding of food security as a

multidimensional issue. It also contributes to multiple literatures, primarily food security, food and nutrition assistance, traditional food markets, immigrant entrepreneurship and supermarket concentration.

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So many of my life's milestone moments have happened in the past six and half years; moving across states multiple times, getting married, giving birth to my first child and becoming a mom, traveling to Hawai'i and conducting fieldwork alone, and finally defending my dissertation...the list is long and my entire PhD journey truly would not have been possible without the support and help from many special people I want to thank for here.

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INTRODUCTION

Globalization and transnational trades have drastically changed the way we produce, sell and shop for food. Even with increased agricultural efficiency, expanded distribution networks and improved convenience for food purchases, however, food insecurity persists worldwide.

According to the Food and Agriculture Organization of the United Nations (FAO), in 2018 over two billion people, both in developing and developed economies, suffered from varying levels of food insecurity (FAO 2019). At the same time, a significant portion of food intended for human consumption is wasted across the global supply chains, posing a serious threat to the long-term sustainability of our global ecosystem, economy and society (Papargyropoulou et al. 2014). The juxtaposition of food insecurity and food waste thus powerfully exposes the systematic inequalities that impact people's everyday encounters with food, which are closely tied to existing power structures and relations (Scanlan 2009). To date, voluminous efforts have been put forth by scholars, activists, and policymakers alike, with a shared goal of improving food security and promoting food justice. From food sovereignty to local food to community supported agriculture (Agarwal 2014; Guthman 2014; Wittman 2011), the search for change and viable alternatives underlines not only the graveness of food security, but also its complexity. Notably, food security consists of four pillars— availability, access, stability and utilization (Alonso, Cockx and Swinnen, 2018; Citro et al. 2015; Pinstруп-Andersen 2009; Scanlan 2009). Decades after Amartya Sen (1981) theorized the significance of access to food security in his seminal work, our knowledge on the causes, effects, and solutions of food security is still incomplete. Further research, especially on the factors and processes that may hinder access to healthy and affordable foods across groups, is urgently needed before effective programs and

policies can be put into place to improve food security, and significantly reduce social inequalities in the agrifood system.

Drawing from multiple literatures—primarily food security, food and nutrition assistance, traditional food markets, immigrant entrepreneurship and supermarket concentration—this dissertation seeks to advance our understanding of the heterogeneous food needs of diverse groups and their implications for effectively reducing food insecurity in the United States. A three-chapter format is utilized to achieve this goal. The first chapter provides the background and context for the other two chapters by addressing two main research questions: 1) What are the major local and national food security programs in the United States? 2) What are the programming gaps and challenges? Specifically, I carry out a systematic literature search of the PolicyFile database to examine and assess existing efforts to reduce domestic food insecurity across individual/household and community scales. The goal is to identify key areas for improvement and offer future directions both for theoretical research as well as empirical work. The second chapter builds on the findings pertaining to race and ethnicity from the previous chapter, and explores access to traditional food markets as an under-studied mechanism for food security improvement in a case study in Honolulu, Hawai‘i. Given that previous studies have confirmed the positive role of small food retail outlets with regard to food security (Bodor et al. 2008; Martin et al. 2014; Moore, Roux and Brines 2008; Rose, Bodor, Hutchinson and Swalm 2010; Shannon 2014; Short, Guthman and Raskin 2007; Taylor and Ard 2015), my focus is not on whether or to what extent local food security has improved in this case. Instead, I highlight the significance of food preference to food security and investigate how traditional food markets impact racial and ethnic minority populations’ food security, particularly Asian immigrants and their descendants in the context of Hawai‘i. After explicating the various ways through which

preferences for cultural foods and traditional food markets impact Asian minorities' food security, I devote the third chapter to answer the question: "How can we improve the competitiveness of traditional food markets so they can serve more at-risk populations?" Using the same case study, an analysis of the major challenges for traditional food markets to increase competitiveness is provided, based on which theoretical and empirical suggestions for food security improvement are offered. Using different foci and angles, taken together my three chapters help to advance the food security literature by demonstrating the multidimensionality of food security through the lens of race and ethnicity.

In the following paragraphs I briefly outline the theoretical issues that have helped to inform the development of my research objective. Then, I move onto discussing the research methods and analytical strategies used for data collection across my empirical studies. To conclude the introduction and transition into the individual chapters, I next offer a short description of how each chapter is structured to contribute to the whole dissertation.

Theoretical Frameworks and Research Questions

Food insecurity exists when there is an absence of food security. Food Security, as defined at the World Food Summit in 1996, "exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO 2006:1). Central to this widely-accepted definition of food security are four critical components (also called the four pillars of food security): availability, access, stability and utilization (Alonso, Cockx and Swinnen, 2018; Citro et al. 2015; Pinstруп-Andersen 2009; Scanlan 2009). Although the multidimensional nature of food security is widely acknowledged and discussed today, it is not the outcome of unanimous

agreement, but the result of continuous debates and contestations that have lasted for many decades. Particularly, earlier research tended to focus on the supply side of food security through a productionist approach (McMichael 2014). Only since the 1980s has there been a shift of attention to the significance of access and entitlement (Maxwell 1996). In more recent years, considerations of temporal dynamics, nutritional values, and food preferences also became incorporated, elevating the understanding of food security to a whole new level by further uncovering the inappropriateness of equating food calories production with fulfillment of consumption needs across groups (McMichael 2009; Pinstrup-Andersen 2009; Prosekov and Ivanova 2018).

Accompanying the conceptualization of food security is the detailed documentation of its uneven distribution along the lines of class, race, ethnicity, gender, age and geography. This proves critical to the identification of at-risk populations during interventions to reduce food insecurity. Worldwide, a vast majority of hungry and malnourished live in the developing regions of Africa and Asia (FAO 2019). Among the millions of people in developed economies who are denied of food security on a regular basis, a disproportionate number of them are women, children, seniors, immigrants, racial and ethnic minorities, indigenous people, and those of low socio-economic status (Allen and Sachs 2012; Block, Chavez, Allen and Ramirez 2012; Brown and Getz 2011; Cidro, Adekunle, Peters and Martens 2015; Howard 2016; Skinner, Pratley, and Burnett 2016). The same pattern can also be observed in the United States. According to the data from the U.S. Department of Agriculture's Economic Research Service (USDA ERS), of the 14.3 million food insecure households in 2018, 5.6 million had income 130 percent below the poverty line, 5.2 million had children under age 18, 2.9 million lived with

seniors, 7.4 million were non-white and 12 million lived in urban areas (Coleman-Jensen, Rabbitt, Gregory and Singh 2019).

Scholars often attribute the disproportionate prevalence of food insecurity among vulnerable populations to economic insufficiency (Cook and Frank 2008; Dimitri, Oberholtzer, Zive and Sandolo 2015; Furness, Simon, Wold and Asarian-Anderson 2004). From this perspective, the higher risk of food insecurity that women, children, seniors, immigrants, racial and ethnic minorities, indigenous people, and those of low socio-economic status face is directly linked to their lower likelihood of being financially independent and secure (Brown and Getz 2011; Allen and Sachs 2012; Block, Chavez, Allen, and Ramirez 2012; Cidro, Adekunle, Peters, and Martens 2015; Howard 2016; Skinner, Pratley, and Burnett 2016; Randazzo and Robidoux 2019). In popular surveys for food security assessment and measurement—for example, the U.S. Household Food Security Survey Module designed by USDA ERS—this translates into an overemphasis on whether or not research respondents have sufficient economic means to attain adequate caloric intake. Consequently, many local and national food and nutrition assistance programs exclusively target low-income individuals or households through provision of benefit dollars or discounted meals. Well-known examples include the Supplemental Nutrition Assistance Program (SNAP), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and the National School Lunch Program (NSLP). In doing so, however, scholars, activists, and policymakers run the risk of overlooking non-economic factors that may directly impact food security as well as critical opportunities to improve the effectiveness of food security interventions and well-being of at-risk groups.

It is against this background that I write this dissertation. While I have no intention to deny the critical link between food security and economic sufficiency, I argue against overstating its

importance relative to non-economic factors, especially giving the growing demographic diversity in the United States. Without properly acknowledging the significance of non-economic factors to food security, we cannot fully embrace the fact that food needs and preferences vary considerably across groups (Skinner, Pratley and Burnett 2016; Stroink and Nelson 2012), which is key to understanding a multidimensional food security. In this dissertation, I focus particularly on the roles of race and ethnicity in achieving food security to build on an emerging line of important research; in recent years, scholars concerned with the shortcomings of an economy-centered approach to food security have begun to examine its impacts on racial and ethnic minorities in the United States (Alkon et al. 2013; Gorton et al. 2011; Howlett, Davis and Burton 2016; Laska, Borradaile, Tester and Foster 2010; LeClair and Aksan 2014; Lenk, Caspi, Harnack and Laska 2018; Raja, Ma and Yadav 2008; Short, Guthman and Raskin 2007; Taylor and Ard 2015; Thomas 2010). Given that poverty and obstructed access to supermarkets are frequently identified as two of the more important reasons for food insecurity (Walker, Keane, and Burke 2010), individual or household-level food subsidies and food retail-based interventions are popularly employed to improve vulnerable populations' access to adequate and nutritious foods. Yet, underlying these efforts is a strong assumption of homogeneity with regard to lifestyles, shopping habits, and dietary needs among different populations (Hagan and Rubin 2013; Taylor and Ard 2015; Vetter, Larsen and Bruun 2019; Yousefian, Leighton and Hartley 2011). Although still limited, more studies are paying attention to the diversity of food environments in neighborhoods and communities of color, where a heterogeneous mix of small food stores play instrumental roles in supplying marginalized populations with affordable, nutritious, and culturally preferred foods (Bodor et al. 2008; Khojasteh and Raja 2017; Martin et al. 2014; Moore, Roux and Brines 2008; Rose, Bodor, Hutchinson and Swalm 2010; Shannon 2014; Short,

Guthman and Raskin 2007; Taylor and Ard 2015). In spite of their positive impacts on food security, so far these non-mainstream food outlets have received limited to no attention from food security policies or programs. More research is therefore urgently needed on how to better support small food outlets through future food security interventions, so they can help to fulfill the unmet food needs of vulnerable populations with greater capacity and potentially improve the well-being of at-risk groups.

Data Collection and Research Site

In this dissertation, I use a mix of research methods to collect data to inform my empirical investigation. Given that no single method nor dataset can provide a comprehensive understanding of the phenomenon under study, let alone social phenomena that are complex and convoluted, triangulating data from multiple sources and/or approaches provides additional nuance, validity, and reflexivity (Hesse-Biber 2012; Torrance 2012). Briefly, in Chapter One, I perform a systematic review of major local and national programs currently in place to expand food access and improve food security. The goal is to understand where we are in terms of food security interventions and what we can do to better serve those groups at high risk of food insecurity. Out of all the available databases, I use PolicyFile to take advantage of its extensive inclusion of grey literature on domestic policy issues produced by think tanks, research institutes, governmental and nongovernmental agencies. This is appropriate and in fact logical given the public attention that food security has received and the active involvement of multiple types of entities in domestic food security interventions. In addition to local, state, and federal governments, there are also various nongovernmental organizations and grassroots groups actively involved in the fight against food insecurity. A few well-known examples include

USDA Food and Nutrition Service (USDA FNS), Feeding America, and the Urban Institute. To maintain my focus on existing food security efforts, I conduct a broad search encompassing food security, including food access, the availability of programs, projects, or initiatives and solutions, approaches, or strategies. I then rely on three major criteria to further narrow my scope, so only results pertaining to food insecurity reduction through food-related assistance and interventions in the United States were included for analysis. After iterative filtering, my final sample consists of 86 papers and reports on domestic food security programs.

To collect data for my second and third chapter, I traveled to Honolulu, Hawaii in October 2018 and spent seven weeks there conducting field research, with a dissertation fellowship graciously awarded by the Sociology department and the College of Social Science at Michigan State University. Prior to this trip, I also did preliminary work at the study site—Honolulu’s Chinatown—in March 2017 while attending a sociology conference on the island. A local food guide gave me an extensive tour around the area and introduced me to food market vendors that he worked with, which proved to be instrumental when I returned to Chinatown for dissertation fieldwork in 2018. But strictly speaking, my first field visit occurred even before that; between November 2015 and October 2016, I lived in Honolulu and visited Chinatown often for the wide selection of grocery items it offered at affordable prices. Although Hawai‘i has a reputation of impressing visitors with abundant tropical produce and fresh seafood, in reality it suffers from low food self-sufficiency and imports almost 90 percent of its foods from the mainland United States and other places across the globe (Loke and Leung 2013). Geographic isolation, outdated infrastructures, high production costs, limited domestic market, increasing global competition and complicated land-tenure patterns due to the islands’ colonial past have all come together to create multiple structural disadvantages to disincentivize local farmers from growing for their

neighbors and communities (Suryanata 2002; Goodyear-Ka'opua, Hussey and Wright 2014). As a result, the costs of grocery items are generally high and the variety fairly limited given reliance on imports (Parcon, Loke, and Leung 2010; Xu, Loke and Leung 2015). The direct impact that food prices have on food security (Nord, Coleman-Jensen and Gregory 2014), combined with the island food supply's vulnerability to weather-related interruptions (Iese et al. 2018; Stupplebeen 2019), adds pressure to the local population that are already burdened by low housing affordability, high utility expenses, and a high poverty rate. Between 2015 to 2017, Hawai'i's average poverty rate¹ was 15 percent, higher than the national average of 14.1 percent (Fox 2018). In short, Hawaiian residents are presented with a number of critical challenges in their pursuit of food security. To make matters worse, the types and amount of food and nutrition assistance, particularly those administered by non-governmental organizations, are far from evenly distributed. For example, only one Feeding American food bank exists in Hawai'i compared to seven in Iowa. In 2017, it was estimated that a total of 341,890 people experienced food insecurity in Iowa, just about twice as many as that in Hawai'i (161,270), not seven times the number. With a food insecurity rate of 11.3 percent, Hawai'i faced a slightly graver problem with regard to food security than Iowa (10.9 percent) (Gundersen et al. 2019) and was theoretically in need of greater food support. The reality, however, shows a different picture.

It is in this context that I situate my investigation of the link between traditional food markets and local food security. As a multigenerational and multicultural community, Honolulu's Chinatown boasts a diverse array of open-air markets, independent vendor stalls and small family grocers, where visitors can find various fresh fruits, vegetables, meat and seafood at

¹ This is the Supplemental Poverty Measure rate (SPM), calculated after taking into account factors like cost-of-living and social assistance. In contrast, the Official Poverty Rate (OPR) for Hawai'i without considering these factors was only 10.2 percent. For states like Hawai'i where living costs are generally high, SPM provides more meaningful insights than OPR because the former adjusts for geographic differences.

competitive prices. Mainly run by immigrants of Southeast Asia origins, Chinatown food markets also sell foods that are culturally preferred by ethnic populations, but difficult to find in mainstream supermarkets on the island, such as Safeway and Walmart, where oftentimes a single aisle is devoted to a variety of ethnic or international foods from numerous cultures . Yet, despite their positive role in meeting the food needs of local residents (Bodor et al. 2008; Martin et al. 2014; Moore, Roux and Brines 2008; Rose, Bodor, Hutchinson and Swalm 2010; Shannon 2016; Short, Guthman and Raskin 2007; Taylor and Ard 2015), especially those with limited purchasing power and/or particular food preferences, small food retail outlets like traditional food markets are rarely included in food security interventions (Wong 1977). And Hawai‘i is no exception. More research is therefore needed to facilitate the incorporation of traditional food markets in future food security policies and programs.

To achieve this goal, I conducted semi-structured interviews with 32 immigrant vendors with experiences selling fresh produce, seafood, and meat in Chinatown. This data then served as a basis for me to examine how access to traditional food markets impacts racial and ethnic minority groups’ food security. I also interviewed seven community stakeholders actively involved in issues concerning traditional food markets in Chinatown to learn about the challenges that traditional food markets face in terms of increasing competitiveness to benefit more at-risk populations. Although there has been a tendency for scholars to study food security through consumer experience, I found it is to my advantage to focus on market vendors in this case for two major reasons. First, my focus is on food distribution and access; second, market vendors possess rich yet often over-looked knowledge regarding serving vulnerable populations with diverse consumption needs. The inclusion of community stakeholders added another layer

of novelty to my approach, while at the same time enabled me to develop a deeper analysis through consideration of different perspectives.

Specifically, all of the research participants were recruited through contacts such as cold-calling or snow-ball sampling. To be culturally sensitive and attend to the demographic profile of the interviewees, I offered to interview in Mandarin whenever necessary. Given that immigrant market vendors generally are hard to access and have low interest in participating in research, I would try to purchase one or two items from the targeted vendor a few times before soliciting his/her verbal consent for interview. Aside from creating familiarity and building rapport, this also allowed me to exclude market vendors who could not communicate effectively in English or Mandarin. Typically, I would arrive at Chinatown between 6 to 7 am every day to observe how vendors set up their stalls and get ready for the day: most of the traditional food markets in the area open around this time to cater to early risers who prefer to shop for the first batch of produce delivered in the morning. As business slows down after 10:30 am or so, market vendors tend to take advantage of the decreased foot traffic for short breaks: this is also when the majority of my interviews took place. On weekdays, hotel and office employees working nearby usually shop between noon and 1:30 pm, so I would stay in the area to observe and take field notes instead. By 2:30 pm, the majority of the market transactions are done for the day and market vendors slowly start to pack away their products: this represents another suitable time for interviews before marketplaces close at 4 or 5 pm.

During each interview, a series of open-ended questions covering the following topics were asked: selling and shopping experiences, market history, ownership type, characteristics, and assets, impacts on food access and food security, and constraints and challenges with regard to market improvement. Because market vendors were constantly engaging in various market

activities such as sorting through products or tending to customers' needs, it was not possible for me to complete interviews outside of the marketplaces nor ask all of the interview questions in one sitting. Instead, I conducted all of the vendor interviews in between the market stalls, and inserted questions only when I saw market vendors taking short breaks. In all but one case, I had to take several short trips across a span of multiple days to complete one interview. The process was time-consuming but ended up allowing me extra time to reflect and adjust my interview strategies when needed. For example, after several refusals, I learned to save questions directly related to individual business operation for the latter part of the interview to avoid being potentially perceived as intrusive. In addition, I chose not to take notes during interviews, thinking it could cost more time and potentially make market vendors uncomfortable. Due to their immigrant backgrounds, market vendors might subscribe to cultural beliefs that discourage having their personal information or statements recorded. For the same reason, I did not inquire about the citizenship status of participating vendors. Even so, I was refused several times due to the market vendors' unwillingness to be audio recorded. By contrast, the interview process with community stakeholders was relatively simpler, as it allowed scheduling ahead of time and meetings in various spaces including offices, restaurants, and cafés. All of the community stakeholder interviews were completed in person, except in one case phone interview was conducted due to the interviewee's out-of-state status.

In addition to the semi-structured individual interviews, field notes taken during participant observation in Chinatown and discourse analysis of Chinatown-related news stories published by Civil Beat—a non-profit online news outlet known for its neutral investigative coverage of local issues, were also used to support my analyses in Chapter Two and Three. During the course of my fieldwork, I had the opportunity to participate in community meetings and social events

hosted by local organizations, such as the Downtown-Chinatown Neighborhood Board and the Chinatown Business and Community Association. These unplanned experiences greatly aided my understanding of traditional food markets in Chinatown and surrounding community dynamics.

Moving Toward a Multidimensional Food Security

In three individual chapters, I bring in scholarship on food and nutrition assistance, traditional food markets, immigrant entrepreneurship and supermarket concentration to demonstrate the significant roles of race and ethnicity in the potential for reducing food insecurity among disadvantaged populations. Together, these chapters strive to advance a more comprehensive understanding of food security's multidimensionality for which both economic and non-economic factors hold indispensable importance.

In Chapter One, I provide a systematic literature search of major programs that are currently in place to reduce food insecurity, particularly for people with high levels of socio-economic and cultural vulnerability in the United States. Key words related to domestic food security programming are used for search in PolicyFile—a database offering extensive access to both grey and non-grey literature—to generate a list of studies that introduce and examine the various aspects of existing food security interventions. Despite the active involvement of governmental and non-governmental groups in the fight against food insecurity, millions of American households continue to experience difficulty in meeting their daily needs for nutritious and preferred foods (Coleman-Jensen, Rabbitt, Gregory and Singh 2019). My analysis shows that considerable disparities exist with regard to the outreach and effectiveness of current food security programs across groups. In extreme cases, program participants' long-term financial and

health well-being could even be jeopardized. More work is therefore needed to better understand how food security programs can be more effectively designed and implemented to benefit at-risk populations with diverse food needs.

In Chapter Two, I build on my argument from the previous chapter pertaining to current food efforts' lack of sensitivity as well as insufficient support for heterogeneous consumption needs among people of color. In spite of the nation's increasing multicultural demographics and the growing evidence of small food retail outlets' positive impacts on food security in racial and ethnic neighborhoods, the link between race, ethnicity and food preferences remains an understudied subject in the food security literature (Bodor et al. 2008; Khojasteh and Raja 2017; Martin et al. 2014; Moore, Roux, and Brines 2008; Rose, Bodor, Hutchinson, and Swalm 2010; Shannon 2016; Short, Guthman, and Raskin 2007; Taylor and Ard 2015). To contribute to a more nuanced understanding of multidimensional food insecurity in the United States, I recruit 32 traditional food market vendors from the Chinatown in Honolulu, Hawai'i, and learn about the ways through which access to traditional food markets impacts racial and ethnic minority populations' food security through semistructured interviews. Consistent with extant literature, my case study suggests that traditional food markets represent an important source of affordable, nutritious, and culturally preferred foods in the local food landscape. In addition, these markets also serve critical social functions for those who may feel emotionally and culturally excluded from mainstream food outlets like supermarket chains—in this case, Asian immigrants and Asian Americans

Following Chapter Two, the research agenda of Chapter three is to understand how to strengthen the competitiveness of traditional food markets so their potential to improve food access and food security can be optimized. I begin the chapter by tracing the increasing

concentration of supermarkets, as it provides a useful context to understand the current structure of food retailing industry as well as the logic behind a supermarket-centered approach for food access research and interventions. I then explain the mechanisms through which supermarket concentration negatively impacts food security among the marginalized populations; not only does supermarket concentration weaken consumers' bargaining power through price manipulation (Howard 2016), but it also creates structural disadvantages to force small food stores out of business (Gorton, Sauer, and Supatpongkul 2011; Minten and Reardon 2008). Because racial and ethnic groups often rely on small food stores such as traditional food markets to access fresh, affordable, and culturally preferred foods, their food security could be significantly threatened by supermarket concentration (Grauel and Chambers 2014). In light of this, I combine interviews with both community stakeholders and traditional food markets vendors from the Chinatown in Honolulu, Hawai'i to investigate the barriers and challenges that traditional food markets have in becoming more competitive. From their built environment, to political and community assets, to business training, I found that traditional food markets face multiple economic, social, and political disadvantages to scale up despite their current niche position in the global food retailing industry. This is consistent with the precarious position of minority groups—in this case, Asian Americans and immigrants with low-incomes-- in a food system that systematically prioritizes efficiency and profitability over people's health and well-being.

Following the three individual chapters, I provide a concluding section to discuss the contributions of my dissertation to current scholarship on food security and traditional food markets, as well as potential directions for future work.

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CHAPTER ONE

A Systematic Review of Food Security Programs in the United States: Implications for Improving Practices and Policy

Introduction

In light of persistent global food insecurity and increasing scarcity of natural resources, in 2015 leaders from all over the world convened at the United Nations Sustainable Development Summit and pledged to end hunger and ensure that everyone has access to “safe, nutritious and sufficient food all year round” by 2030 (United Nations 2015:15). The achievement of food security is ranked second only to poverty eradication in the 17 UN Sustainable Development Goals and has attracted international attention for its wide and far-reaching impacts on public health, economic stability and societal well-being (Perez-Escamilla 2017). With the active involvement of governmental and non-governmental organizations, however, questions about the formation of food insecurity across groups and effective mechanisms for food insecurity elimination still remain.

In this paper, I carry out a systematic literature search to identify major programs that are currently in place to expand food access and combat food insecurity for people with high levels of socio-economic and cultural vulnerability in the United States. The goal is to gain a clear understanding of where we are in terms of food insecurity reduction, and draw implications for future practice and policy toward food security. I chose to focus on the United States because it makes an exemplary case study to learn about the complex nature of food security and its reflection of within-country structural inequalities. Contrary to popular belief, food insecurity

does not only exist in countries with developing economies. Although the majority of the world's chronically undernourished and malnourished people are from lower-middle-income economies and conflict-affected regions, in developed countries millions of people also experience hunger and food insecurity on a daily basis (FAO 2019). Food security, according to the USDA, means “access by all people at all times to enough food for an active, healthy life” (Coleman-Jensen, Rabbitt, Gregory and Singh 2018). In the United States, an estimated 11.8 percent of American households (equivalent of 15 million households) experienced difficulty accessing affordable and nutritious food at some point in 2017 (Coleman-Jensen et al. 2018). Within the same time frame, 30.1 percent of adults aged 18 years and older were affected by obesity, a chronic disease that is increasingly associated with low food security (Center for Disease Control and Prevention 2018). Studies have also shown that the so-called “dual burden” of malnutrition—overweight and undernutrition—tend to impact similar groups of people (Rutten, Yarooh, Patrick and Story 2012:1). Particularly, poor people, women, children, the elderly, immigrants, racial and ethnic minorities and people in rural areas face greater risk for both undernutrition and overnutrition in the United States (Gunderson and Ziliak 2014; Harrison et al. 2007; Negowetti 2018; Rutten, Yarooh and Story 2011; Yousefian, Leighton, Fox and Hartley 2011).

The escalating public concern over the negative consequences of food insecurity and their unequal distribution have thus led to the birth of a plethora of programs throughout the country seeking to improve both the quality and quantity of food consumption, with a special focus on those who are economically, socially and culturally marginalized. In 2017 alone, the 15 USDA-managed food and nutrition assistance programs cost a total of \$98.6 billion federal dollars (USDA Economic Research Service 2018). Counting the spending associated with other food security programs sponsored by state and local governments and non-governmental entities, as

well as non-monetary investments such as human capital, each year significant amounts of resources are allocated to bring sufficient and nutritious food to people in need. Previous studies have noted the positive impacts of these efforts, yet at the same time raised criticisms regarding their effectiveness as well as seemingly parallel approaches of addressing food insecurity without much collaboration (Pitts et al. 2015). As referenced above, the most recent data from USDA still shows that about one in eight households in the United States encountered low food security at some point in 2017 (Coleman-Jensen, Rabbitt, Gregory and Singh 2018). This suggests that there exists a critical need to map out unmet food consumption needs and programmatic gaps, so we can adjust our strategies accordingly to ensure better utilization of available resources and move closer to meeting the UN Sustainable Development Goal related to hunger and food security.

My comprehensive examination of major food access and food security programs in the United States therefore represents a key missing piece in our current work on food system improvement and optimization. It also contributes to a knowledge gap that has not yet been sufficiently addressed by sociologists. Of the literature on the approaches and effectiveness of food security programs, a significant portion comes from public health nutritionists and economists. Staying true to their disciplinary roots, these researchers tend to focus on issues like nutrient intake, dietary patterns, food demand and supply, individual and household income and economic development (Burchi and De Muro 2016; Dinour, Bergen and Yeh 2007). This has resulted in a discussion of selective dimensions of food security, which consists of at least four critical components—availability, access, utilization and stability (Pinstrup-Andersen 2009; Scanlan 2009; Citro et al. 2015; Alonso, Cockx and Swinnen, 2018). Moreover, only in rare circumstances are these cross-disciplinary studies brought together and comprehensively

analyzed. In fact, little work has been done to systematically identify and analyze existing domestic programs for food insecurity reduction. Within the limited sample, the focus is either on one type of food security program (Alston 2012; Hoynes and Schanzenback 2015; Kaiser 2017) or food security initiative in one geographic location (Hagan and Rubin 2013; Popkin et al. 2019). My systematic review addresses this limitation and contributes to the food security literature by reviewing and analyzing major food access and food security programs in the country with a sociological lens. The core issues and challenges of current food security programs identified in the paper will also help to inform future design and implementation of relevant policies as we strive to build a more sustainable society.

Research Method and Data Collection

To identify major local and national programs currently in place to expand food access and improve food security, I undertook a comprehensive search in PolicyFile using combinations of “food security” and “food access” with the following keywords: “program”, “project”, “initiative”, “solution”, “approach” and “strategy”. I chose PolicyFile because it is an extensive database that specializes in providing access to public policy research from a wide range of organizations, including major think tanks, research institutes and agencies. This distinguishes PolicyFile from other databases that includes merely peer-reviewed publications. PolicyFile’s exclusive focus on the United States also matches well with the domestic scope of my paper. With its considerable health and socio-economic impacts on millions of households in the United States (Kaiser and Hermesen 2015), food insecurity has sparked concerns from a diverse array of entities. In addition to local, state, and federal governments, there are also nongovernmental organizations and grassroots groups active in the fight against food insecurity. Therefore, the

inclusion of relevant food security studies—both peer-reviewed and non-peer-reviewed—from multiple types of organizations covered by PolicyFile holds great significance and can positively contribute to this paper’s degree of comprehensiveness. In fact, despite challenges involved in quality control and assurance, among systematic review researchers the incorporation of non-peer reviewed literature like institutional reports, consultant papers, and conference papers (also called “grey literature”) is gaining popularity, as it reduces potential publication bias and broadens research scope (Benzies, Premji, Hayden and Serrett 2006; Conn, Valentine, Cooper and Rantz 2003; Mahood, Van Eerd, and Irvin 2013).

Using the list of key terms described above, my initial search in the database yielded a total of 105 references. Based on the following criteria, I then decided whether to include or exclude a particular result in my final analysis: (1) My priority was on programs that are intended to improve food security in the United States. This meant any studies without an exclusive domestic focus were excluded from the review. In the international community, the United States is well-known for its influential role in providing and managing food assistance to food-insecure countries through organizations like the United States Agency for International Development (USAID) and USDA. However, compared to efforts initiated to alleviate undernutrition and malnutrition at home, these overseas programs are usually operated with different approaches to accommodate foreign political contexts and thus would be of little use for my research purpose. (2) I chose not to include programs related to agricultural production because there is a consensus that food security in the United States has more to do with food access and less with food production (Scanlan 2003). Also, since farm subsidies mainly go to large commercial farms, even with more land devoted to crop production it remains unclear if food prices are affected in a direction that is beneficial for people at risk of hunger and food insecurity (Glauber, Sumner and

Wilde 2017). (3) It is outside the purview of this paper to consider studies concerning programs that only indirectly address food security through nonfood assistance and intervention². A simple example is the Earned Income Tax Credit in the American context; while it may increase household income and help alleviate food insecurity, especially for the financially-distressed, the federal program is not designed for the exclusive purpose of food security improvement.

For these three major reasons, I limited my scope to studies focusing exclusively on food security improvement directly through food-related assistance and intervention. Finally, before moving on to in-depth analysis, I checked the short-listed references filtered by the set of criteria outlined above for relevant backward and forward citations until no further studies were identified. Given that grey literature also covers unpublished studies like working papers, in cases of repetitive information I only kept the published results in my data. In the end, my systematic review is based on 86 papers and reports pertaining to existing food security programs in the United States (see Figure 1 for data collection workflow).

The remainder of the paper is organized as follows. In the following section I introduce the major local and national food security programs in two groups to highlight their different recipient types and programming focuses. After examining their core program areas and approaches, I move to assess and discuss the gaps and challenges of existing food security mitigation efforts, in conjunction with key issues related to food access and food security in the literature. Notably, my analysis shows that current food security programs are inadequate when it

² I also chose to exclude a few public health studies, for the lack of prioritization of the quality and quantity of food consumption in their discussion of obesity intervention. Like food insecurity, obesity is a complex public issue to address as it is often the result of a combination of individual and environmental factors. Nutrition-relevant programs can thus take diverse approaches, which may or may not involve the access and utilization of food. In addition, despite the increasingly common coexistence of obesity and food insecurity and the intimate connection among them, there have long been tensions between anti-hunger and anti-obesity groups (Rutten, Yaroch, Patrick and Story 2012; Schwartz 2017; Thorndike and Sunstein 2017; Wilde 2016). As a result, efforts to address obesity do not always benefit and can even inadvertently place additional burdens on those struggling with food insecurity through restricting calorie intake.

comes to reaching and supporting certain groups—predominantly racial and ethnic minorities—whose food needs and preferences may be different due to their cultural or social backgrounds. From program outreach to program effectiveness to program recipients’ long-term financial and health well-being, there exist significant room for improvement for future design and implementation of food security programs in the United States, as explicated in the last section of the paper.

Types of Food Security Programs in the United States

Although I did not set a limit on the publication date for any of the searches, most of the identified studies occurred after 2000. One possible explanation is the availability of public data on food security through the Current Population Survey Food Security Supplement (CPS-FSS) since 1995. In the sample, a variety of questions have been addressed with regard to food access and food security in the United States. Specifically, out of the 86 selected studies, 29 investigate the effectiveness and outcomes of domestic food security programs, and the remaining 57 offer information on their history, eligibility requirements, target populations, administration and program areas. Depending on their recipient type and focus³, I decided to separate existing food security efforts in the United States into two main groups: one consists of programs providing direct food assistance to individuals and households (see Table 1) and the other seeks to improve the food environment for local communities primarily through incentives for food retailers (see Table 2).

³ In some cases, individual/household-level and community-level food security programs can overlap. For example, the Double Up Food Bucks program is a Michigan-based incentive program (later has expanded to other states) that offers tokens to SNAP participants to encourage their farmers market and grocery store purchase of healthy fruits and vegetables (Fair Food Network 2019). It contributes both to food security of local residents and the vitality of community food environment (Double Up Food Bucks, Health Bucks and similar interventions offer tokens to recipients of formal food assistance; in doing so they also contribute to sales at farmer’s markets and grocery stores and ultimately the vitality of the local food environment (Gearing and Anderson 2014; Hagan and Rubin 2013; Pitts et al. 2015).

Individual/Household-Level Food Security Programs

Formal food assistance

More than a description of physical and nutritional status, food security is “embedded in structure, globalization, politics, and the international political economy and has important social consequences—especially for those most vulnerable to stratification” (Scanlan 2003:89).

Evidence from previous research suggests that poverty, gender, age, race, ethnicity, citizenship, disability and rurality are all important predictors of food security in the United States (Gunderson and Ziliak 2014; Harrison et al. 2007; Joassart-Marcelli, Rossiter and Bosco 2017; Rutten, Yaroch and Story 2011; Yousefian et al. 2011). Facing economic, social and cultural disadvantages, certain populations are likely to experience challenges when it comes to accessing and obtaining enough food to meet their daily needs. In many cases, even when the calories are enough, they may be highly-processed and nutritionally poor (Negowetti 2018). Although it remains unclear whether a causal relationship exists between food insecurity and obesity, growing evidence confirms that they are subject to similar risk factors and tend to co-occur in certain subgroups (Metallinos-Katsaras, Must and Gorman 2012). As a result of persistent structural inequalities, poor people, women, children, the elderly, immigrants, racial and ethnic minorities and people in rural areas have a high risk for both undernutrition and overnutrition in the United States (Rutten, Yaroch and Story 2011).

In response to the unequal distribution of food insecurity and its negative consequences amongst the American population, a series of food and nutrition assistance initiatives have been developed and implemented, primarily by the federal, state and local governments since the mid-

1940s⁴ (Fox, Hamilton and Lin 2004). Although these programs may be different in terms of size and reach, they also share many similar features when it comes to enrollment and service delivery. Typically, in order to receive benefits, interested candidates or households have to meet certain means-tested eligibility criteria. In other words, the provision of food assistance is usually dependent on the program participants' lack of means to attain food security by themselves. Marchione (2005) identified four common approaches to determine eligibility in food-based safety net programs: self-targeting, means-tested, categorical and community-based. While any of the approaches can be implemented alone or in combination with on a case-by-case basis, current food and nutrition assistance programming in the United States tend to rely on income and/or asset tests to filter applications.

Once approved, program enrollees receive either free or discounted meals directly, or credits and vouchers (either paper-based or electronically) that can be used toward food purchasing in authorized food outlets. Well-known examples of such programs include the Supplemental Nutrition Assistance Program (SNAP, formerly known as Food Stamps), the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), the National School Lunch Program (NSLP), the School Breakfast Program (SBP), and Child and Adult Care Food Program (CACFP), all of which receive federal government funds to operate at the national level. Not coincidentally, these are also the most frequently mentioned measures for food insecurity reduction in my identified studies. Including the five programs mentioned above, the Food and Nutrition Service (FNS)—a USDA agency—manages a total of 15 domestic programs for hunger and obesity reduction through a combination of approaches (Food and Nutrition Service 2019). In spite of criticism, for decades the federal government has played an instrumental role

⁴ It is important to note that food assistance prior to this time was introduced primarily to distribute surplus agricultural commodities and support farm food prices, rather than to meet the consumption needs of food insecure populations (MacDonald 1977).

in providing targeted food assistance to at-risk individuals and families, especially during economic downturns (Allard, Danziger and Wathen 2014; Bitler and Hoynes 2016). Compared to other social safety programs provided at the local or state level, the federally-sponsored food assistance programs minimize across-state variations and disparities (Hoynes and Schanzenback 2015), partially coinciding with a rights-based approach to food security that insists it is a fundamental human right to access nutritious food (Anderson 2008; Chilton and Rose 2009). According to the USDA's Office of Budget and Program Analysis, in 2019 the total spending for federal food and nutrition service is estimated to exceed 100 billion dollars, benefiting one in four Americans over the year.

Notably, as the cornerstone of the nation's food and nutrition safety net and the only means-tested program that does not target special subgroups (Dean and Rosenbaum 2002; Hoynes and Schanzenback 2015), SNAP alone costs the federal government over 70 billion dollars in 2019 (USDA Office of Budget and Program Analysis 2019). Begun as a small pilot project under the name "Food Stamp" in eight poor countries in 1961⁵, SNAP now helps millions of low-income Americans across the country to put food on the table by providing them with cash benefits deposited monthly onto a debit style card; the assumption is that since food expenditure is flexible compared with other costs of living like rent and utilities, it is often sacrificed in situations of limited resources (Harrison et al. 2007). Therefore, by purchasing food via SNAP benefits at participating retailers, program enrollees can effectively improve food security because they no longer have to prioritize other needs over their basic food consumption.

Although this approach bears the risk of overlooking the multidimensional nature and

⁵ Following the Food, Conservation, and Energy Act (the Farm Bill) in 2008, the program changed its name from "Food Stamp" to "SNAP" to reflect its increased focus on nutrition (Blumenthal et al. 2013). Currently, some states also use different names to refer to SNAP, like California's "CalFresh" (Hoynes and Schanzenback 2015) and "3SquaresVT" in Vermont (Popkin et al. 2019).

complex formation of food security by focusing solely on household financial hardship, it nevertheless holds great importance for economically-disadvantaged families, especially those with dependent children. Past research has found ample evidence to prove the long-lasting damaging effects that low food insecurity in early childhood has on the physical growth and mental development of later years (Gunderson and Ziliak 2014; Ke and Ford-Jones 2015; Knowles et al. 2016; Rivera et al. 2017; Shankar, Chung and Frank 2017). Meanwhile, children consistently make up the largest category of SNAP participants (Dean and Rosenbaum 2002; Negowetti 2018; Mabli and Ohls 2014; Yu, Lombe and Nebbitt 2010). To accommodate the high demand for food and nutrition assistance among children, FNS also runs a series of child nutrition programs. Aside from the aforementioned NSLP, SBP and CACFP, the Summer Food Service (SFSP), Special Milk (SMP) and Fresh Fruit and Vegetable (FFVP) are all federal programs aiming to improve children's food security and nutritional status outside the home environment through the provision of free or discounted meals and snacks (FNS 2019). Compared to SNAP, these services use similar eligibility criteria to filter applications, but they target a narrower segment of the American population and place more restrictions on the delivery method and content of their benefits. For example, despite its past as an outlet for surplus farm commodities, NSLP now follows a set of nutrition guidelines to make sure that any meal served to participating students is of adequate caloric and nutrient intake (Hoynes and Schanzenback 2015). On a related and relevant note, WIC—a national program created to address malnutrition among low-income mothers, infants and children under five—also revised the type of food redeemable through given credits and vouchers in 2009 to more closely align with the nutritional recommendations from the Institute of Medicine (Alston 2012; Blumenthal et al. 2013; Schultz, Shanks and Houghtaling 2015). Recent studies have explored the possibility for SNAP to impose

additional restrictions on its benefits with regard to nutrient needs and reported positive support of research participants from multiple sectors, but so far no relevant policies have been enacted (Blumenthal et al. 2013)

In short, the major national food and nutrition assistance programs discussed above have been important sources for at-risk populations—especially those who are struggling with limited financial resources—to acquire adequate nutritious food and improve food security. The nutrition education embedded in some of these programs is also helpful in terms of facilitating learning and adoption of healthy eating behaviors among people with high risk of food insecurity. Despite independent operations, the formal food supports are not mutually exclusive, which means it is possible for some participants to enroll in multiple programs to maximize benefits.

Informal food assistance

As essential as the government-affiliated public food and nutrition programs are to meeting the consumption needs of people with high vulnerability to low food security, in the fight against food insecurity the importance of non-governmental food assistance also cannot be overstated (Gundersen and Ziliak 2014; Wimer, Wright and Fong 2013). Despite some overlapping in terms of funding source⁶, in existing literature institutionally-operated food programs and community-based food initiatives are popularly labeled as formal and informal respectively to highlight the programmatic differences between the two (Gundersen,, Engelhard and Hake 2017; King 2017). In the United States, informal food support⁷ typically comes from locally-based emergency food

⁶ Aside from supporting themselves with monetary and in-kind food donations from private sources, informal organizations also benefit directly through governmental programs such as the Emergency Food Assistance Program (TEFAP) and indirectly through tax breaks (Berner and O'Brien 2004).

⁷ To retain my focus on food aid programs, I did not include alternative food coping strategies (e.g., hunting, fishing, backyard gardening, borrowing food from relatives and etc.) popularly used among low-income and food insecure populations (Duffy and Zizza 2016) because these efforts do not operate on a program-basis but vary from individual to individual.

providers such as food banks, food pantries, soup kitchens and shelters, for which private and voluntary donations are crucial (Kaiser and Hermesen 2015; Yu, Lombe and Nebbitt 2010). As a result, it tends to vary significantly by geographic region with different amount of resources. Within the national food bank network maintained by Feeding America, the largest hunger-relief organization in the United States, there are over 200 food banks and 60,000 food pantries across the country (2019). Yet these programs are not evenly distributed: for example, only one Feeding America food bank exists in Hawai‘i compared to seven in Iowa. As the state-by-state food security data shows, in 2017 a total of 341,890 people experienced food insecurity in Iowa, which is just about twice as many as that in Hawai‘i (161,270), not seven times the number if they were equally distributed. With a food insecurity rate of 11.3 percent, Hawai‘i faced a slightly graver problem with regard to food security than Iowa (10.9 percent) (Gundersen et al. 2019). The distribution of food banks and other types of informal food support therefore does not necessarily follow the law of supply and demand, and instead is likely impacted by regional resources.

Specifically, food banks operate in the form of community-anchored warehouses where food solicited from both the public and corporate sectors is stored. After receiving deliveries of food donations from food banks, food pantries, soup kitchens and other food aid organizations in the area are then responsible for distributing them (either cooked or uncooked) to clients, who generally have low-income and high risk of food insecurity (Berner and O’Brien 2004). Given that both religious and nonreligious entities are involved in the provision of informal food assistance, venues for distribution can be diverse, including but not limited to neighborhood centers, churches, schools and various local sites that are easily accessible to potential clients (Wimer, Wright and Fong 2013).

Despite the critical role of informal food assistance programs in domestic food insecurity mitigation, to date the academic literature has paid less attention to these types of efforts relative to formal food support distributed by large governmental organizations (King 2017). Unsurprisingly, in my final sample of 86 identified studies, only 15 focus on informal food assistance strategies while 47 revolve around formal ones. To some extent, this has to do with the voluntary nature of private donations, varying program sizes and degrees of sophistication, uneven program distribution and the low level of predictability of emergency food provisions (Berner and O'Brien 2004). Yet, with the demonstrated association between participant characteristics and formal food assistance take-up (Yu, Lombe and Nebbitt 2010), the existence of informal food support has become especially irreplaceable for those who experience difficulty enrolling for governmental benefits. For example, immigrants often lack the language or cultural familiarity to understand the proper ways to receive formal food support (Dean and Rosenbaum 2002). Studies also show that while large governmental institutions generally have a higher capacity to provide stable and long-term food assistance, during times of tightened public policies and budgets they can lose their advantage over nonprofit groups in serving at-risk populations (Berner and O'Brien 2004). This explains the rapid proliferation of informal and community-based food initiatives since 1996, when the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) drastically changed eligibility requirements for the Food Stamp Program (precursor to SNAP) and excluded certain subgroups like legal immigrants from receiving benefits (Rosenbaum 2000; Siskin 2016; Zedlewski and Rader 2004). Berner and O'Brien (2004) examined 193 emergency food providers (EFPs) including food pantries and soup kitchens in North Carolina and reported an increase in their clients from 1995 to 2000, accompanied by a decline in the number of public assistance

recipients. In the same study, the critical role of private food assistance was further underlined by the finding that the usage of emergency food providers tended to increase at the end of the month, when benefits from formal food programs like SNAP ran out (Berner and O'Brien 2004). In fact, there has been an ongoing debate about the adequacy of formal food supports and their capacity to effectively address existing food insecurity (Gundersen, Kreider and Pepper 2018). Although respecting and fulfilling “the right to food” has been deemed as an integral part of the American welfare system, the expansion of informal food assistance programs along with the weakened public safety nets, primarily in the last few decades, suggests that the state is unable or unwilling to meet the food and nutrition demands of the underserved (Riches 2002:650). Consequently, to maximize their chances of receiving adequate food and nourishment, populations facing a high risk of food insecurity usually combine formal and informal food assistance and take full advantage of these programs’ benefits (Allard, Danziger and Wathen 2014). Last but not least, by providing immediate relief to food insecure populations, informal food security programs help to redirect edible food from landfills to dinner tables, ultimately contributing to the country’s economic, environmental and social well-being (The Harvard Law School Food Law and Policy Clinic 2017).

Community-Level Food Security Programs

Although terms like food desert and food swamp are controversial, they bring to the public attention that there exist areas in the United States—rural as well as urban—where access to fresh, nutritious and affordable food is significantly obstructed due to structural inequalities along economic, social, and racial lines (Blackwell 2016). As a reflection of environmental and food injustice, supermarket chains and large grocery stores in the United States are likely to be

absent from communities of color and low-income communities, resulting in fewer food retailers with poorer quality food selling for higher prices in these locations relative to other parts in the country. Meanwhile, gas stations, liquor stores and convenience stores carrying mainly processed food high in calories and low in nutrients are highly visible, further exacerbating the risk of food insecurity for economically, racially and socially-disadvantaged populations residing in affected places (Aspen Institute 2016; Berman 2011).

Given the demonstrated evidence on the strong association between environmental conditions and food security (Rivera et al. 2017; Walker, Keane and Burke 2010; Yousefian et al. 2011), how to improve the neighborhood environment for food availability and food access is a central subject for community groups, private institutions and governmental agencies involved in food security mitigation (Blumenthal et al. 2013; Dubowitz et al. 2015). Generally, perceived low profit margins, unfriendly zoning ordinances and high crime rates are major reasons for mainstream supermarkets' unwillingness to operate in communities of color and low-income communities (Hagan and Rubin 2013).

Among the 86 relevant studies that I analyzed for the paper, 24 revolve around local and national programs seeking to remove economic, institutional and knowledge barriers for bringing affordable and healthy food to underserved neighborhoods. Namely, through initiatives like New Markets Tax Credit and Healthy Food Financing Initiative, financial support in the form of tax credits and grants are provided to set up healthy food retailers such as supermarkets, small grocery stores, and farmers markets in selected places (Giang et al. 2008; Hagan and Rubin 2013; U.S. Department of Treasury 2019; U.S. Department of Health & Human Services 2019). To incentivize purchasing of fresh fruits and vegetables, farm-to-institution programs connect institutions with local food producers. The introduction of fresh and affordable foods to

institutional settings not only improves the nutritional quality of institutional meals, but also represents educational opportunities to learn about healthy eating (Holland et al. 2015; Jones, Childers, Weaver and Ball 2015). Similar to the direct food assistance programs mentioned earlier, all the community-level food initiatives listed above can be combined to bring positive changes to local food as well as its economic environment (Blumenthal et al. 2013; Hagan and Rubin 2013).

Gaps and Challenges

The magnitude of ongoing efforts to mitigate food security in the United States has inspired an important line of research to assess their performance and outcomes (e.g., Dinour, Bergen, and Yeh 2007; Gunderson and Ziliak 2014; Mabli et al. 2013; Pitts et al. 2015; Ratcliffe, McKernan and Zhang 2011; Simmet, Depa, Tinnemann and Stroebele-Benschop 2017; Wimer, Wright and Fong 2013). Primarily, disparities with regard to program enrollment and outreach, mixed effectiveness on food spending and food security status and unintended consequences on participants' long-term well-being are identified as key challenges for existing food security programs. I discuss each of them in detail in the following section.

Uneven Participation

Although the enrollment of both formal and informal food assistance fluctuates with economic conditions—goes up during economic downturns and down with economic recovery, it varies greatly across social groups on closer inspection (Berner and O'Brien 2004; Rosenbaum 2013). On one hand, existing evidence shows that the risk factors for food security generally overlap with predictors of food support receipt. That is, poverty, unemployment, low educational attainment, presence of children, single-parenting, disability and health problems, rural residence

and racial and ethnic minority background are all strongly associated with participation in food assistance programs (Allard, Danziger and Wathen 2014; Aspen Institute 2016; Popkin et al. 2019). Accordingly, when the federal government budgets over 100 billion dollars for nationwide food and nutrition assistance programs in 2019, it is estimated that the majority of the funding will translate into benefits for low-income families, children, seniors and people with disabilities (USDA Office of Budget and Program Analysis 2019). On the other hand, considering the higher risk of food insecurity for certain subgroups, studies caution against equating the participation rates for eligible populations with their representation ratios in food assistance programs (Dean 2008; Dean and Flowers 2018; Hoynes and Schanzenback 2015; Zedlewski et al. 2005). The logic is simple, not everyone who is qualified for food assistance actually enrolls in these programs, so it is important to consider significant disparities for participation rates among eligible populations as well. As a notable example, seniors comprised 11 percent of all SNAP enrollees in 2015, but their participation rate was only about half of the national average (42 percent versus 83 percent) (Center on Budget and Policy Priorities 2017).

Three types of factors that keep eligible participants from benefiting from current food assistance programs have been identified. Program-wise, public food assistance programs run by governmental agencies usually require burdensome paperwork and office visits from applicants to verify eligibility. While doing so helps to reduce program errors, it also deters participation, especially for those who face challenges of limited time or physical mobility (Blumenthal et al. 2013; Rosenbaum 2000). Utilization of new technologies, like web-based systems, saves trips for remote candidates, but may be exclusionary to people lacking sufficient tech-savviness (Zedlewski et al. 2005). On a relevant note, even though informal food programs tend to have comparatively relaxed requirements, participants still encounter challenges like short and

irregular operating hours and long waits to claim free food items or meals (Wimer, Wright and Fong 2013). Other than difficulties associated with food assistance programs themselves, participants' awareness of program existence (Rutten, Yaroch and Story 2011; Wimer, Wright and Fong 2013) and knowledge about eligibility and benefit levels (Dean and Rosenbaum 2002; Dean 2008; Zedlewski et al. 2005; US General Accountability Office 1998) comprise another type of barrier responsible for lower than expected program enrollment rates among eligible populations. For immigrants who lack language and cultural familiarity to navigate the American benefit system, an adequate understanding of the various ways to locate and obtain much-needed food assistance holds special relevance; this not only helps eligible immigrants to reduce their risk of food insecurity, but also effectively dispels any unfounded fears about public benefits' potential impact on immigrant status (Dean and Rosenbaum 2002). The last type of factors affecting the nonuse of food assistance programs has to do with perceived social stigma. On one hand, because hard-work and independence are highly valued in American society, eligible individuals and households may intentionally avoid getting food support so they are not perceived by others as lazy or dependent (Popkin et al. 2019; Wimer, Wright and Fong 2013; Zedlewski et al. 2005). This is especially a problem for children and youth eligible for NSLP and SBP, given that they are especially susceptible to peer pressure (Gunderson and Ziliak 2014). On the other hand, Zedlewski and Rader (2004) report a tendency among SNAP officers to prioritize fraud prevention over enrollment encouragement, which can dampen participants' interest in applying to the program.

Mixed Effectiveness

In recent years, food security programs have come under scrutiny as mixed results regarding

their effectiveness and outcomes began to accumulate, especially following the first official release of nation-wide food security data collected by the Census Bureau for USDA in 1995⁸ (Barrett 2002; Hoynes, McGranahan and Schanzenbach 2015; Kabbani and Yazbeck 2004). Because of differences in approaches, while some studies report decreased food insecurity among research participants due to receipts of food benefits (Gunderson and Ziliak 2014; Mabli et al. 2013; Ratcliffe, McKernan and Zhang 2011), others show a negative relationship between participants' dietary patterns and health conditions and their enrollment in food assistance services (Dinour, Bergen and Yeh 2007; Pitts et al. 2015). To explain the contradictory findings, some argue that the current benefit levels of major food assistance programs have not been updated in a timely manner and are thus insufficient to fulfill enrollees' consumption needs (Hoynes, McGranahan and Schanzenbach 2015; Long et al. 2012; Popkin et al. 2019). Yet, more blame the commonly-used quasi-experimental research design. Even though quasi-experiments resemble true experiments by comparing pre- and post-treatment effects, it does not follow a randomized process like the latter (Reichardt 2009). Given that people self-select themselves into the food security programs, a simple comparison of participants and non-participants through quasi-experiments incurs selection bias, ultimately rendering the evaluation of program effectiveness problematic (Borjas 2002; Hoynes, McGranahan and Schanzenbach 2015; Kabbani and Yazbeck 2004; Mabli and Ohls 2014). Another possible reason has to do with the studies' focus on the average treatment effects across groups. Take SNAP studies as an example;

⁸ As a supplement to the Current Population Survey, the Current Population Survey Food Security Supplement (CPS-FSS) uses a 18-item questionnaire to monitor the food security status of American households on an annual basis (Harrison et al. 2007). To acknowledge the diversity in people's experiences of food security (Hendriks 2015), a set of continuous labels is introduced to categorize interviewed households as having either "very low food security", "low food security", "marginal food security", or "high food security" (USDA Economic Research Service 2018). Although all of the 18 questions from CPS-FSS pertain to food conditions as well as behaviors of household members, shorter modified versions of the survey (e.g. the U.S. Adult Food Security Survey and the California Health Interview Survey) have also been developed to accommodate time limit or a specific audience (Bickel et al. 2000; Harrison et al. 2007).

although either the utilization of experimental design or the incorporation of state-level policy variables⁹ in recent studies (Deb and Gregory 2016; Kabbani and Yazbeck 2004) effectively prevents selection bias, neither can guarantee that program effects are evenly distributed across different groups of households. In other words, it is possible for certain groups to experience improvement in food security with food assistance when others do not (Mabli and Ohls 2014). By focusing merely on the average treatment effects of food assistance programs, researchers fail to acknowledge outcome heterogeneity across groups and may end up mistaking statistical zeros as complete absence of program effectiveness (Deb and Gregory 2016).

Unintended Consequences

On top of disagreements on food assistance programs' intended impacts on food security and food spending, worries over their unintended consequences for participants' long-term health and financial well-being also exist. On one hand, despite their positive roles in meeting the basic food needs of vulnerable populations, informal food support providers like food banks and food pantries face constant criticisms for the relatively low nutritional quality of food items they distribute (Simmet, Depa, Tinnemann, and Stroebele-Benschop 2017; Wimer, Wright, and Fong 2013). As for formal food assistance services, even with revisions of nutritional guidelines to ensure better provision of healthy food implemented by some programs like WIC and NSLP (Gunderson and Ziliak 2014), the possibility for participants to access less-healthy food is still high. According to Blumenthal and his coauthors (2013), the wide availability of unhealthy foods and the relative high cost of healthy foods are among the top barriers for low-income populations to improve dietary quality. In other words, without proper policy interventions to

⁹ As part of the welfare reform in 1996, states were offered a set of policy options so they could have more flexibility in administration of SNAP (Black 2013).

facilitate or incentivize consumption of fresh fruits and vegetables, it is likely for program enrollees to buy cheap calorie-dense food items so they can stretch their limited dollars. SNAP is a typical example because as the nation's largest food aid program, it does not place any limitations on the nutritional-contents of redeemable food items as long as they are for "home preparation and consumption" (Aussenberg 2014:18). As a result, many SNAP recipients spend a considerable amount of their benefit dollars on foods devoid of necessary nutrients due to cost or convenience (Seligman and Basu 2018). In recent years, numerous proposals to exclude unhealthy foods like sugary beverages from SNAP program benefits have emerged, along with demonstrated support from SNAP participants. However, due to a lack of convincing evidence for the effectiveness of food group restrictions (Cuffey, Beatty and Harnack 2015) and concerns over potential discrimination and stigmatization (Blumenthal et al. 2013; Long et al. 2012), so far no significant changes have been made to SNAP's nutritional requirements.

On the other hand, there has been a long-standing debate regarding the association between social welfare provision and recipients' self-reliance (Cheng 2002; Nelson 2002); as part of social safety net, food assistance programs are not exempt from ethical and moral dilemmas. Because most of the existing programs seeking to reduce food insecurity rely on financial eligibility to filter applications and distribute food assistance, they not only require substantial manpower and material resources to operate but could also backfire by discouraging participants from working hard to improve their economic conditions in order to keep program benefits. In more extreme cases, without the capability to own personal transportation, eligible low-income populations may have trouble accessing food assistance services, let alone obtaining and maintaining jobs (Black 2013).

Discussion

Low food security has been associated with insufficient intake of nutrients, high frequency of diseases, poor academic performance, increased risk of mental distress and deterred social development (Gearing and Anderson 2014; Farrell et al. 2018). Just like there are multiple causes of food security, diverse solutions have been proposed to address this complex societal issue; from agricultural production to food retailing to food waste recycling, a significant amount of material and non-material resources are being devoted to improving food security for at-risk populations. Through a systematic review that examines both grey and non-grey literature, this paper identified and assessed major local and national programs that are currently in place to expand food access and combat food insecurity for vulnerable populations in the United States. Briefly, domestic efforts seeking to reduce food insecurity operate on two levels: individual/household-level and community-level. The individual/household-level programs can be further categorized as either formal or informal, depending on typical funding source and responsible organization. Despite these programs' demonstrated positive roles in providing food and nutrition assistance and improving the neighborhood food environment, my analysis suggests that there remain gaps and challenges with regard to program outreach, effectiveness, and program recipients' long-term financial and health well-being. To better serve vulnerable populations facing high risk of food security in the nation, more work is needed to understand how food security programs can be more effectively designed and implemented.

First, even though a wide range of contributing factors to food insecurity has been identified in the existing research, the assumption that food insecurity is primarily caused by material hardship is still quite prevalent among activists and policymakers involved in food security mitigation. My assessment of local and national food security programs above shows that a

substantial portion of them focus on food assistance provision as a key program area and uses primarily economic eligibility criteria to distribute free or discounted food. As essential as financial resources are to food purchases, however, their existence does not guarantee the absence of food insecurity. Although rare, national surveys still show an absence of food security among populations with income above the poverty threshold (Harrison et al. 2007). This highlights the complex nature of food security consisting of multiple components and calls for policy interventions attending to non-economic factors of food insecurity. By targeting only low-income households, many domestic food security organizations not only run the risk of underestimating the number of at-risk families, but also miss an opportunity to accommodate other dimensions of food needs. In a study of food security initiatives in Vermont, Popkin and coauthors find that the availability of culturally appropriate foods helps to increase the enrollment and satisfaction for community food programs, as more immigrants and refugees flock into the state (2019). Rather than an optional kind gesture, a high sensibility to the diverse food preferences of different subgroups should therefore be essential for food security activists and policymakers in a multicultural country like the United States. This is especially relevant for informal food assistance programs such as food pantries and soup kitchens, as they tend to have more flexibility to choose and adjust the types of food being distributed when compared to formal food assistance programs. Questionnaires, focus groups or individual interviews are all great tools that offer insights into the food needs and preferences of target populations.

Second, with both the individual/household-level and community-level food security programs play positive roles in the fight against food insecurity in the United States, the former has consistently received much more attention from the academic and policy community. Studies investigating the treatment effects of SNAP with regard to food security and food spending, for

instance, make up a majority of existing literature on food security programs (Gunderson and Ziliak 2014). Yet, we still do not fully understand how and to what extent food assistance can help eliminate food insecurity. When it comes to community-level food initiatives, even less is known about their effectiveness and outcomes. For example, in spite of hundreds of millions of federal dollars being spent on bringing supermarkets into low-income neighborhoods lacking food retailers in the last decade, it remains unclear if residents' food security status and dietary quality have showed significant improvements in these places (Dubowitz et al. 2015; Walker et al. 2010). In addition, with a majority of program benefits going to mainstream food retailers like supermarket chains and large grocery stores, it is likely for current community-level food security programs to neglect a variety of non-mainstream outlets that people use to meet their food needs (Hagan and Rubin 2013; Taylor and Ard 2015; Yousefian et al. 2011). Increasingly more studies have underlined the complexity and heterogeneity of local food landscapes in socially and culturally diverse areas; due to their ties to distinctive histories and cultures, people of different racial and ethnic backgrounds have a tendency to rely on a mix of small independent stores to access culturally preferred foods (Raja, Ma and Yadav 2008; Short, Guthman and Raskin 2007; Taylor and Ard 2015). For example, of the 483 Chinese-speaking participants interviewed by Lyles and colleagues (2015), many report that they make frequent trips to the city's Chinatown markets to access fresh fruits and vegetables in order to cope with low food security. Given that these markets are typically owned and operated by immigrant entrepreneurs to whom business investments are often difficult due to a lack of cash and skills, they would benefit greatly from any outside financial and technical assistance. Therefore, aside from developing new food retailers, future efforts to improve community food access should also consider providing support for existing resources that are essential to the maintenance of food

security among local residents (Joassart-Marcelli, Rossiter and Bosco 2017). An example can be found in New York City: in 2006, the Healthy Bodegas Initiative was launched to bring more fresh fruits, vegetables and other nutritious foods into the city's underserved communities through small corner stores (bodegas) (The New York City Department of Health & Mental Hygiene 2010). Building on this program, future retail-based interventions can continue working with small independently owned food outlets in low-income and minority neighborhoods to maximize their positive potential to serve at-risk populations.

Third, while small surveys are administered from time to time by individual studies to learn about participants' food security status, CPS-FSS is still the most commonly-used food security survey by local and national organizations in the nation. In other words, our current understanding of the prevalence and severity of food insecurity in the United States primarily comes from CPS-FSS. As informative as it is, unfortunately, food security data from CPS-FSS should be used with caution for its limited validity among certain populations (Gunderson and Ziliak 2014; Lyles et al. 2015). A notable example is minority groups whose mother tongue is neither English nor Spanish; because these are the only two languages that CPS-FSS is available in, people with no proficiency in either English or Spanish might simply be excluded from the survey. In a better scenario, no-native English or Spanish speakers take CPS-FSS, but understand the questions differently than expected due to their distinct language or cultural backgrounds (Potochnick and Arteaga 2018). For improved validity and accuracy, future administration of CPS-FSS could incorporate additional guidance or cognitive testing through more linguistically and culturally appropriate methods, so participants have a clearer idea of survey questions (Alaimo, Olson and Frongillo 1999; Farrell et al. 2018; Lyles et al. 2015). Data triangulation might help too, as it generally allows more nuances and perspectives to show through than using

a single method or data source (Torrance 2012). A major area for improvement is the collection of qualitative data on food security; to date, relatively few qualitative studies have been done to study food security in the United States (Gunderson and Ziliak 2014). However, without the rich details obtained from qualitative datasets, a more complete picture of the country's food access and food security will be unlikely to take shape.

Conclusion

To gain a complete picture of existing efforts on food security mitigation in the United States, in this paper I reviewed relevant studies consisting of both grey and non-grey literature and examined a variety of local and national programs that provide critical support for vulnerable individuals and communities to access adequate and nutritious foods. Based on my analysis, I argue that more work is needed to better understand how food security programs can be more effectively designed and implemented to benefit people in need. As our society becomes increasingly complex and heterogeneous, current food security programs show inadequacies in reaching and supporting certain groups whose food needs may be different due to their cultural or social backgrounds.

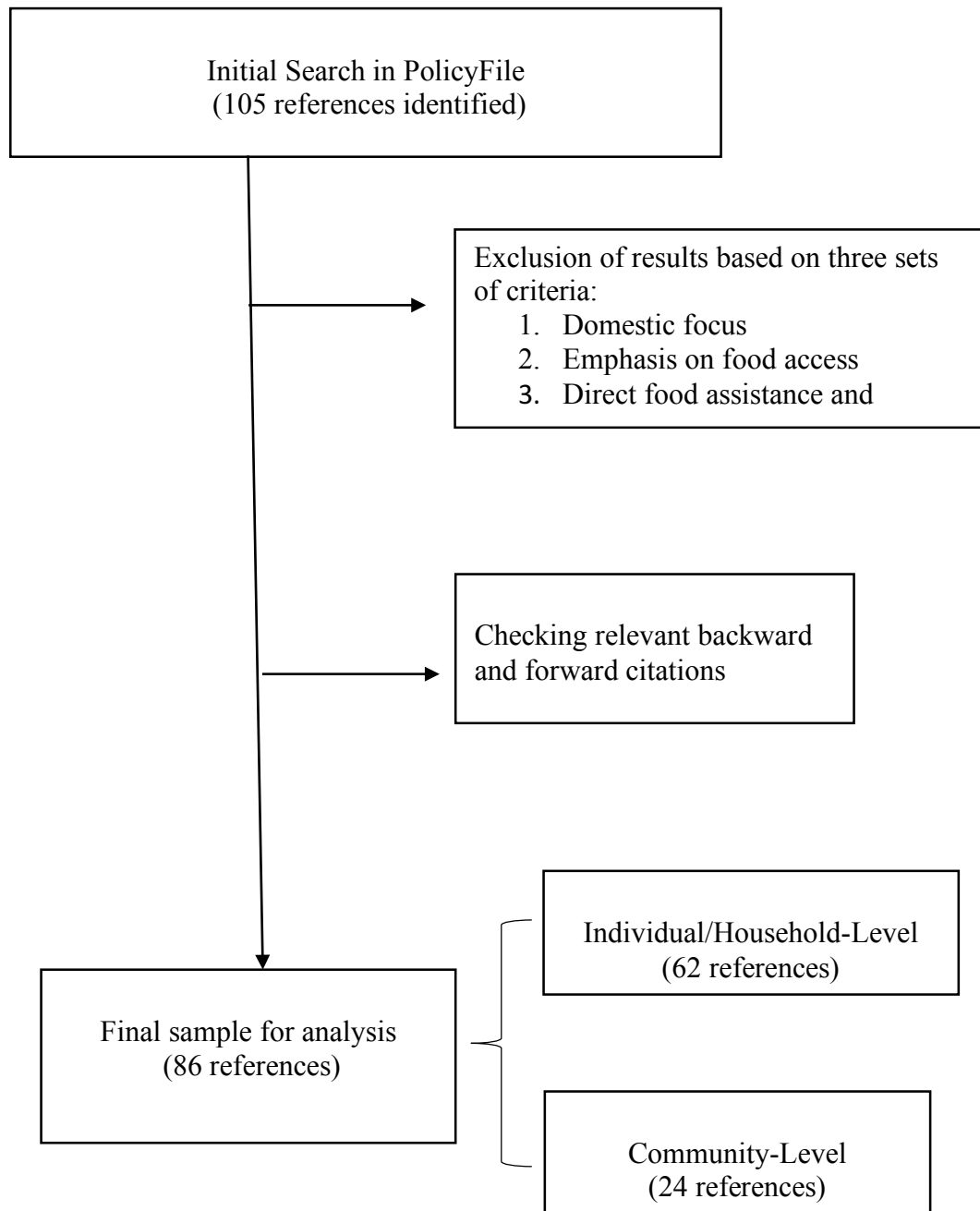
Among the key issues discussed in the previous sections of the paper, the limited support available for immigrants and people of color with high risk of food insecurity is especially noteworthy, as it raises questions about social inequality that is fundamental to the study of food security in developed countries like the United States. Whether it is the absence of culturally-preferred foods from a food pantry bag, overlooked ethnic grocers in initiatives to improve community food environment or a potential misunderstanding of survey questions among non-English and non-Spanish speaking populations, together they paint a powerful picture to show

the structural obstacles that racial and ethnic minorities have to overcome to stay afloat in the face of food insecurity. Although it is true that we must address the root causes of economic, social, and racial disparities to put an end to food insecurity (Galvez et al. 2008; Harrison et al. 2007; Kaiser 2013), incorporating higher awareness of the distinct food preferences and needs of certain populations into future food security programs is also important given their essential roles in food access expansion and food insecurity reduction in the United States.

APPENDICES

Appendix A: Data Collection Process Flowchart

Figure 1: Data Collection Process Flowchart



Appendix B: Major Food Security Programs for Individuals and Households in the United States

Table 1: Major Food Security Programs for Individuals and Households in the United States

Funding Type	Program	Year of Establishment	Level of Operation	Target Population	Service
Formal	Supplemental Nutrition Assistance Program (formerly known as Food Stamp)	1961—piloted 1964—permanent	National	Low-income individuals or households	Benefits to purchase food at authorized food stores.
	Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)	1972—piloted 1964—permanent	National	Low-income, at risk pregnant and postpartum women, infants and children under the age of five	Nutritious foods, nutrition education, and referrals to health care
	National School Lunch Program (NSLP)	1946	National	Low-income children enrolled in public and non-profit private schools and residential child care facilities	Nutritious school lunches for free or reduced prices
	School Breakfast Program (SBP)	1966—piloted 1975—permanent	National	Same as NSLP	Nutritious school lunches for free or reduced prices
	Child and Adult Care Food Program (CACFP)	1968	National	Low-income children and adults in day care centers, afterschool programs and emergency shelters	Nutritional meals and snacks for free or reduced prices
	Fresh Fruit and Vegetable Program (FFVP)	2002—piloted 2008—permanent	National	Low-income children at NSLP-participating elementary schools	Free fresh fruits and vegetables and nutrition education
	Special Milk Program (SMP)	1955	National	Children at schools, child care centers and summer camps that do not receive benefits from other federal child meal programs	Milk for free or reduced prices
	Summer Food Service Program (SFSP)	1968	National	Low-income children and teens under 18	Free meals and snacks when school is not in session during summer

Table 1 (cont'd)

	Commodity Supplemental Food Programs	1968	National	Low-income seniors over age of 60 from participating states or Indian reservations	Free nutritious USDA foods grown domestically
	The Emergency Food Assistance Program (TEFAP)	1981	National	Low-income individuals	Same as CSFP
	Food Distribution Program on Indian Reservations (FDPIR)	1977	National	Low-income Native Americans or households living on Indian Reservations	Same as CSFP, plus nutrition education
	Double Up Food Bucks (DUFb)	2009	National	SNAP recipients	Matching dollars to incentivize healthy food purchase at participating farmers markets and grocery stores
Informal	Food Banks/Food Pantries	1967—first food bank was established in Phoenix, AZ	National	Individuals at risk of hunger and food insecurity	Free food distributed by food banks to food pantries and meal programs and then to people in need
	Meal Programs in Soup Kitchens, Shelters, or Charitable Organizations	N/A	National	Individuals at risk of hunger and food insecurity	Prepared food and hot meals for free or at reduced prices
	Meals on Wheels	1954	National	Homebound seniors at risk of hunger and food security	Delivery of nutritious meals and home visits at no cost or reduced prices

Source: Alston (2012); Feeding America (<https://www.feedingamerica.org/take-action/advocate/federal-hunger-relief-programs>); Holben 2010; USDA Food and Nutrition Service (<https://www.fns.usda.gov>)

Appendix C: Major Food Security Programs for Communities in the United States

Table 2: Major Food Security Programs for Communities in the United States

Recipients of Assistance	Funding Type	Program	Year of Establishment	Level of Operation	Service
Communities	Formal	Healthy Food Financing Initiative (HFFI)	2010	National	Expansion of access to nutritious foods in underserved areas through financing and developing healthy food outlets
	Formal	New Markets Tax Credit Program (NMTC)	2000	National	Federal tax credits for private investors making investments in low-income communities, including healthy foods businesses
	Formal	Pennsylvania Fresh Food Financing Initiative (PAFFF)	2004	State	Same as HFFI
	Formal	California FreshWorks Fund (CAFWF)	2011	State	Same as HFFI
	Formal	Fresh Retail Expansion to Support Health (FRESH)	2009	State	Zoning and tax incentives for grocery store renovation or construction in underserved neighborhoods in New York
	Formal	Fresh Food Retailer Initiative (FFRI)	2011	City	Loans awarded to fresh food retailers to increase underserved neighborhoods' access to fresh foods in New Orleans
	Formal	Farm-to-Institution	1990s (along with the birth of local food movement)	National	Bringing local food into institutions through local farmers
	Formal	Community Food Project Competitive Grant Program	1996	National	Grants for development of community food projects that increase low-income communities' food self-sufficiency and healthy food access

Source: City of New Orleans 2018 (<https://www.nola.gov/city/fresh-food-retailers-initiative/>); Cohen 2018; Harries et al. 2014; Sadler, Gilliland and Arku 2013; Smith, Miles-Richardson, Dill and Archie-Booker 2013; USDA National Institute of Food and Agriculture 2019; U.S. Department of Health & Human Services 2019; U.S. Department of the Treasury 2019;

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CHAPTER TWO

How do Traditional Food Markets Impact Food Security? A Case Study of Chinatown

Food Markets in Honolulu, Hawai‘i

Introduction

Access to adequate and nutritious food is critical to human existence, yet worldwide millions of people are suffering and will continue to live with hunger and food insecurity¹⁰ (FAO 2018). In 2017 alone, about 821 million people experienced undernutrition, posing a grave threat to global public health (FAO 2018). Meanwhile, gourmet and specialty food stores continue to spring up in various places, diligently responding to the needs of the more fortunate. “The simultaneous proliferation of food boutiques for the wealthy and food banks for the poor is a distressing paradox that defines an era of overindulgence alongside deprivation” (Wright and Middendorf 2008:5). Despite the gravity of this issue, we are still lacking an accurate understanding of the complex formation of food insecurity in specific contexts and across social groups. With a multiplicity of studies attempting to explain food security through existing economic disparities (Akter and Basher 2014; Cook and Frank 2008; Dimitri, Oberholtzer, Zive and Sandolo 2015; Furness, Simon, Wold and Asarian-Anderson 2007), current questions used to assess the food security of households in the United States tend focus on whether or not

¹⁰ Despite the interchangeable use of “hunger” and “food insecurity” in some studies, there exist clear distinctions between the two terms. Hunger, as defined by the Committee on National Statistics (CNSTAT) of the National Academies, “is an individual-level physiological condition that may result from food insecurity” (2017). More precisely, hunger refers to “a potential consequence of food insecurity that, because of prolonged, involuntary lack of food, results in discomfort, illness, weakness, or pain that goes beyond the usual uneasy sensation” (CNSTAT 2017). Food insecurity, on the other hand, “is a household-level economic and social condition of limited or uncertain access to adequate food” (CNSTAT 2017). Aside from the two different units of analysis, food insecurity as a concept also places more emphasis on the access and quality of food than hunger. Consequently, one can be food insecure but not hungry, and it does not work the other way around.

respondents have sufficient economic means to ensure an adequate caloric intake. In doing so, however, academics and policymakers run the risk of failing to consider the critical roles that non-economic factors play in people's pursuit of food security. From an interactional perspective, class, race, sex, age, disability, rurality and other identity markers often interact to create structural disadvantages (Collins and Bilge 2016). But it is also important to acknowledge that in addition to being a powerful demonstration of unevenly distributed economic resources, the persistence of food insecurity in the midst of both food surplus and food waste also reflects social, cultural, and political contentions among diverse groups in contemporary society (Denny et al. 2018; Joassart-Marcelli, Rossiter and Bosco 2017; Scanlan 2003).

Responding to a growing interest in the impacts that race and ethnicity have on accessing and utilizing affordable and nutritious foods (Howlett, Davis and Burton 2016; Laska, Borradaile, Tester and Foster 2010; Lenk, Caspi, Harnack and Laska 2018; Raja, Ma and Yadav 2008; Short, Guthman and Raskin 2007; Taylor and Ard 2015), in this paper I conduct a case study of traditional food markets in the Chinatown District of Honolulu, Hawai'i, most of which are owned and managed by immigrant entrepreneurs from Asian countries. My primary goal is to examine the specific ways through which traditional food markets fulfill the food needs and preferences of minority populations—in this case, low-income Asian immigrants and Asian Americans. In other words, how does access to traditional food markets impact food security of underserved Asian residents in Honolulu? Although, to be clear, it is beyond the scope of this study to assess whether or to what extent these markets improve local shoppers' food security, limited evidence exists with regard to the positive role assumed by small food retail outlets in reducing food insecurity in socially and culturally diverse areas (Bodor et al. 2008; Khojasteh and Raja 2017; Martin et al. 2014; Moore, Roux, and Brines 2008; Rose, Bodor, Hutchinson, and

Swalm 2010; Shannon 2016; Short, Guthman, and Raskin 2007; Taylor and Ard 2015). Rather, this case study seeks to understand the mechanisms that traditional food markets rely on to improve the food security of the vulnerable, including but not limited to the provision of fresh, nutritious and culturally preferred foods. Based on previous research as well as my own fieldwork, I define traditional food markets as locally-based markets that consist of vendors organized by product category in a defined indoor and/or outdoor space. These vendors usually source directly from local wholesalers and sometimes farmers, participating in a supply chain that features few intermediaries and highly seasonal products (Balsevich, Berdegue, and Reardon 2006; Reyes et al. 2016; Wiegel 2013).

In addition to contributing to the discussion of race and ethnicity in food security literature, my study may prove especially useful to those concerned with the ways Asian immigrants and their descendants access food and achieve food security. Such a topic carries ever-increasing importance given the high proportion of Asian population in the state of Hawai‘i and the growing demographics of Asian American communities in the entire country. But it has not been sufficiently addressed by the mainstream food studies and sociological literatures in the United States for the various reasons discussed above. In fact, obscured by the stereotype that Asian Americans are a model minority in the United States with high socioeconomic success and low need for social services (Ecklund and Park 2005; Gold 1993; Lien 2010; Wong, Lai, Nagasawa, and Lin 1998), surveys and other forms of data collection have been frequently done without taking into consideration the fair representation of Asian populations, perpetuating their underrepresentation in public and academic discussions. On a related note, my analysis also fulfills the need to reduce the stigma attached to traditional food markets and the food environment of marginalized populations in general. Too often low prices bring out images of

poor quality foods on dusty shelves, yet these are not accurate depictions of the nutritional, economic, and cultural benefits of traditional foods and the rich cultural knowledge they embody (Joassart-Marcelli, Rossiter, and Bosco 2017; Shetty and Sarkar 2018; Stroink and Nelson 2012).

This paper is organized as follows: first, I briefly review the literature examining the understudied subject of race and ethnicity in food security research, with a particular focus on food preferences, culturally preferred foods, and traditional food markets. I draw largely from relevant work conducted in the United States and make references to international research when appropriate. Following the literature review is a description of the present situation of food security in Hawai'i, and its impacts on the state residents; due to the island's unique geographical location and agricultural history, high food prices and low food self-sufficiency pose serious challenges for residents in the state to be food secure. I then move onto the background of Honolulu's Chinatown, its traditional food marketplaces, and the research methods for data collection. Next, using data collected from personal interviews with traditional food market vendors in Honolulu's Chinatown, I discuss the significance of accessing culturally preferred food and shopping at traditional food markets to the achievement of food security for local Asian communities. I conclude by discussing the implications of my findings with regard to improving future efforts for food insecurity reduction, both among Asian communities and the general population in the United States.

Food Security as a Multidimensional Concept

As one of, if not the most pressing global issues, food security has received sustained attention from multiple fields including economics, anthropology, nutrition, development studies and sociology (Pottier 1999; Hamm and Bellows 2003). Due to differences in the unit of

analyses, theoretical frameworks and disciplinary approaches, debates arise over the cause and cure of growing food insecurity that has produced severe health, economic, and environmental impacts worldwide. As a result, the concept of food security has been defined and redefined various times over the past several decades, reflecting its contested and complex nature.

Following the world food shortage of the early 1970s, in 1974 the World Food Conference defines food security officially as the “availability at all times of adequate world food supplies of basic foodstuffs to sustain steady expansion of food consumption and to offset fluctuations in production and prices” (FAO 2006:1). Accordingly, scholarship on food security at this time is mainly concerned with the supply-end of the issue; the assumption is that if we continue to intensify production agriculture and free trade, we would have enough cheap food physically available to feed the world (McMichael 2014). With the exacerbated global agrarian crisis accompanied by rapid displacement of small farmers, accelerated environmental destruction and heightened political instability, however, people have begun to see the shortcomings in the productionist approach to food security. Instead of merely considering food supply in an international market, public attention is shifting to the dynamics of internal distribution from a regional or national perspective (Hughes 2010). In 1983 the FAO incorporated food access as a key component and redefined food security to ensure that “all people at all times have both physical and economic access to the basic food that they need” (FAO 2006:1). This expansion of focus from supply to access, along with later inclusion of considerations of temporal dynamics, nutritional values, and food preferences, come together to reflect the multidimensional nature of food security in a revised definition offered by the FAO in 2001: “Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and

healthy life” (FAO 2003:28). By this point, discussions of food security have reached a whole new level with a much more refined focus on the association between varying vulnerabilities of certain individuals and groups and existing power relations. They also lay the groundwork for later work’s emphasis on the four pillars of food security.

As McMichael (2009) explains, this corresponds to the growing concerns with the social and ecological externalities of conventional farming in the third food regime¹¹, based on which various social movements such as food sovereignty, food justice, local food, and community supported agriculture have emerged to rebuild the current food system with alternatives (Wittman 2011; Agarwal 2014; Guthman 2014). These movements illuminate other dimensions of food security, showing how inappropriate it is to equate availability with access and caloric intake with a healthy diet (Pinstrup-Andersen 2009; Prosekov and Ivanova 2018). “The fundamental point is that food insecurity is produced by the global economic system in which the domestic dynamics of food production are embedded. Food (in)security is thus a lens for understanding broader processes of exploitation and inequality under capitalism” (Brown and Getz 2011:139-140). Whether it is the disproportional concentration of the undernourished populations in the developing regions of Africa and Asia (FAO 2015) or the unmet food needs among communities of color and other disadvantaged backgrounds in developed countries such as the United States (Allen and Sachs 2012; Block, Chavez, Allen, and Ramirez 2012; Cidro, Adekunle, Peters, and Martens 2015; Howard 2016; Skinner, Pratley, and Burnett 2016; Randazzo and Robidoux 2019), food security reveals the glaring disparities of economic, social

¹¹ The concept of food regime was first introduced by Harriet Friedmann in 1987. Later, a collaboration between her and Philip McMichael (1989) led to the publishing of “Agriculture and the state system: The rise and decline of national agricultures, 1870 to the present”, a seminal essay that has since been regarded as “the foundational statement of food regime analysis” (Bernstein 2016:612). Two food regimes have also been identified: in the first food regime (1870-1914), the world economy centered on the mercantile trade between European countries and their colonies; the second food regime ran roughly from 1950s to 1970s, marking a period of economic reorganization under US hegemony (Friedmann and McMichael 1989). The third food regime, proposed by McMichael (2009), encompasses the late 1980s to present.

and political resources along racial, class and gender lines.

Regardless of the many versions for the definition of food security, so far both the academic and professional communities agree that food security consists of at least four critical components: availability, access, utilization, and stability (Pinstруп-Andersen 2009; Scanlan 2009; Citro et al. 2015; Alonso, Cockx, and Swinnen, 2018). For the scope of this paper, I focus particularly on the dimension of food access within the discussion of food security and more precisely, the access of culturally preferred foods by Asian Americans. The goal is to contribute to a more nuanced understanding of the persistent food insecurity in the United States, where current studies have paid insufficient attention to the link between race, ethnicity and food preferences given the country's growing multicultural demographic composition.

In the existing food security literature, scholars demonstrate that minority ethnic groups, along with women, children, immigrants, indigenous people and those of low socio-economic status are among the most vulnerable to experience hunger or food insecurity (Brown and Getz 2011; Allen and Sachs 2012; Block, Chavez, Allen, and Ramirez 2012; Cidro, Adekunle, Peters, and Martens 2015; Howard 2016; Skinner, Pratley, and Burnett 2016; Randazzo and Robidoux 2019). For example, in 2011 approximately 25.1 percent and 26.2 percent of African Americans and Hispanic Americans were food insecure respectively; by comparison, the food insecurity rate among whites or Caucasians was about 13 percent (Elsheikh and Barhoum 2013). To account for food insecurity and poor nutrition in these populations, scholars point to poverty and obstructed access to supermarkets (Walker, Keane, and Burke 2010). Specifically, the high price of store-bought foods, low availability of fresh and healthy foods, and overconsumption of processed foods from gas stations and convenience stores are identified as major negative consequences of living in low-income areas with few adjacent grocery stores (Ayala et al. 2005). As a result,

more food subsidies and tax incentives to finance new supermarkets have been called for, with the hope to reduce food cost and expand food access (Joassart-Marcelli, Rossiter, and Bosco 2017). Toward the same goal, alternative food outlets and programs like farmers' markets, community gardens, community supported agriculture, and mobile grocers have also been established to fill this void (Delind 2002; Feenstra 2002; Lyson 2004).

Despite the popularity of these approaches, recent research has voiced voluminous concerns over their shortcomings. Primarily, prioritizing the development of supermarket chains or alternative food outlets may further marginalize the needs as well as the preferred food outlets of racial and ethnic populations. On one hand, the over-reliance on addressing food security either through the introduction of supermarket chains or alternative food networks bears the risk of reinforcing the classist and privileged knowledge and discourses that have been prevalent in food security reduction policies and practices (Guthman 2008; Slocum 2007). Because people of different racial and ethnic backgrounds are tied to distinctive histories and cultures, they may use different criteria to define what is safe and nutritious food (Stroink and Nelson 2012; Skinner, Pratley, and Burnett 2016). In the same vein, they may also have divergent shopping habits and dietary needs that cannot be fully satisfied through conventional food retailers designed to support Western-centric lifestyles. In fact, an increasing number of studies have noted the inappropriateness of traditional food desert research where estimated proximity to supermarkets and large grocery stores is used as a sole proxy of food availability (Thomas 2010; Alkon et al. 2013; LeClair and Aksan 2014; Raja, Ma, and Yadav 2008; Short, Guthman, and Raskin 2007; Taylor and Ard 2015). In socially and culturally diverse areas, the local food landscape generally turns out to be quite complex and includes a heterogeneous mix of small food stores that controversial frameworks such as food desert and food swamp fail to differentiate (Gorton et al.

2011; Howlett, Davis, and Burton 2016; Laska, Borradaile, Tester, and Foster 2010; Lenk, Caspi, Harnack, and Laska 2018). An additional concern has to do with the high price premium often associated with alternative food outlets. While scholars generally affirm and celebrate the positive contributions of alternative agrifood systems to environmental sustainability, community building, and food security (Delind 2002; Feenstra 2002; Lyson 2004), they also raise questions on the limited reach of alternative food networks to underprivileged sectors of society (DuPuis and Goodman 2005; Allen and Guthman 2006; Guthman 2008; Harrison 2008; Pudup 2008; Block et al. 2012). On the other hand, by placing priority on the development of new food retailers, current efforts to increase food access have provided limited or no support for existing resources that might be essential to the establishment and maintenance of food security among local residents (Joassart-Marcelli, Rossiter and Bosco 2017). Worse yet, as supermarkets acquire more market share, other forms of food retailers face an even harder time to survive. For communities of color that have a tendency to rely on small independent ethnic grocers to access culturally preferred foods (Raja, Ma and Yadav 2008; Short, Guthman and Raskin 2007; Taylor and Ard 2015), this could be especially detrimental.

This research responds to the underexplored role of race and ethnicity in food security; through a case study, I examine how access to traditional food markets impacts racial and ethnic minority populations' food security in the context of Honolulu, Hawai'i. Specifically, I conduct in-depth interviews with 32 market vendors and draw on their experiences selling in Chinatown marketplaces to demonstrate the positive functions that traditional food markets have in meeting the food preferences of ethnic communities, and connecting these groups of people with fresh, affordable and culturally-preferred foods. Before I dive into the details of research methods and findings, in the section below I briefly describe the local food environment in Hawaii and explain

how Honolulu's Chinatown makes a suitable study site.

Food Security in Hawai'i

In Hawai'i, discussions of food security mainly stem from worries about over-dependence on imported foods from mainland U.S. and the rest of the world. Despite the state's stereotypical image among global visitors as an agro-ecological haven of abundant tropical produce, in reality almost 90 percent of all food consumed by Hawaiian residents is produced off-island (Loke and Leung 2013). Due to Hawai'i's geographical isolation, shipping and storage costs associated with food importation translate into high price tags (Parcon, Loke, and Leung 2010). As a result, the cost of store-bought food is high and the variety fairly limited. While this is especially evident for food that cannot be grown on the islands, people in Hawai'i are also paying significantly more for commonly-consumed types of vegetables and fruits than their mainland peers. Take lettuce for example: in 2011 one pound of romaine lettuce cost an average of \$3.42 USD based on scanner data from three major grocery chains (Foodland, Safeway, and Times Supermarket) in Honolulu's metropolitan area (Xu, Loke and Leung 2015) whereas the United States city average retail price for romaine lettuce was \$1.78 USD per pound¹² (see Appendix Table 1 for a price comparison chart of four common food items¹³ in Honolulu and U.S. cities). Nord, Coleman-Jensen, and Gregory (2014) examined key factors underlying changes in food security rates and confirm the association between unemployment, inflation, food prices and food insecurity. The direct impact that food prices have on food security, combined with the

¹² Author's calculations. Specifically, I calculated the yearly average based on data points obtained from the ERS website.

https://data.ers.usda.gov/reports.aspx?stat_year=2007&domain=Fruit&groupName=Veg&ID=17857#P35bdc9734f0b4e3ab152ca6587a26c58_5_63iT0R2R0x0

¹³ The four food items were chosen based on data availability rather than market popularity.

islands' vulnerability to weather-related interruptions (Iese et al. 2018; Stupplebeen 2019), adds pressure to the already burdened population who are limited by space, location and resources. In addition, when taking into account factors like cost-of-living and social assistance, Hawai'i's average Supplemental Poverty Measure rate climbed up to 15 percent (the national average is 14.1 percent), representing a sharp increase from an Official Poverty Rate of 10.2 percent and is second only to Maryland and New Jersey in the nation between 2015 to 2017 (Fox 2018). In summary, in their pursuit of food sufficiency and food security, local residents in the state of Hawai'i face a variety of critical historical, economic, and geographic challenges.

To brighten the prospects of food security and improve the state's agrifood system, community stakeholders, government officials, food scholars, and even agribusiness leaders from the islands have employed various food-centric strategies and initiatives. From farmers' markets to local food campaigns to legislative bills like SB829 (Community Food Forest Program) mandating purchasing preferences for locally-grown products among public organizations (Khan, Arita, Howitt, and Leung 2019), the desire to increase food security and food self-sufficiency is well echoed. For many, the key to reducing import-dependency and expanding local food access is to increase local food production; after all, Hawai'i was once well-known for its plantation-style agriculture and rich natural resources (Kimura and Suryanata 2016; Schrager and Suryanata 2018). For centuries, Hawaiians have relied on holistic indigenous knowledge systems and approaches like "Ahupua'a" (a Native Hawaiian land-management system) to manage crops and meet their own food needs (Kame'eleihiwa 2016). With the landing of Captain Cook and subsequent Western contact, Hawaii began to participate in global trade and experienced a decades-long agricultural boom. From rice to sugar and pineapple, Hawai'i was committed to growing food for external markets and devoted a majority of its agricultural land to

these crops (Kimura and Suryanata 2016; Suryanata and Lowry 2016). Since the 1970s, however, the islands' agricultural sector has been undergoing constant changes and challenges. Intensified urban encroachment, outdated infrastructures, increasing labor costs, and growing competition from the global market have all contributed to erode the very basis of Hawai'i's agricultural production (Suryanata 2002; Goodyear-Ka'opua, Hussey and Wright 2014). As the profitability of pineapple and sugarcane plantations began to fall, local producers turned to developing niche markets for specialty products such as pineapples, macadamia nuts, papayas, Kona coffee and tropical flowers. Yet these growers soon ran into the same problems faced by sugarcane and pineapple plantations. On one hand, capitalizing on the islands' exotic image as "paradise" adds extra value to these products, making them particularly popular among consumers from outside the islands; on the other hand, such a marketing strategy prioritizes the needs of tourists over that of local residents, posing serious risks to the state's long-term economic vitality. Suryanata (2002) writes about the inherent disadvantages of relying on export-oriented niche-marketing in a globalized economy. "This expansion will, however, expose Hawai'i's specialty products to the intense competition of the global agrofood systems in which place-based advantages and uniqueness are subjugated to corporate standardization and production efficiency" (Suryanata 2002:76). Her example of the dramatic decline in the shares of Hawaiian papayas in the U.S. market further highlights the marginalization of local farmers and growers who have been subjected to multiple structural disadvantages rooted in the state's unique geographic location and colonial history.

In addition, Hawai'i's farmers are disincentivized because they face a "pocket" market where demand for products from local consumers is limited and unstable, and the bargaining power of local producers is compromised (Nakamoto, Halloran, Yanagida, and Leung 1989). "Market

supplies of produce cannot be augmented immediately when local production drops, nor can local produce be delivered to other markets when supplies are sufficiently large to depress the price in Honolulu” (Peters, Reed, and Creek 1954:6). Kimura and Suryanata (2016) conclude, “Hawai‘i’s low self-sufficiency in food is neither a recent phenomenon, nor could it be remedied by simply substituting the plantation crops with food crops” (5). While the numerous challenges that local farmers have in growing specialty and non-specialty products do not mean the impossibility of improving Hawai‘i’s food security through new agricultural developments, they underscore the importance of creativity and efficiency when it comes to utilization of existing resources and infrastructure. Next, I turn to traditional food markets in Chinatown and examine the numerous ways they satisfy the consumption needs of local residents through provision of fresh, affordable, and culturally preferred foods.

Traditional Food Markets in Honolulu’s Chinatown

Every day at dawn, local farmers, middlemen and wholesalers begin trucking in fresh fruits, vegetables, meat and seafood from all over the island of Oahu to small food business owners in Chinatown so the latter can sell them to customers. Whether it is 7 am on a Monday or 1 pm on a Friday, the sounds of car horns, shopping carts, pedestrian footsteps and haggling over prices fill the area, along with smells of ripe Hawaiian apple bananas (a local variety), freshly-harvested Thai basil and thawed Uhu (parrot fish). As vendors and shoppers bustle around non-stop amidst piles of fresh boy choy and choy sum, a few blocks away lies a much quieter section of the neighborhood, which consists mainly of art galleries, boutique stores, and trendy cafes and restaurants. The harmonious coexistence of distinct types of businesses has not always been the case for Chinatown; established in the 19th century with the arrival of Chinese laborers recruited

by sugar plantation owners (Center for Labor Education and Research at University of Hawaii-West O‘ahu 2019), Honolulu’s Chinatown was soon ghettoized by a concentration of brothels, gambling houses, drug-dealing and gang-related violence. When Oahu Market, the island’s oldest outdoor market, opened in 1904 (Burlingame 2003), many people frequented Chinatown not for groceries but for prostitution, alcohol and drugs. It is only after a series of revitalization and restoration efforts began in the 1990s that Chinatown gradually transformed into what it is today: a symbolic historic attraction and thriving cosmopolitan locus of commerce popularly visited by local residents as well as tourists.

Different from many other Chinatowns in major cities throughout the United States, the Chinatown district in Honolulu is not an ethnic enclave catering exclusively to overseas Chinese on the island. Bounded by South Beretania Street on the east, the Honolulu Harbor to the west, Nu‘uanu Avenue on the south and Nu‘uanu Stream and River Street to the north (State of Hawaii 2019), Chinatown is a multigenerational, multicultural community for many ethnic groups including Chinese, Vietnamese, Filipino, Lao, Thai, Korean, Micronesian, Native Hawaiians and more. It is also the primary grocery-shopping destination for nearby residents; within the 15 or so blocks, there exists a diverse array of open-air markets, independent vendor stalls and small family grocers, offering an incredible selection of fresh fruits, vegetables, meat and seafood at reasonable prices. A few blocks away there are the traditional retail chain stores Walmart and Safeway, but neither of them belongs to the Census Tract 52 encompassing Chinatown. Mainly run by women of color and immigrants of Southeast Asia origins, Chinatown food markets proudly provide a variety of foods that are culturally preferred by ethnic populations mentioned above. From *povi masima*—a salt marinated beef brisket that is very popular in Samoa, to *char siu*—a roasted pork favored by Cantonese, one can find basically every food that is enjoyed by

some groups but rarely seen in mainstream supermarkets on the island, such as Safeway and Walmart. As discussed above, food preference¹⁴ is critical to a dynamic understanding of food security in contemporary American society because it underlines the difference between having access to enough food to meet nutritional needs/caloric intake and access to enough preferred food (Pinstrup-Andersen 2009). For people who are closely tied to certain histories and cultures, such a distinction is especially important given the unique role that food practices play in maintaining their health as well as identities (Stroink and Nelson 2012; Skinner, Pratley, and Burnett 2016). With regard to the persistent food insecurity in communities of color in the United States (Walker, Keane, and Burke 2010), both academic research and policy decisions will more than likely benefit from a fuller incorporation of food preference in their agendas.

Despite their positive potential in bringing fresh and affordable food to local residents, especially those with limited purchasing power and/or particular food preferences, traditional food markets are not included in the statewide efforts to improve food security in Hawai'i. In fact, food markets of this type have been consistently understudied across the country (Wong 1977; Short, Guthman & Raskin 2007), leading to skewed analyses of local food security especially in socially and culturally diverse neighborhoods. Meanwhile, large full-service supermarket chains, such as Walmart, have received far more attention for their extensive networks and significant economic impacts both from the academic and policy communities (Balsevich, Berdegue, and Reardon 2006; Wiegel 2013; Reyers et al. 2016; Vetter, Larsen, and Bruun 2019). It has also been assumed that supermarkets offer more choices of healthy foods at lower prices than nonsupermarket food retailers, thus deserving a more favorable consideration for their allegedly better health outcomes (Horowitz, Colson, Hebert, and Lancaster 2004).

¹⁴It is worth noting here that food preference in this case should not be interpreted as personal taste but rather preferences that are “socially and culturally acceptable and consistent with religious and ethical values” (Pinstrup-Andersen 2009:6).

Alternative food outlets such as farmers' markets are also gaining popularity for their contribution to local food access expansion. The result is an extreme polarization of efforts seeking to improve food security either through supermarket chains or alternative food networks, as is the case in Hawai'i. As Joassart-Marcelli, Rossiter and Bosco (2017) pointed out, "...this binary perspective may be detrimental as it fails to acknowledge other possibilities, including those that build upon existing resources, which may already be central features in the everyday lives of the residents of low-income neighborhoods" (143). Consequently, these authors called for more research on ethnic markets in immigrant communities, arguing that "ethnicity and cultural acceptability are ways to broaden our understanding of food security beyond physical accessibility" (2017:1643). Honolulu's Chinatown district thus makes an ideal study site to understand the heterogeneity of food environments, given the concentrated existence of small grocery stores, open-air market stalls as well as other nonmainstream food outlets.

Methods

This paper is based on a larger study that examined the relationship between traditional food markets and food security. Between October and December of 2018, I spent seven weeks in Honolulu, Hawai'i to conduct fieldwork for my dissertation. This includes semi-structured interviews with 32 immigrant vendors in Honolulu's Chinatown District, who gave oral consent to interviews with open-ended questions focusing on their experiences selling fresh produce, seafood, and meat inside three major Chinatown marketplaces. Oahu Market, Mauna Kea Marketplace, and Kekaulike Market are one-stop shopping destinations for customers looking for fresh and affordable produce to put on their dinner tables. Although there are many grocery stores carrying similar items immediately surrounding these marketplaces, together these three

marketplaces draw most of the foot traffic in the area for their variety, concentration, location, and history. Because of their open market setup and geographical closeness, new visitors often find the three marketplaces to be homogeneous. Yet a close look reveals their heterogeneity in terms of history, management, and patron profiles, which I will explain in the analysis section. To capture such nuances, I ensured even representation of market vendors across establishments by including ten interviewees from each marketplace. The other two vendors that I interviewed had stalls inside the marketplaces before they expanded and moved into storefronts on nearby streets.

To accommodate the nature of market activities and minimize potential refusals from targeted market vendors, I conducted all the interviews inside the marketplaces. I also kept my interview questions short and only asked them when the vendors were not actively dealing with customers. This meant multiple short trips were required to complete one interview, but usually within a span of a couple of days. On average, one complete interview took about one hour. Because most of the transactions took place between 7 to 10 A.M. daily, when shoppers and restaurant owners flock into the marketplaces, I chose to conduct observations and take field notes in between the stalls during these peak hours. While it is not uncommon for politicians, journalists, and researchers to show up in Chinatown, my prolonged daily presence in the marketplaces contributed to my credibility and thus increased the potential for securing participation in my study and reinforced data reliability. As business slowed down significantly around 10:30 A.M., many vendors took a short break for breakfast and were more willing to chat. Early afternoon was another suitable time for interviews, after office people or hotel workers nearby finished shopping for groceries during lunch break. Oftentimes, my interviewees were multi-tasking as they spoke with me; cleaning produce, rearranging displays, catching up with

bookkeeping, gobbling down missed meals—miscellaneous things that may seem trivial, but were essential to the normal operation of their businesses. By the time foot traffic in the marketplaces almost died down, usually around 3 P.M. on weekdays and a bit earlier on weekends, vendors started to put things away and move leftover products into their storage rentals either inside the marketplaces or a few blocks down the street. Again, I chose to stay out of their way and continue observations during this time of the day.

Honolulu's Chinatown district, like the state of Hawai'i, prides itself on the coexistence of diverse racial and ethnic groups, languages, and cultures. Despite its name, here Chinatown serves beyond the needs of Chinese people. As of 2010, only one third of the overall population residing in the census tract of Chinatown in urban Honolulu identified themselves as Chinese¹⁵ (Hawai'i State Data Center 2012). Vietnamese, Filipinos, and other ethnic groups make up the rest of the population in the area. Consistent with the demographic pattern of Chinatown, my 32 interviewees are comprised of 14 Chinese, 7 Vietnamese, 6 Filipinos, 3 Laotian, 1 Thai, and 1 Korean. With a few exceptions, the market vendors I've interviewed are in their 40s to 50s. The youngest interviewee is a 20-year-old, who works part-time as a cashier and manages deliveries as needed for his parents. Even with hired labor, operating in a marketplace requires long hours and physical work, which explains why older people are rarely seen from the other side of the stalls. Because stalls inside the three major marketplaces in Honolulu's Chinatown are often run as family businesses, I did not find a huge gender imbalance as one might assume. That being said, women do outnumber men both in the marketplaces and in my pool of interviewees. With regard to market experience, the longest-running business that I have interviewed has been in

¹⁵ In the 2010 U.S. Census, 1,223 was the number of people who identified as Chinese "race alone". I am fully aware that people could report more than one race and there was a different figure for that in the same census. During interviews I asked the interviewees to identify only one race alone and that is what I report in the rest of the paper.

Chinatown for 53 years and the newest one just started about two years ago.

Due to the sensitive nature of the issue, I did not inquire about the citizenship status of my interviewees. Based on self-disclosed information that I gleaned from their conversations with me, customers, and other vendors, the 32 market vendors have spent varying time in the United States and/or in the state of Hawai‘i; some arrived barely one year ago and some moved to Hawai‘i with their family as a child. Consequently, the market vendors I interviewed had different skills to communicate in English so I conducted interviews in English and/or Mandarin depending on their preferences. All the interviews were audio-recorded and transcribed. I also translated the responses that were given in Mandarin. The names of the interviewed market vendors appear below as pseudonyms to ensure anonymity (see Appendix Table 2 for a complete list of interviewed vendors). To increase the breadth and depth of analysis, I also incorporated observational field notes taken in between interviews as well as Chinatown-related news stories published by Civil Beat, a non-profit online news outlet known for its neutral investigative coverage of local issues. Through what grounded theorists call “open coding” (Ryan and Bernard 2003:88), I began my analysis by combing through the entire data multiple times until a preliminary set of themes was identified. This involved searching for relevant interview texts, field notes and news reports pertaining to traditional food markets and food security, and copying and pasting them onto a master file in Microsoft Word. Based on that, I revisited my research question as well as literature review, and further refined the emergent themes to allow better connections between data and theoretical frameworks. By the end, four key themes demonstrative of the specific mechanisms through which traditional food markets in Chinatown improves local residents’ food security were selected for in-depth discussion, as presented below. The analysis completed for this research was iterative and reflexive, representative of the

inductive approach in qualitative research (Srivastava and Hopwood 2009).

Findings

In the sections below, interview participants drew on their personal experiences of selling in Honolulu's Chinatown to illustrate how traditional food outlets impact local residents' food security. Few of the ways through which respond to their customers' food needs could be described as unique—e.g, acceptance of food assistance vouchers or credits, provision of quality food at affordable prices, opportunities to practice cultural skills and build personal relationships, and space for socialization and co-ethnic connections, yet taken together they have contributed significantly to the attractiveness of these small food retailers among vulnerable populations with high risk of food insecurity. I turn now to discuss each of these aspects in more detail.

Food Assistance and Affordability

Unlike supermarket chains or large grocery stores where credit cards are the default payment method, only a small percentage of small food retailers in Chinatown accept credit cards. Because vendors have to pay a higher rate of processing fees for credit card transactions, to maintain a proper profit margin, most of them choose to cater exclusively to customers with cash or Electronic Benefits Transfer (EBT) cards. Occasionally some meat and seafood vendors allow credit card payments because their products tend to cost more than that of vegetable and fruit vendors. As a result, cash and EBT credits are the most common forms of payment in the area. While the limited acceptance of credit cards may sound inconvenient to some, it does not seem to bother those who shop frequently at traditional food markets in Chinatown; as one market vendor put it, “*EBT (a public food subsidy issued by the federal government) cards are like the*

Chinatown-version of credit cards. People use them here all the time” (Ken, vegetable and fruit stall owner). The popularity of EBT cards can thus be attributed both to their comparatively low service fee per transaction and a customer base comprised mainly of low-income and welfare-dependent individuals.

Specifically, EBT stands for the Electronic Benefit Transfer system, and EBT cards allow recipients of Supplemental Nutrition Assistance Program (SNAP) benefits—a federal program aiming to provide food assistance for those in need—to buy groceries from authorized food retailers (State of Hawaii Department of Human Services 2019). Inside the three major marketplaces in Honolulu’s Chinatown that I studied, nearly all vendors had point-of-sale (POS) machines approved by USDA’s Food and Nutrition Service and were able to accept EBT cards. Exceptions included one vegetable and fruit vendor who recently took over the business and was still in the process of waiting for an approval, and one vendor who specialized in *char siu* (Chinese Barbecued Pork)¹⁶ and thus was ineligible to accept EBT payments. At the beginning of each month, when SNAP benefits are made available in personal accounts, market attendance grows as well as the overall sales for the vendors. In some cases, the number of EBT transactions might even overtake that of cash. In his examination of two low-income neighborhoods in Minnesota, Shannon (2014) reports that small food retailers tend to absorb more SNAP dollars than supermarkets. The popularity of SNAP redemptions in traditional food markets in Honolulu’s Chinatown appears to fit this pattern.

Known for their wide-selection of fresh produce, meat, and seafood products, Oahu Market, Maunakea Marketplace, and Kekaulike Market attract both residents of the area and people living farther away. In other words, unlike some other Chinatowns in the country, Honolulu’s Chinatown does not exclusively cater to those residing in the neighborhood. Still, the popularity

¹⁶ It is a fully prepared food item.

of EBT cards is telling of the demographic makeup of shoppers in Chinatown. In Census Tract 52 that encompasses Chinatown, the median household income in 2017 was \$25,594, less than one-third of the county median of \$80,078 (American Community Survey 2017). This translates to 632 families (35.6 percent) living below poverty and a total of 529 (40.2 percent) households receiving SNAP benefits, contrasting with county percentages of 5.9 and 10 for poverty status and SNAP participation respectively (American Community Survey 2017). The high concentration of low-income population in the area therefore underlines the necessity of having access to food outlets where the value of SNAP benefits can be maximized.

In fact, it is no secret among local residents that “*Chinatown is the place where you get more bang for the buck*” (Han, meat stall owner) and “*customers come here for cheaper and fresher produce*” (Zhang, vegetable and fruit stall owner). Given the higher-than-national-average living costs on the island, this is especially important. “*Here things are cheaper, but I also know they aren’t cheap at all compared to other states. I hear things are much cheaper in other states. Things on the island are getting more and more expensive though. Our roasted pork, when I first started selling, it’s \$8.5 a pound, but now we sell it for \$10.5. We are still cheaper than many other places though, who are selling it for about \$12 or \$13 a pound*” (Lin, roasted meat stall owner). Kim, owner of a vegetable stall, attributed the district’s long-term survival to the low price points it offers, “*Chinatown exists because it can help those low-income households to get their food.*” He grabbed a bunch of parsley and said, “*When I sell Chinese parsley for one dollar, people say, ‘how come one dollar? So cheap?’*” Generally, the same bunch of parsley may cost three dollars or more in Safeway on Pali Highway, a national supermarket chain that is a few streets away. Outside of Chinatown, the next closest price points can be found in People’s Open Market (POM), a city program that helps farmer and vendors sell food items at discounted prices

to low-income citizens. Staff from the POM conduct weekly price checks in food retail stores to make sure their recommended prices are about 35 percent below the regular market prices, but slightly higher than that in Chinatown (City and County of Honolulu 2018). *“It’s a tacit law that other markets cannot low cut prices in Chinatown, that’s just the way it is, has been the case for the last 40 years”* (Kim, vegetable stall owner). When asked why price points in Chinatown have been intentionally kept lower than other food retailing places in the city, Kim shrugged as if the answer was obvious; with many livelihoods dependent on traditional food markets in Chinatown for buying and selling foods at competitive prices, the cost of losing pricing advantages will have devastating impacts on communities that are most vulnerable and powerless.

To add to its practicality, market vendors sometimes cut large or expensive vegetables and fruits into smaller chunks so customers are not burdened to buy a whole head of cauliflower either due to consumption preferences or affordability. Such a practice has been found in traditional food markets in developing countries (Szanton 1972) but is missing in regular grocery stores in developed countries like the United States, leading to a growing crisis of food waste. In Thyberg and Tonjes’s (2016) examination of major drivers of food waste, cultural differences in shopping patterns is deemed responsible for varying amounts of food waste in different countries. As one of the main challenges of modern food system, how to effectively reduce and manage food waste has critical implications for the improvement of food security. Estimates show that of all the food produced in the United States every year, about forty percent (equivalent of 62.5 million tons) ends up in landfills (Harvard Food and Policy Center 2017). When properly recovered and diverted, however, this wasted food can turn into immediate relief for millions of Americans struggling with food insecurity. By selling food in small portions, traditional food markets in Honolulu’s Chinatown directly reduce the cost per transaction and indirectly prevent

food loss for both businesses and customers, exemplifying a positive step toward food security.

Misconceptions, Quality and Choice

Unlike supermarket chains that are well-known for their meticulously clean and neat shopping environments, but through higher prices pass onto consumers their huge operating costs, marketplaces in Chinatown are relatively low-maintenance so few extra fees are added to shoppers' grocery bills. For market vendors, the low overhead expenses and high inventory turnover rates are the major reasons behind their competitive prices. "*Those companies, they have millions of dollars to pay to make their places look nicer and here we do not*" (Ray, meat stall owner). Yet not everyone sees it the same way. In many cases, traditional food markets are hastily associated with subpar products and an outdated environment, as if those are the only reasons for the low prices they provide (Stroink and Nelson 2012; Joassart-Marcelli, Rossiter, and Bosco 2017). Consequently, the positive potential these small food retailers have in terms of connecting low-income consumers with affordable and quality foods is either ignored or underestimated. To dispel myths and accurately understand how traditional food markets impact local food security, it is not only important to acknowledge their pricing advantage but also the contributing factors to their affordability.

In her study of Chinatown in New York's Manhattan, Imbruce (2015) recognizes how "descriptors such as *third world*, *dirty*, *smelly*, *congested*, and *illegal*" frequently appear in the reports of Chinatown's food markets (1). Without being prompted, some interviewees expressed similar frustrations toward the common misconceptions they have encountered. "*Chinatown has the best produce, but people are afraid to come here.*" Ann's mother used to own a vegetable and fruit stall inside one of the three main marketplace, but now the family has acquired a store

front down the street for the increased foot traffic and space. Ann told me eight out of ten of her customers are long-term regulars; she was comfortable with her business and at the same time worried about getting new customers. *“People who do not know Chinatown often assume that our produce must be sprayed with lots and lots of pesticides...otherwise how can it be so cheap? Will you believe it if I tell you the Choy Sum was actually grown organically on my farm? Why not...weather here in Hawai‘i is too good for me to use any chemicals.”* (Ann, vegetable and produce stall owner). As far as market vendors were concerned, it is too simplistic to use price as a gauge for food quality in Chinatown; after all, they have been subjected to the same quality and sanitary standards as more conventional food retailers. *“The products have to be examined before we can sell them. They go to the mainland first, and they check if the products are up to the standards. I have another store in Kalihi, they come to the store and check this and this. If they saw something then they tell us that we cannot sell them”* (May, vegetable stall owner). For each stall, there was a green placard issued by the sanitation branch of Hawai‘i State Department of Health indicating satisfactory compliance during routine inspection. Without it, vendors will be asked to suspend their businesses until any observed health hazards are corrected.

One important factor also responsible for the low food prices in Chinatown has to do with the demanding workload that is required of small food retailers. Like the aforementioned low overhead costs associated with small businesses, the amount of self-sacrifice that traditional food vendors make to stay in business has received scant attention from the public. Perhaps very few people are aware or have ever wondered how and when their favorite choy sum is harvested, loaded, transported, unloaded, cleaned, trimmed, and piled onto the stall shelves. More strangely, this is often taken for granted and few interviewees mentioned the long hours that they have been putting into their businesses from the very beginning. *“Tuesday is the only day we take off to*

maintain the farm, other days we are open at 6 am every day and we get here between 5 and 5:30 am to prep” (Ann, vegetable and produce stall owner). Lan, a 20-year-old working at his parents’ produce stand along with his sister, told me they have not had a day off since the Chinese Lunar New Year in February because they cannot afford it. *“Who will take care of the unsold produce from the previous day if we don’t work the next day? You know those fresh vegetables spoil quickly right?”* Kim, whose vegetable stall is next to Lan’s, explained, *“We don’t have overhead costs, vacation, workers comp, advertising. If I don’t make much this month, my salary is less. You are supposed to have a steady salary if you work for supermarkets, not ups and downs.”*

The fact that vendors in Chinatown marketplaces are the absorbers of financial burdens and harsh working conditions is in accordance with the literature, where “[t]ransnational communities of immigrants have largely been left out of analyses of food and agricultural work, except as victims of oppression or abuse” (Imbruce 2015:3). However, I also want to suggest that to a certain extent there is heterogeneity among market vendors when it comes to making sense of their realities. On one hand, some market vendors saw selling in Chinatown merely as a means to support their families due to a lack of better opportunities elsewhere. *“Why opening up a store like this in Chinatown? Hmmm...or what else we can sell? It’s like this for everyone. My husband used to do business in China... at least owning a business is better than working for someone else. It’s the United States, we have no other choices”* (Shan, fruit and vegetable stall owner). Jim, owner of fruit stall, concurred. *“Selling fruits here is just a job. I haven’t thought much of it and there are no particular reasons for choosing to sell here.”* On the other hand, there were market vendors who appeared content and described being in Chinatown more as a personal choice. *“I know farmers’ markets is the new trend, but we are too lazy for it...[laughter]”*

I mean we are getting by, we are not that ambitious to make more money. We are like the most famous Char Siu shop here and people know us” (Lin, roasted meat stall owner). As a producer retailer catering to specifically Southeast Asian clients, May shared the same sentiment, “[m]y produce has stayed the same for the last 20 years. I know most of my customers and I only sell stuff that other people [in the marketplace] do not sell, things that Filipinos and Thai people eat. I don’t want to do wholesale or restaurants because you have to run around...it’s too much extra work.” Not coincidentally, time seemed to have a significant impact on these contrasting perspectives: market vendors who have spent more time in Chinatown tended to view their businesses more favorably than those newcomers. For vendors who are new to Chinatown, finding acceptance into a culturally specific food network that values relationships can be challenging and stressful. Whether it is working with wholesalers or customers, market vendors in Chinatown benefit from long-term presence and strong social bonds.

Relationships, Tacit Knowledge and Cultural Skills

Scholars often emphasize how alternative food systems are deeply embedded in social relations and trust, making them substantially different from conventional food systems (Hinrichs 2000). While Chinatown’s food network embodies multiple marks of alterity that alternative food networks seek to promote, such as the capability to serve low-income populations with an abundance of fresh and affordable foods, appreciation for social connections and face-to-face interactions, sensitivity to meet the different needs of ethnic groups with culturally distinctive preferences—it has not frequently been included as a viable solution to combat food insecurity. In the United States and around the world, however, numerous local and national campaigns have sprung up in hopes of improving food security with alternative

practices. “Actors in Chinatown’s food network do not purport to be producers of alternative economic practices, nor do they articulate modes of resistance to an identified source of oppression” (Imbruce 2015:3). My interviews with market vendors in Honolulu’s Chinatown support Imbruce’s observation of Manhattan’s Chinatown in New York. As mentioned in the previous theme, it is common for Chinatown market vendors to work consistently long hours and see the absorption of potential physical and financial risks as the nature of their work. Only in one case have I heard from an interviewee that “*Chinatown is not a place for you to make a lot of money. It’s not the right place. I am here to be of service to my people*” (Kim, vegetable stall owner). A second-generation immigrant, Kim moved to Honolulu with his family from Korea when he was a child. At the time of the interview, Kim had been selling in Chinatown for almost 20 years. Because of his capability to speak English fluently, a rare quality in this market space, shoppers and visitors have been going to him with questions and requests. Aside from Kim, I also interviewed a few vendors who have been long-term renters of the three Chinatown marketplaces. Although they might not seem business-oriented in the sense that they were content with the number of loyal customers they have obtained throughout the years, and showed little interest in marketing larger quantities by establishing relationships with new wholesalers or customers, none of these vendors explicitly commented on the non-economic value of their practices.

The absence of Chinatown’s food system in local and national food policies aiming to alleviate food insecurity may also have to do with the tacit knowledge one has to possess in order to shop here. Language skills, social connections, experience with shopping in traditional food markets, as well as an understanding of local agriculture all play a role in shaping the customer’s experience buying from Chinatown. For example, unlike in regular grocery stores where

everything is clearly labeled with price and country of origin, food items in marketplaces in Honolulu's Chinatown are often displayed without individual labels or placards. For first-time visitors who do not have prior knowledge of products sold in these outlets, the only way to know where the produce comes from or how much it may cost is by asking. But even asking is not a simple task; knowing when and how to ask requires emotional and cultural competence. For people who do not speak Chinese or Vietnamese or Filipino, this can be especially daunting; most vendors in Chinatown marketplaces speak very limited English as often times it is their second or third language. As a result, *"...very rarely people ask about the produce. Maybe one in a thousand? Who really asks those kinds of questions"* (Lan, fruit and vegetable stall owner)? To further complicate the situation, market vendors were not always well-equipped with the answers when confronted with questions. *"Where are they from? It's all marked on the boxes, we buy boxes of seafood. If it doesn't say on the box... all the shrimps are from Peru. Where is Peru? I don't know"* (Darna, vegetable and seafood stall owner). Darna's response was typical as many vendors I have interviewed who also appeared to have limited knowledge about their products. *"All my fruits, dragonfruit, passionfruit, breadfruit, avocados and all those are from the island. They are from local farms...they [the farmers] just deliver them here, all the businesses here buy from them"* (Hong, vegetable and fruit stall owner). Because Hawai'i grows a distinct array of tropical vegetables and fruits that are easily discernible to local residents, it is expected that only *"newcomers, first-times...and Caucasians"* would ask about the origins of products in Chinatown (Chung, vegetable stall owner). People who frequently shop from Chinatown marketplaces also do not ask questions about Asian vegetables such as Choy Sum and Bok Choy, since these are also grown on the islands due to high local demand. Therefore, it is also possible for market vendors to be intentionally ambiguous: they have to work at a hurried pace that allows little

patience for them to disclose detailed information for newcomers, and regulars do not need extra explanation because they have a cultural repertoire full of tacit knowledge and life experiences.

In cases where the language barrier is overcome with gestures, those who are accustomed to shopping in mainstream supermarkets may still have a hard time adjusting to a completely different retail environment in Chinatown. Rather than being welcomed by a spacious parking lot, warm and cozy lighting, subtle smells of freshly baked bread, and neatly-arranged fresh produce sprinkled with water, here shoppers are greeted by outdated marketplaces characterized by a strong food odor, dim lights, poorly-kept floor, seemingly randomly arranged stalls, and slightly wilted leafy vegetables on non-air-conditioned shelves. As a result, they are less likely to take advantage of traditional food retailers even in face of compromised food security. *“When people go to Whole Foods, even though they are paying more, but they have a place to park. For me standards are BS, but it looks nicer in supermarkets, and the handling looks better, they wear white coats and white gloves. Here, they ask what you want and they pick up the meat for you [sometimes with ungloved hands]”* (Kim, vegetable stall owner).

While it may be challenging or utterly uncomfortable for some to shop here, Chinatown serves as a comfort zone for people who know how to exercise their cultural skills such as chatting with market vendors in their mother tongues, identifying particular ingredients to cook ethnic meals, etc. Throughout interviews, market vendors repeatedly pointed out that their clientele consisted mainly of regulars who have been coming to Chinatown for years. Loyalty, a quality that is becoming extremely rare in an era of increasing competition from all corners of the globe, proves vital to the sustenance of traditional food marketplaces in Honolulu’s Chinatown. In return, market vendors found creative ways to repay the long-term support. *“How can you fail those grandparents, if you close on holidays?”* Kim, who has been renting the stall

space inside one of the marketplaces in Chinatown since it opened in 1998, proudly told me he has not been taking days off. “*When I didn’t open, one year because of hurricane, next day Chinese grandparents complain, ‘where were you yesterday? We needed our vegetables!’*” Other examples of special treatment for regulars included chitchatting, setting aside popular products, providing storage space for bags, and allowing credit extension. In Wong’s (1977) study of 36 Chinese and Black groceries in Los Angeles’s ghetto neighborhood, he finds that merchants extended credit to regular customers only out of desperation to survive. Indeed, as consumers build more intimate relationships with market vendors, they indirectly improve the number and strength of their safety nets in cases of threatened food security. Many studies report the increased demands for emergency food assistance at the end of the month due to the inadequacy of SNAP benefits (Berner and O’Brien 2004; Hoynes and Schanzenback 2015). Yet the critical role of traditional food markets in the lives of SNAP recipients has not been properly discussed.

Inclusion and Social Space

Other than a small courtyard inside Maunakea Marketplace where patrons can find a few stone benches to sit down, the three marketplaces that I have studied in Honolulu’s Chinatown provide no amenities or space for non-trade activities. Nevertheless, it appears that traditional food markets like these continue to be attractive among frequent shoppers, who tend to be first-generation middle-aged and older Asian immigrants. I did multiple observations of meat, seafood, fruit, and vegetable stalls in Chinatown marketplaces at various time points (on weekdays, weekends, and Thanksgiving Day) and took notes of shoppers’ demographic profiles and buying habits. Consistent with interview information from market vendors, Chinatown’s consumer base consists mainly of first-generation immigrants from China, Vietnam, Philippines, Thai, and

Laos¹⁷. Native Hawaiians and other Pacific Islanders also patronize traditional food markets in Chinatown from time to time, to acquire unique local delicacies such as taro and 'ulu (breadfruit). Mostly in their 40s, 50s, and 60s, regular customers prefer to visit Chinatown marketplaces multiple times a week and each time bring home only a few items that they deem the most necessary. Because they have spent years shopping in the area, those people are savvy enough to know where and when to get the best prices and quality. *"I have housewives come to my stall every morning when I open around 6:30 or 7, because they know I have fresh deliveries come in then and my choy sum is the sweetest. Cantonese people love choy sum...they eat it every day with noodles or stir-fries"* (Chen, vegetable stall owner). Despite the presence of constant noise, foot traffic, and food odor, mothers and grandparents with babies and toddlers are commonly seen throughout the marketplaces, busy picking through piles of leafy greens and filling baby strollers with bought items.

Without a doubt, different shopping strategies are used by regular customers in Chinatown to make sure they get the best deals. But other than concerns with quality and price, some appear to visit the marketplaces multiple times a week so they may reconnect with their cultural heritage far away from home. By chitchatting with familiar vendors, neighbors, and fellow customers, market visitors work together to transform the marketplaces into places beyond their economic functions. In this regard, traditional food markets are viewed "not only as market-place where purchases are made, but also social spaces where individuals (re)negotiate their identities through browsing, imagining, and consuming the goods, and through interacting with other coethnic" (Wang and Lo 2007:690). This is especially important for housewives and senior

¹⁷ While these ethnic groups have similar food preferences, they also purchase items that are unique to their cultures from time to time (e.g., banana flowers for Thai, Vietnamese, and Filipinos, bitter melon for Chinese and Vietnamese, winged beans for Filipinos). To avoid making inaccurate assumptions about shoppers' ethnic backgrounds, I also tried to verify with market vendors or shoppers themselves whenever necessary.

citizens whose social circles tend to be considerably narrow. *“Customers know each other, they will pick choy sum together and chat through their shopping, then they go to the other end of the market, see someone they know and then start chatting again, and then they walk back and see another person they know...”* (Lan, fruit and vegetable stall owner). Over the years, what was once a pure trade relationship between customer and market vendor can blossom into something new like companionship. *“Some people come to me when they have problems or they just want a listener. I don’t know everything even though I am a local, and I ask people for things too. So I’d like to help when other people need me”* (Kim, vegetable stall owner). The potential for marketplaces to provide customers with a sense of belonging to their local and ethnic communities has been well recorded by food researchers (Everts 2010; Parzer, Astleithner and Rieder 2016; Wang and Lo 2007; Zarkada-Fraser & Fraser 2002). On one hand, alternative food networks are well-known for their emphasis on community engagement. Community gardens, for example, often serve as a site for “social interactions and civic empowerment” (Saldivar-Tanaka and Krasny 2004:410). On the other hand, studies of inner city food environments describe a “subculture of poverty” among low-income residents where traditional food markets are preferred for the social interactions they afford (Goldman and Hino 2005:274). As if there is no middle-ground between the two extreme scenarios, Chinatown marketplaces in Honolulu provide a new perspective. People who shop here tend to come from a mix of backgrounds and with diverse purposes. Therefore, aside from meeting the nutritional and economic demands of their shoppers, traditional food markets also respond to the emotional and cultural needs of racial and ethnic minorities who are reluctant to shop from conventional food retailers in spite of food security risks due to fear of cultural exclusion (Sullivan 2014).

Discussion

Among food studies scholars there has been a tendency to target consumers to learn about their challenges in being food secure. Yet the narratives referenced above prove that market vendors also have rich knowledge to share based on years of experience dealing with shoppers with diverse consumption needs. In this study, my interviewees brought in their expertise in operating traditional food markets in a socially and culturally diverse neighborhood, and thus helped to illuminate the complex nature of food security from a perspective infrequently studied.

Compared to large grocery stores like supermarket chains, small food outlets tend to face various structural disadvantages as the former can exploit economies of scale and government incentives to increase market share (Schipmann and Qaim 2011). On top of that, traditional food markets run by immigrant and ethnic entrepreneurs have to overcome additional hurdles to stay in business due to the groups' possible lack of citizenship, low English-language proficiency, insufficient education and business training, poor connections to public assistance and the larger society, and high exposure to discrimination and stigmatization (Gold 2010; Khojasteh and Raja 2017). This partially explains the portrayal of immigrants as victims of modern food systems and the under-exploration of ethnic food networks in food security research (Imbruce 2015).

Nevertheless, as demonstrated by the narratives from market vendors above, traditional food markets like the ones in Honolulu's Chinatown could also benefit from their close ties to co-ethnic communities and assume an important role in reducing food insecurity for underserved minority populations. The co-presence of disadvantages and resources, termed as the "disadvantages plus resources" model by Gold (2010), is deemed conducive to ethnic self-employment (14). Notably, by utilizing co-ethnic as well as familial sources of labor, customers, suppliers, and business strategies, immigrant food market vendors in Chinatown are able to

supply a wide selection of nutritious and culturally preferred foods at competitive prices. In addition, customers are provided with ample opportunities to stretch their EBT dollars, connect with market vendors and fellow shoppers in mother tongues, and even access credit extensions at particular times. Taken together, traditional food markets employ various approaches to meet the physical and emotional needs of a customer base comprised mainly of first and second generation Asian immigrants, likely contributing positively to the reduction of food insecurity among communities of color.

Given the underexplored status of Asian populations in food security studies, this study also adds nuance to existing scholarship and raises questions for future research. Notably, the narratives above are suggestive of within-group disparities in the economic and social resources of Asian subgroups in Hawai‘i (Stupplebeen 2019), further validating the population’s multi-layered experiences under different identities. During 2011 to 2015, 18 percent of Vietnamese in the state reported living in poverty while for Japanese the poverty rate was only 6.6 percent (State of Hawaii Department of Business, Economic Development and Tourism 2018). Elsewhere in the country, the varying rates of food insecurity between different groups of Asian populations have also been observed (Becerra, Mshigeni and Becerra 2018). As a group, Asian immigrants are likely to be associated with high socioeconomic achievements, yet in reality their experiences in the American society are far more varied and complicated. Gold (1993) argues that cultural characteristics, along with “historical factors, structural conditions and country-of-origin-based resources” are all important success factors to ethnic groups in the United States. Therefore, to gain a comprehensive understanding of local and national food security, we need to be sensitive to the needs of those with disadvantageous economic and cultural positions, and have targeted efforts to accurately understand food security at the disaggregated level.

Despite their multiple economic and cultural benefits, traditional food markets have received little attention in the policy and academic realm—not just in Honolulu’s Chinatown, but also in the rest of the country. One of the reasons may be that immigrant entrepreneurs, especially those involved in small food businesses, generally have a low interest in participating in research projects. Already overburdened with their vulnerable social and cultural positions, long working hours and heavy workload, traditional food market vendors represent a population that is hard to reach or access. In addition, my own fieldwork suggests that there existed concerns that research findings would not be useful nor would they activate any positive change in their current situation—a common mistrust shared by ethnic minority research subjects (Ellard-Gray, Jeffrey, Choubak and Crann 2015). Noticing the absence of Chinatown’s food system in New York City food policies, Imbruce (2015) eloquently asks, “Where does Chinatown’s food system fit into the city’s food landscape and into the nation’s imagining of how food should be supplied? What is behind the chaotic messy face of Chinatown’s markets?” (11). For her, the vast and varied food items that Chinatown provides with high efficiency and low cost make it worthy of serious consideration by advocates and policy officials looking to improve our current food system. “Immigrant food systems in New York need to be included in the debate about how New Yorkers can supply themselves with ‘good’ food, particularly to avoid reforms based on only the views of privileged classes and racial groups” (5). Being thousands of miles away from each other, New York and Honolulu have radically dissimilar geographical conditions; but the two cities are also similar in the sense that they are both home to large populations with heterogeneous consumption preferences and needs. Echoing Imbruce’s arguments, my analysis above shows that in many ways Chinatown food network serves similar functions as alternative food networks that have been gaining popularity across the U.S. Aside from applied strategies to

more effectively include the often excluded immigrant market vendors in future research, corresponding policies and programs—such as financial and technical assistance through tax credits or loans—are thus needed to support the operation of traditional food markets, so they can continue to fulfill the unmet food needs and preferences left by both the conventional and alternative food outlets by nature of their operations.

Conclusion

In response to the underexplored subject of race and ethnicity in food security studies, in this study I interview immigrant market vendors from the Chinatown district in Honolulu, Hawai‘i and examine the numerous ways through which traditional food markets meet the needs and preferences of underserved Asian populations with regard to food security. Consistent with extant literature, traditional food markets represent an important source of affordable, nutritious, and culturally preferred foods in the local food landscape. As shoppers are able to further stretch their budgets through redemption of SNAP benefits and credit extensions offered by well-acquainted market vendors, they are likely to face food insecurity due to financial hardship. Additionally, my study demonstrates critical social functions of traditional food markets and their positive implications for food security reduction—an aspect that has received comparatively less attention than its economic counterpart. With ample opportunities and space to practice cultural skills and build connections with co-ethnics, it appears that at-risk racial and ethnic minorities who may feel emotionally and culturally excluded from supermarkets can have these needs fulfilled at traditional food markets instead.

The economic, nutritional, and cultural responsiveness of traditional food markets to their customers as demonstrated above requires these food outlets being included in future food

security programs and policies. This is not to deny the merits of existing food security efforts and the significant roles they play in expanding food access for vulnerable populations. To gauge and remove obstacles and barriers to food accessibility and security in the United States, numerous local and national programs and policies such as Farm to School, Double Up Food Bucks, and Supermarket Tax Credit have been developed and implemented. However, there is a tendency to rely on guidelines and modules that are developed based on Westernized assumptions or expectations of a normative lifestyle (Cidro et al. 2015). As a result, oftentimes the heterogeneity of food needs and environments is underestimated, large grocery stores like supermarket chains become overemphasized and even normalized as the sole access to adequate food, and existing inequalities are exacerbated between already well-off farmers and customers and those who are not (Vetter, Larsen, and Bruun 2019).

To effectively and comprehensively expand food access and reduce food security, more emphasis should therefore be placed on developing a more pluralistic approach in both food security research and practice. In ethnic enclaves such as Honolulu's Chinatown district, the problem is especially worth noting given the concentrated existence of small grocery stores, open-air market stalls as well as other non-mainstream food outlets. But the empirical implications from this study could also apply in other contexts, for a conscious incorporation of diversity—be it class, race, ethnicity, or gender—is critical to the alleviation of food insecurity and building a more socially just food system.

APPENDICES

Appendix A:

Price Comparison Chart of Four Common Food Items in Honolulu and U.S. Cities in 2011

Table 3: Price Comparison Chart of Four Common Food Items in Honolulu and U.S. Cities in 2011

<i>Average Price/ Dollars per Pound</i>	<i>Honolulu Metropolitan Area Average</i>	<i>U.S. City Average</i>
Romaine Lettuce	3.42	1.78
Tomatoes	3.90	1.67
Whole Milk	0.73	0.41
Iceberg Lettuce	1.75	0.99

Source: Loke, Xu, and Leung (2015); Xu, Keahiolalo, Loke, and Leung (2015); Xu, Loke, and Leung (2015); USDA Economic Research Service Yearbook-U.S. Average Retail Prices (2019)

Appendix B:

Descriptive Info of Participating Market Vendors from Honolulu's Chinatown

Table 4: Descriptive Info of Participating Market Vendors from Honolulu's Chinatown

<i>Pseudonym</i>	<i>Age</i>	<i>Gender</i>	<i>Product Type</i>	<i>Marketplace Experience</i>	<i>Interview Language</i>	<i>Location</i>
Amy	40s	Female	Seafood	~20 years	English	Oahu Market
Fong	50s	Female	Seafood and meat	2 nd generation	Mandarin	Oahu Market
Han	50s	Male	Meat	~20 years	Mandarin	Oahu Market
Hong	30s	Male	Vegetable and fruit	~10 years	Mandarin	Oahu Market
Jim	50s	Male	Fruit	~3 years	Mandarin	Oahu Market
Ken	70s	Male	Vegetable and fruit	~40 years	English	Oahu Market
Lin	30s	Female	Roasted meat	3 rd generation	Mandarin	Oahu Market
Pat	40s	Male	Vegetable	~5 years	English	Oahu Market
Peng	40s	Female	Vegetable	~10 years	English	Used to be inside O'ahu Market but now owns a storefront on the same street
Samy	70s	Female	Seafood	~50 years	English	Oahu Market
Zhu	50s	Female	Meat	2 nd generation	Mandarin	Oahu Market
Chen	40s	Female	Vegetable	~10 years	Mandarin	Kekaulike Market
Kim	50s	Male	Vegetable	~20 years	English	Kekaulike Market
Lae	40s	Male	Seafood and meat	~10 years	English	Kekaulike Market
Lan	20s	Male	Vegetable and fruit	~2 years	Mandarin	Kekaulike Market
May	50s	Female	Vegetable	~20 years	English	Kekaulike Market
Ray	50s	Male	Meat	~10 years	English	Kekaulike Market
Shan	50s	Female	Vegetable and fruit	~20 years	Mandarin	Kekaulike Market
Tina	40s	Female	Seafood and fruit	~3 years	Mandarin	Kekaulike Market
Ted	50s	Male	Meat	~5 years	Mandarin	Kekaulike Market
Zhang	60s	Female	Vegetable and fruit	~10 years	Mandarin	Kekaulike Market
Ann	30s	Female	Vegetable and fruit	2 nd generation	English	Used to be inside Maunakea Marketplace but now owns a storefront on the same street
Chan	60s	Male	Seafood	2 nd generation	Mandarin	Maunakea Marketplace
Chung	30s	Female	Vegetable	~5 years	English	Maunakea Marketplace
Darna	40s	Female	Vegetable and seafood	2 nd generation	English	Maunakea Marketplace
Eva	50s	Female	Vegetable and fruit	~20 years	English	Maunakea Marketplace
Fiona	40s	Female	Fruit and seafood	~10 years	English	Maunakea Marketplace
Opel	40s	Male	Meat	~20 years	English	Maunakea Marketplace
Peng	70s	Male	Vegetable and meat	~30 years	English	Maunakea Marketplace
Rumi	50s	Female	Meat	~30 years	English	Maunakea Marketplace
Suzie	40s	Female	Vegetable and seafood	~20 years	English	Maunakea Marketplace
Wu	40s	Male	Meat	~10 years	Mandarin	Maunakea Marketplace

Appendix C: Interview Guide Questions for Food Market Vendors in Chinatown

Basic Demographic Questions:

- Gender
- Age
- Race and Ethnicity
- Education

Open-ended Questions about Chinatown Food Markets:

- How long have you worked as a food vendor?
- How did you become a vendor in Chinatown?
- Do you own the business? If not, who does?
- Where do you usually source your products?
- What products do you usually sell and why?
- What are your most popular products?
- How would you describe your typical day as a vendor in Chinatown?
- What makes you choose Chinatown over other places to sell your products?
- How would you describe your customers?
- Do you accept food stamps or SNAP from your customers?
 - If yes, how long and how often?
 - If not, why?
- Do you shop at other food markets in Chinatown?
 - If yes, how often?
 - What do you usually buy from Chinatown's food markets?
 - What makes you choose Chinatown over other places to do your grocery shopping?

Open-ended Food Security Questions:

- What is traditional food to you? Can you describe?
- What do you usually eat for breakfast/lunch/dinner?
- What is a typical breakfast/lunch/dinner in your culture?
- In your opinion, how Chinatown's food markets bring fresh and affordable food to local residents?
- How do you think Chinatown food markets might impact local food security?
- How do you think Chinatown food markets might impact racial and ethnic minority groups with culturally referred food?
- What are the constraints and challenges for traditional food markets in Chinatown?
- What can be improved for traditional food markets in Chinatown to strengthen their competitiveness?

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CHAPTER THREE

Incorporating Traditional Food Markets in Food Access Interventions:

Implications from a Hawaiian Case

Introduction

As a key component of food security, food access can be difficult to measure and improve (Herforth and Ahmed 2015; Pinstrip-Andersen 2009; Scanlan 2009). Food access is subject to a wide range of influences, including, but not limited to income, gender, age, location, race, and ethnicity (Dimitri and Rogus 2014; Rivera et al. 2017; Walker, Keane, and Burke 2010; Yousefian, Leighton, and Hartley 2011). To improve vulnerable population's access to adequate and nutritious foods, food retail-based interventions are popularly employed, yet they have so far yielded mixed results (Cummins, Flint, and Matthews 2014; Dubowitz et al. 2015; Walker et al. 2010; Sadler, Gilliland, and Arku 2013). One of the reasons, researchers increasingly argue, has to do with an underestimation of neighborhood food environments and across-group differences when it comes to grocery-shopping behaviors (Lyles et al. 2015; Raja, Ma, and Yadav 2008; Short, Guthman, and Raskin 2007; Taylor and Ard 2015). Despite the existence of a mix of small independent stores carrying affordable, nutritious, and culturally preferred foods in socially and culturally diverse areas, interventions to improve neighborhood food retail environment rarely include these stores; instead, there has been an overemphasis on large grocery stores like supermarkets¹⁸, based on the assumption that people rely on the same food outlets to meet their food needs (Hagan and Rubin 2013; Taylor and Ard 2015; Vetter et al 2019; Yousefian,

¹⁸ Throughout the paper I use “supermarkets”, “supermarket chains”, and “grocery chains” to refer to a combination of supermarkets, supercenters, hypercenters, and chains of convenience stores. This is not to ignore the differences among these retailing formats, but rather to emphasize the similarity they share in terms of ownership concentration (Howard 2016).

Leighton, and Hartley 2011). As a result, we still lack a clear understanding of how to effectively incorporate small food retailers in food access and food security improvement efforts in order to better serve those facing high risk of food insecurity.

In response to this gap in the literature, I conducted a case study of traditional food markets¹⁹ in Chinatown in Honolulu, Hawai‘i, a multicultural neighborhood that is home to diverse populations with heterogeneous food needs. Based on in-depth interviews with both market vendors, community leaders, and policymakers, I investigated the challenges faced by traditional food markets located in an ethnic neighborhood. Based on the findings, I offer suggestions on how we can improve the competitiveness of these markets to facilitate their inclusion in future food security programs and policies. As one type of small food retailer, traditional food markets have received insufficient attention from scholars in spite of their positive role in providing vulnerable populations with nutritious and culturally preferred foods at low prices (Short, Guthman, and Raskin 2007). Because of traditional food markets’ tendency to cater to specific cultural groups and cluster in neighborhoods of color, they even face criticism rather than receiving accolades as “agents of positive change” (Khojasteh and Raja 2017:302). Similarly, “communities of color are more often seen as being in need than as producers of food systems in their own right” (Imbruce 2015:144). This partially explains why, in sharp contrast to the hundreds of millions of government dollars being spent on bringing supermarkets into low-

¹⁹ I choose to refer to these markets as “traditional food markets” rather than “wet markets” or “ethnic markets” for two reasons: first, the term “traditional food markets” has been conventionally used by many existing studies to include a variety of small-scale food retailers that are independently owned and specialize in culturally preferred foods for local ethnic populations (Banwell et al. 2016; Goldman, Krider, and Ramaswami 1999; Minten and Reardon 2008; Schipmann and Qaim 2011); Second, the use of “traditional food markets” enjoys a wider applicability than “wet markets” mostly seen in studies of Asian countries while at the same time avoids the problematic implication of “ethnic markets” as a racialized label (Joassart-Marcelli, Rossiter, and Bosco 2017). Although in some cases, supermarkets are categorized as “traditional” to contrast them with “non-traditional” stores such as supercenters and dollar stores (Leibtag, Barker, and Dutko 2010; Seiders and Tigert 2000), it is important for me to group food retailers based on their size and ownership type instead (small vs. large, independently owned vs chain).

income neighborhoods lacking food retailers through programs like New Markets Tax Credit and Healthy Food Financing Initiative, little support has gone to traditional food markets to maximize their potential for food access improvement.

This paper is organized as follows. In the section below, I begin by tracing supermarket concentration both in the United States and other parts of the world, which provides a useful context to understand the current food retailing industry as well as the logic behind a supermarket-centered approach for food access research and intervention. Next, I move to the challenges that supermarket concentration creates for food access and food security, especially among economically, socially, and culturally disadvantaged populations. Because small independent food stores like traditional food markets have been a critical source of fresh, affordable, and culturally preferred foods, their limited market share as a direct consequence of supermarket concentration can disproportionately affect food access for certain subgroups. With a goal to better understand how to strengthen the competitiveness of traditional markets so their potential to improve food access and food security can be maximized, I draw on findings that emerged from the in-depth interviews with market vendors and community stakeholders involved in Honolulu's Chinatown marketplaces. From built environment, to political and community assets, to business training, I found that traditional food markets face multiple economic, social, and political disadvantages to scale up despite their current niche position in the global food retailing industry. This is consistent with the precarious position of minority groups—in this case, Asian Americans and immigrants with low-incomes-- in a food system that systematically prioritizes efficiency and profitability over people's health and well-being. I conclude the paper with a brief discussion of the case study's theoretical as well as empirical implications for the design and implementation of food access and food security programs in the

future. Even though it is true that persistent structural inequalities along both racial and economic lines have to be addressed in order to uplift the disadvantageous condition of traditional food markets and minority populations, my findings suggest that we should start by including these markets in food security interventions, as it may likely redirect some much-needed attention and help to traditional food markets to improve their competitiveness to better serve disadvantaged populations.

Supermarket Concentration in Modern Food Systems

Across the globe, it seems that a high level of consolidation and concentration is becoming increasingly characteristic of modern food systems. The United States serves as a prominent example—of the world’s 500 largest firms as measured by market capitalization, nearly half of those that focus primarily on food are headquartered there (Howard 2016). Looking into the process through which dominant firms push out competitors and take control of the market, Howard notes, “[i]n nearly every other stage of the food system, including retailing, distribution, farming and farm inputs (e.g., seeds, fertilizers, pesticides), a limited number of firms or operations tend to make up the vast majority of sales” (2016:2). Looking back, however, the American food retailing scene has not always been dominated by oligopolies and limited competition. As Seth and Randall (1999) describe, a variety of outlets selling foods at rarely-fixed prices were still common during the first half of the 19th century. The beginning of the 1900s saw the rise of food shops with multiple branches—the precursor of modern supermarket chains, as well as a nation-wide outcry over their negative impacts on smaller businesses and the grocery industry as a whole (Basker, Vickers, and Ziebarth 2018). As a result, until the 1970s large retail stores exercised influence mainly on local and regional markets (Sheldon 2018).

Spearheaded by Walmart and its expansion into the food business, fundamental changes happened to the structure of the American grocery industry in the 1990s; through acquisitions and mergers, national and international supermarket chains have formed to take advantage of loosened anti-trust laws domestically and accelerated economic integration globally (Howard 2016; Sheldon 2018). With the majority of sales in the hands of a small number of firms, the national four-firm concentration rate (CR4) for food retailing increased drastically from 16.8 percent in 1992 to 37.3 percent in 2011 (Xia and Sancewich 2018). The city level CR4 is even more telling of the “seller power” of major food retailers such as Walmart and Kroger (Xia and Sancewich 2018:7): in 2006, the average food retailing CR4 in 229 metropolitan areas was as high as 79 percent (Sheldon 2018).

Outside of the United States, food retailers have been following a similar trend to get bigger, but there is a considerable heterogeneity when we compare the extent of supermarket diffusion in different places. West European countries are even more concentrated than the United States with the combined market share of the top four firms for 2008 reaching 54.4 percent in France, 72.5 percent in Germany, and 72.5 percent in United Kingdom (Gorton, Sauer, and Supatpongkul 2011). By contrast, in some developing economies, the replacement of small-scale retailers by supermarket chains still lags behind (Goldman, Krider, and Ramaswami 1999). As of 2009, the CR4 in South Korea, Japan, Malaysia, and China were 23 percent, 22 percent, 14 percent, and 4 percent respectively (Gorton, Sauer, and Supatpongkul 2011). The relatively fragmented food retail scenes thus lead many to enter debates on the expanding potential of the so-called “supermarket revolution” (Humphrey 2007; Crush and Frayne 2011; Boland and Cakir 2018). On one hand, it has been frequently noted that modern supermarket chains face both cultural and economic limitations in developing economies (Cadilhon et al. 2006; Goldman 1974

& 1982; Goldman, Ramaswami, & Krider 2002). The dietary preference for highly perishable foods such as fresh vegetables and fruits, and the lack of refrigerated storage space for multi-days' worth of food expose the mismatch between local shopping habits and the one-stop shopping experience that foreign-owned supermarkets promote. On the other hand, rapid globalization brings significant changes in people's lifestyles and living standards, injecting a strong dose of positivity into the proponents of large supermarket chains' capacity to improve through continuous local adaptations and innovations (Reardon, Timmer, Barrett, and Berdegue 2003; Reardon and Timmer 2012). In Thailand, for example, major supermarket chains mimic the display of traditional markets and offer a great variety of fresh produce in order to attract customers (Gorton, Sauer, and Supatpongkul 2011).

Whether or not supermarkets will fully penetrate the food retail markets of developing regions, there is no disguising the fact that sweeping structural changes are happening in food systems all over the world. As traditional markets become more rare, national and transnational grocery chains become increasingly popular destinations for people looking to buy both perishable and non-perishable foods. Previous studies show that supermarkets attract customers mainly through two strategies; by taking advantage of economies of scale and adopting improved procurement systems, modern supermarkets are able to compete with traditional markets for the same market segment through low prices (Gorton, Sauer, and Supatpongkul 2011; Minten and Reardon 2008). In places where grocery prices are high, for example, Hawaii, gaining a price advantage is even more important as food retailers battle for customers. Additionally, supermarket chains carve out a niche market for themselves for connecting better-off customers with high-quality products (Schipmann and Qaim 2011). For shoppers that value convenience and hygiene, they may also prefer supermarkets over traditional markets for the former's wide variety and visually appealing

environment (Huang, Tsai, and Chen 2015).

Unfortunately, the enjoyment of diverse benefits afforded by the supermarket revolution does not come without a cost. Given that a disproportionately large market share is in the hands of a few retailers, suppliers can be easily exploited due to diminishing bargaining power (Martinez and Paudel 2018). Small-scale farmers often face market exclusion because it is difficult for them to meet the high volume and standards required by large grocery chains (Gorton, Sauer, and Supatpongkul 2011). In Hawaii, the disadvantages that small farmers face are further exacerbated by a “pocket” market where consumer demand for local products is limited and inconsistent, and there are no other outlets to deliver to in cases of oversupply given the state’s geographic isolation (Nakamoto, Halloran, Yanagida, and Leung 1989; Peters, Reed, and Creek 1954).

Even for consumers who seem to only benefit from supermarket dominance, their rights can be compromised in cases of price manipulation and resultant price increase (Howard 2016). Simply put, the retail revolution brought by supermarkets has produced profound negative economic, social, and environmental impacts in both developed and developing countries. Moreover, “[t]hese impacts tend to disproportionately affect the disadvantaged—such as women, young children, recent immigrants, members of minority ethnic groups, and those of lower socioeconomic status—and as a result, reinforce existing inequalities” (Howard 2016:2). Because only those who have more political and economic resources are able to participate in a market of limited competition and growing concentration, issues of power and equity are becoming ever more evident in contemporary food systems. This presents a great research opportunity for many sociologists, whose academic agenda often centers largely around social justice, but have so far paid scant attention to the food retailing industry (Schwartz and Lyson

2007). In the following section, I focus on the link between traditional food markets and food access to illustrate how ethnic and racial minorities come to bear an unequal burden as supermarkets continue to occupy a greater market share and threaten these groups who already face limitations to obtain affordable and culturally preferred foods.

Food Security, Ethnicity, and Small Grocery Stores

Amid the voluminous literature on the negative implications of food system concentration, one much less discussed topic is the rise of food insecurity, particularly in developed countries where the penetration of large supermarket chains is high. Food insecurity exists in the absence of food security (Chilton and Rose 2009). Food security, defined by the Food and Agricultural Organization of the United Nations (FAO), “exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life” (2006). In the United States, household food insecurity grew from 9.7 percent in 1996 to 12.7 percent in 2015, which translates to an increase from 10 million to 15.8 million households experiencing difficulty meeting basic food needs (Nord, Jemison, and Bickel 1999; Coleman-Jensen, Rabbitt, Gregory, and Singh 2016). Meanwhile, estimates show that the combined share of grocery sales for the top four retailers rose from 23 percent in 1993 to 55 percent in 2014, representing more than 100 percent growth (Ezeala-Harrison and Baffoe-Bonnie 2016). As mentioned earlier, the concentration of food retailing is even more visible in local markets, reflecting the enormous power that large supermarket chains have on consumers (Saitone and Sexton 2017). Hence, even though in the food desert literature food insecurity is often linked to supermarket absence rather than concentration (Short, Guthman, and Raskin 2007), the bigger picture showing the co-occurrence

of rising food insecurity and increasing supermarket concentration may tell us a different story; when a few large multinational firms take control of the market, consumer welfare is not likely to be a priority for corporate profit. It may seem contradictory at first; after all, supermarkets pride themselves on the impressive variety of products that they manage to provide under one roof. Yet, over time as they grow in size and number through acquisitions and mergers, with few exceptions large supermarket chains acquire enough seller power and leave consumers with limited choices as where and how they shop (Suryadarma et al. 2010; Xia and Sancewich 2018). This explains the increasing media coverage of price-fixing scandals in the food retailing industry (Howard 2016). Since customers often have nowhere else to go in a food system dominated by few large retailers, they can do nothing but pay for the unilaterally fixed prices. For low-income populations that are very sensitive to food prices, this is especially devastating as high food prices lead to high food insecurity (Nord, Coleman-Jensen, and Gregory 2014). To maximize their financial gains, supermarkets also tend to establish in areas where more affluent customers reside (Alwitt and Donley 1997; Chung and Myers 1999; Giang et al. 2008; Powell Walker, Keane, and Burke 2010). Stuck in the so-called “food deserts,” people with lower-income are therefore more likely to be food insecure due to constrained access to fresh and nutritious foods (Morton, Bitto, Oakland, and Sand 2005; Short, Guthman and Raskin 2007).

It is not just the poor who suffer from lack of food access and food security in an age of supermarket dominance. Aside from income-based predictors, many studies argue that factors such as age, disability, rurality, gender, race, and ethnicity all interact to impact one’s food access and food security (Alkon and Norgaard 2009; Alkon and Agyeman 2011; Blanchard and Matthews 2007; Loring and Gerlach 2009; Martin and Lippert 2012; Hernandez, Reesor, and Murillo 2017). This highlights both the multidimensional nature of food security and the

heterogeneity of people's food needs in a culturally pluralistic society. As a key component of the food security definition referenced above, "food preferences" means there is a difference between having access to enough food and access to enough food that is preferred²⁰ (Pinstrup-Andersen 2009). At the same time, people may also use different criteria to define what is meant by safe and nutritious foods (Herforth and Ahmed 2015). For ethnic minorities that are closely tied to certain histories and cultures, such an understanding is especially important given the unique role that food practices play in maintaining their health as well as identities (Stroink and Nelson 2012; Skinner, Pratley, and Burnett 2016).

However, little attention has so far been given to cultural variations with regard to food preferences (Odoms-Young, Zenk, and Mason 2009). In a supermarket-dominated landscape, people are often assumed to have similar shopping habits and dietary needs that can be fully satisfied through Western-style retailers. The result is a skewed estimation of local food security due to a failure to acknowledge the existence of non-supermarket food retailers in socially and culturally diverse neighborhoods. For example, increasingly more studies have noted the inappropriateness of past food desert research where estimated proximity to supermarkets and large grocery stores is used as a sole proxy of food availability (Thomas 2010; Alkon et al. 2013; LeClair and Aksan 2014; Raja, Ma, and Yadav 2008; Short, Guthman, and Raskin 2007; Taylor and Ard 2015). As for local and national policies aiming to reduce food insecurity, an overwhelming optimism in supermarkets' capacity for food access expansion not only hinders their effectiveness but also causes adverse effects. Explained by an insightful note from Wertheim-Heck, Vellema, and Spaargaren (2015), "...similar supermarket interventions can yield contrasting outcomes when they do not accommodate for differences in shopper population

²⁰ It is worth noting here that food preference in this case should not be interpreted as personal taste but rather preferences that are "socially and culturally acceptable and consistent with religious and ethical values" (Pinstrup-Andersen 2009:6).

and do not adapt to variations in the urban conditions” (95). In Sullivan’s study (2014), the opening of a new supermarket turned an Oregon neighborhood from a food desert to a “food mirage” where residents of a racial minority shopped significantly less at the store than their white peers because of perceived economic and cultural exclusion.

In short, ethnic minorities face a double burden to attain food security within a food system that economically and politically favors supermarkets. On one hand, large supermarket chains are more likely to be found in predominantly white neighborhoods than non-white ones (Berg and Murdoch 2008; Basker, Vickers, and Ziebarth 2018; Morland, Wing, Roux, and Poole 2002; Morland and Filomena 2007; O’Malley, Gustat, Rice, and Johnson 2013; Zenk et al. 2005); on the other hand, efforts to increase supermarket presence provide little support for access to culturally preferred foods that normally are only available through traditional food stores. Worse yet, these stores will have an even harder time surviving as supermarkets capture more market share.

Given the significance of culturally preferred foods to ethnic populations’ food security and the disproportionate burden brought onto this group by supermarket concentration (Grauel and Chamers 2014), more research is needed to understand how to expand the positive potential of traditional food stores so more people in need can benefit. In other words, what obstacles and challenges do these stores have in terms of providing ethnic minorities with affordable, nutritious, and culturally preferred food? Admittedly, as mentioned above, scholars in the United States have expressed a nascent interest in the potential that small food retail outlets have in reducing food insecurity in socially and culturally diverse areas (Bodor et al. 2008; Martin et al. 2014; Moore, Roux, and Brines 2008; Rose, Bodor, Hutchinson, and Swalm 2010; Shannon 2016). Challenging many studies that still use controversial frameworks, such as food desert and food

swamp to gauge local food environments (Howlett, Davis, and Burton 2016; Laska, Borradaile, Tester, and Foster 2010; Lenk, Caspi, Harnack, and Laska 2018), this new line of work recognizes the complexity of local realities, particularly the heterogeneity among small food stores that are usually clumped together and not distinguished for their grocery category, target customers, or ownership model. For example, based on a systematic assessment of food venues in Detroit, Taylor and Ard (2015) report only 2.7 percent of the food outlets in the city are made up of supermarkets and full-line grocery stores. By comparison, small groceries and other forms of food retailers represent the majority of food sources for local residents and call for finer analysis. Another often-cited case study comes from Short, Guthman, and Raskin (2007). After examining three low-income neighborhoods in the San Francisco Bay area with predominantly African American and Latino residents, the authors conclude it is no longer appropriate to call these places food deserts given the availability of a wide range of low-cost fresh and culturally preferred foods at small grocery stores.

A quantitative analysis of food environments for different racial groups in upstate New York yields similar findings: with little supermarket access, minority neighborhoods rely on small grocery stores, convenience stores, meat and fish markets, and fruit and vegetable markets to achieve food security (Raja, Ma, and Yadav 2008). However, despite the abundant healthy and affordable foods they carry, small independent grocers usually owned and operated by ethnic entrepreneurs are rarely viewed as “agents of positive change” in the previously referenced studies (Khojasteh and Raja 2017:302). Instead, because of their tendency to cater to specific cultural groups and cluster in neighborhoods of color, these types of stores often receive criticism as to what extent they can effectively reduce food insecurity on a large scale. In a study of Chinatown food networks in New York City, Imbruce acknowledges how ethnicity “shields

these businesses from takeover by American agribusiness and grocery corporations” but may at the same time feed into stereotypical assumptions about ethnic food markets and the produce they sell (2015:156). Unfortunately, apart from such skepticism, food security researchers generally have shown little interest in understanding the conditions of small stores run by ethnic entrepreneurs, how they manage to survive with limited resources in the midst of supermarket concentration, what can be done to strengthen the competitiveness of the ethnic food retail industry as a whole, or how to include them in food access and food security programs and policies to meet the needs of minority populations.

To address this gap, I conducted a case study of traditional food markets in the Chinatown District of Honolulu, Hawai‘i and interviewed market vendors and community stakeholders to learn about the multiple economic, social, and political challenges that traditional food markets face. The combination of different perspectives not only represents a novel approach to the study of ethnic grocers, but also adds much-needed depth to the analysis. Before I dive into the major findings, in the next few paragraphs I describe my study site, data collection process, and interview participants.

Methods

Chinatown Historic District in Honolulu, Hawai‘i

Amongst many attractions, Honolulu’s Chinatown is perhaps best known for its diverse array of open-air markets and small vendor stalls, where visitors can find an incredible selection of fresh fruits, vegetables, meat and seafood at reasonable prices. Mainly run by immigrants of Southeast Asia origins such as Vietnamese, Chinese, and Thai, Chinatown food markets also provide a variety of foods that are culturally preferred by minority ethnic groups. From *povi*

masima—a salt marinated beef brisket that is very popular in Samoa, to *char siu*—a roasted pork favored by Cantonese, one can find basically every food that is enjoyed by various ethnic groups, but rarely seen in mainstream supermarkets on the island, such as Safeway and Walmart.

Other than being home to these permanent year-round indoor and outdoor ethnic grocers mainly run by Asian immigrant entrepreneurs, the Chinatown district in Honolulu also hosts a wide range of businesses including art galleries, boutique shops, trendy restaurants, and even nightclubs. With people from all walks of life attracted to this roughly 15-block neighborhood, Chinatown is constantly filled with noise and smells as cars roar, traffic lights beep, shoes click on the sidewalks, shopping carts roll by, visitors chat, street vendors haggle, noodles sizzle in the wok, fresh bananas ripen under the sun, and steaming coffee poured into carefully selected ceramic mugs. During the rare hours when the hustle and bustle of Chinatown finally quiets down, however, this centuries-old district assumes a drastically different look with tents, tarps, and all manner of other makeshift dwellings occupying the now empty storefronts and sidewalks. To some extent, even after a series of revitalization and restoration efforts, Honolulu's Chinatown is still haunted by a ghetto past as the home base for brothels, gambling houses, drug-dealing and gang-related violence. As a result, like many other underserved communities examined by previous studies (Hagan and Rubin 2013), Chinatown in Honolulu often suffers from a poor reputation and stigmatization, despite its provision of varied businesses and services that serve a vibrant population.

Data Collection

To answer my research question and learn about the constraints and challenges faced by traditional food markets in Honolulu's Chinatown, I used both cold-calling and snow-ball

sampling methods to recruit interview subjects over a span of seven weeks between October and December 2018. My final sample consisted of a total of 39 research participants across groups mentioned above: 32 immigrant vendors with experiences selling fresh produce, seafood, and meat in Chinatown, and seven community stakeholders actively involved in issues concerning traditional food markets in the area. For the latter group, two of them came to know Chinatown through professional connections, and the other five mainly through volunteer work with local organizations. In accordance with its diverse cultural and social environments, Chinatown is home to various kinship groups, ethnic interest groups, community-based organizations, as well as government offices. In other words, either through their employment or intensive immersion in the community first-hand, the participating interviewees are experts with considerable knowledge of the operation and management of Chinatown marketplaces.

Due to the nature of market activities, I interviewed all traditional food vendors at their stalls whenever they were not actively dealing with customers. In most cases, I had to go back to the same stall multiple times, but usually was able to complete the interview within a span of a couple of days. The interviews with community stakeholders, on the other hand, were scheduled ahead of time and took place in agreed-upon spaces including offices, restaurants, or cafés. One interview was completed through the phone because the respondent was out of state. Regardless of their different roles and backgrounds, both groups of interview participants were asked the same set of open-ended questions consisted of the following topics: selling and shopping experiences, market history, ownership type, characteristics, and assets, impacts on food access and food security, and constraints and challenges with regard to market improvement (see Appendix A for the full interview instrument). The goal was to gain an accurate understanding of the specific ways that Chinatown's traditional food markets can be improved in order to be more

competitive and responsive to the needs of minority populations. On average, one complete interview took about one hour, with the shortest one lasting 30 minutes and the longest one 95 minutes. All of the interviews were audio-recorded either in English or Mandarin and then carefully transcribed by the author. To protect the individual identity of my research participants, in what follows, I use pseudonyms wherever necessary.

In addition to semi-structured individual interviews, participant observation at marketplaces in Chinatown and discourse analysis of Chinatown-related news stories published by Civil Beat—a non-profit online news outlet known for its neutral investigative coverage of local issues, were used to support the analysis. In addition, I included relevant notes taken from a two-hour-long meeting that brought together political and community leaders to discuss Chinatown improvement and revitalization, which was convened when I was in the middle of field research in Honolulu. The utilization of multiple sources of data, commonly referred as “triangulation” by mixed methods researchers, has been found useful in terms of allowing more nuance and validity. No single method or dataset can provide a comprehensive understanding of the phenomenon under study so the employment of two or more data sources and methods will give access to different perspectives and ways of thinking (Torrance 2012). For researchers who are concerned with bias in the course of knowledge production, whether it is from gender, class, or race, triangulation also affords a degree of reflexivity that often facilitates the uncovering of voices that may be neglected or devalued otherwise (Hesse-Biber 2012). Given the complexity of the issues intertwined with traditional food markets in Chinatown and their implications for social justice, the inclusion of diverse experiences and perspectives is essential.

Interview participants profile

Despite my efforts to be age and gender conscious, all of the seven community stakeholders I interviewed are men in their middle to late adulthood. By contrast, among the 32 participating market vendors, women slightly outnumbered men, consistent with the gender pattern in Chinatown marketplaces. With a few exceptions, the market vendors I've recruited are all in their 40s to 50s: although these people are not typically considered as prime-age labor force for manual work, they tend to be the only option for small family-run food businesses. With regard to market experience, the longest-running business in my sample has been in Chinatown for 53 years and the newest one just started about two years ago. A similar variation was also observed in the amount of time that interviewed market vendors have spent in the United States and/or in the state of Hawai'i. Reflecting the demographic pattern of Chinatown, all but two of my interviewees are Asians. The two non-Asian interview participants are white, with affiliations with community organization and state government, respectively.

Findings

Echoing the extant literature on traditional food markets (Goldman, Krider, and Ramaswami 1999; Gorton, Sauer, and Supatpongkul 2011; Huang, Tsai, and Chen 2015; Imbruce 2015; Khojasteh and Raja 2017; Minten and Reardon 2008; Schipmann and Qaim 2011), interviewees in this study confirmed the various disadvantages that market vendors face in maintaining and expanding their businesses in Honolulu's Chinatown, especially in comparison to large supermarkets. My findings reveal that unfriendly zoning ordinances, outdated market infrastructure, unsafe shopping environment, low political visibility, poor community cohesion, and limited business training appeared to be major problems that have prevented Chinatown's

traditional food markets from scaling up and serving more populations in need. As will be explored in greater detail below, together these issues underline the persistent economic, political, and cultural inequalities that minority groups face in a food system that tends to systematically prioritize homogeneity, efficiency, and profitability at the expense of heterogeneity, thus having indirect impacts on the health and well-being of ethnic minorities.

Zoning Ordinances, Infrastructure, and Shopping Environment

During the interviews, the frequent association between traditional food markets and an unpleasant shopping environment was a recurring concern voiced by both market vendors and community stakeholders. In contrast to supermarket chains that are well-known for their clean and neat shopping spaces, often times traditional food markets are portrayed as “dirty” and “unorganized” (Goldman, Krider, and Ramaswami 1999; Imbruce 2015). As a result, the latter has a high risk of losing customers who would have benefited from the access to cheap and fresh foods. “*Chinatown has the best produce, but people are afraid to come here,*” said one vendor (Ann, vegetable and fruit vendor).

To make sense of Ann’s statement and customers’ concerns about shopping in Chinatown—be they hygiene or display or other reasons—it is essential to understand how and why Honolulu’s Chinatown has come to face its current conundrum. A multiplicity of factors have to be considered. First, established in the nineteenth century with the arrival of groups of Chinese laborers recruited by sugar plantation owners (Center for Labor Education and Research at University of Hawaii-West O‘ahu), Chinatown is one of the seven special districts in Honolulu that are subject to numerous special design regulations. To maintain the characteristic appearance of the historic buildings in which the markets reside, the city’s land use ordinance not

only restricts their maximum height, but also requires that development projects in the area use designs and building materials (preferably brick and stone) that complement existing structures. “Styles and detailing inappropriate to Chinatown's period of significance, which is from the 1880s to the 1940s, shall not be permitted.” (Office of Council Services, City and County of Honolulu). Zhang, a fresh produce vendor who immigrated from China, shared with me her frustrations as she found these zoning ordinances are detrimental rather than beneficial to the area’s economic viability.

How do I say this? China is so much better than here. My hometown, Zhongshan, is so clean, but here looks awful. It [Chinatown] used to be better, but it got worse these last few years. It’s so outdated and they [government officials] don’t care. You know, in China they say, when someone dresses neat, it makes you feel better. And ugh, here things are so dirty. People see that, get scared, and they won’t buy anything.

Ian, who manages a low-income housing facility above one of the traditional food marketplaces in Chinatown, expressed similar concern based on his experience working with market vendors and vulnerable populations.

I got it, you want to keep that little, street market feel, but you know what, it’s too bad that people don’t buy it anymore. My wife won’t buy off a piece of cardboard handwritten. People don’t need that, this is not China, rural country China where poor people are on the streets with dirt and dogs running around. This is not the country-side. This is freaking America, a powerful country, [and Honolulu is one of the] top 3 cities in the country. The highest rent, Honolulu, New York, San Francisco, we are in that realm. We got Tiffany’s. We got LouisVuitton. We got Prada. We got Chinatown that should elevate themselves a little bit.

For Ian, it is not the act of imposing special rules on historic buildings, per se, that is

problematic; after all, historic preservation has invaluable benefits to community economic development and sustainability (Phillips and Stein 2013). What unsettled Ian is a mismatch between meeting local needs and meeting city planning objectives, that has been similarly observed in the supermarket-centered approach to food access expansion (Imbruce 2015). Without an accurate understanding of the neighborhood's cultural heritage, special design rules will unlikely highlight or preserve the historic charm of Chinatown. Instead, they may back fire and reinforce existing stereotypes that people have about shopping in ethnic spaces (Gold 2010). For private investors who are only interested in high returns, unfavorable customer perception is not a positive sign because it can translate into low foot traffic and potential loss. Pan, a long-time community activist, attributed the low desirability of Chinatown among domestic and international investors to the special zoning regulations.

When people look to invest in Honolulu, they do not look at Chinatown, no no no, they look at, maybe Kapiolani Blvd...there has not been one person I know, who told me that 'I wanna buy property in Chinatown'. I wish I could convince them, but, yeah it's too outdated for them...limited in a lot of ways. Like Wo Fat, no parking, and it's the highest they can go, it's not like some city properties where they can go as high as 20 stories. And if a private sector comes in and does that, they may approve it, but you have to keep the, the historical façade, and that costs a lot of money.

As reflections of private investors' reluctant involvement in Chinatown, basic infrastructure, such as parking and air-conditioning are largely absent from traditional food markets in the area. Tim, who grew up in Chinatown and still guides food tours there for a non-profit organization, explained how inconvenience related to parking can turn people away from shopping in Chinatown's food markets and to other places with better amenities.

One constraint I think would be...the access...that there would be people who shop here.

Parking is difficult, or people perceive parking to be difficult, so...they'd not drive in, and

that has led to things like, you know about what they call the Chinatown market in Kalihi?

You are aware of it? They have a big parking lot, so there's an awful lot of people who live in

that neighborhood or who would frequent that because they can park. The selection is not as

good. You know there are not as many vendors, you don't have as many choices, but because

it's more convenient, so I would say access is one issue.

Although in a few customer surveys done in Asian societies, traditional food market visitors prioritized food quality and freshness over shopping atmosphere (Huang, Tsai, and Chen 2009; Gorton, Sauer, and Supatpongkul 2011), other studies report a growing similarity with respect to shopping preferences between consumers of different social and cultural backgrounds (Davis 2013; Webber, Sobal, and Dollahite 2010; Yi and Gim 2018). In other words, the physical characteristics of a food retailer have been and will continue to be a significant influencer of consumer satisfaction. Therefore, together, the outdated infrastructure and limited outside investment form formidable obstacles for small food business owners in Chinatown. Without new investment, the already-aged infrastructure will continue to deteriorate; as less and less people choose Chinatown for their grocery shopping due to poor access to parking and other facilities, the likelihood for traditional food markets to get an upgrade will only get slimmer. At the same time, supermarkets and other food retailers with nicer shopping environments are prepared to absorb the outflow of customers, further threatening the already-limited market share for small traditional food markets. Rather than a problem unique to Honolulu's Chinatown, this mirrors the general pattern in the global food retailing industry. Such a disinterestedness or distrust in traditional retailers' ability to change also corresponds to the positivist approach to

food retail modernization, which endorses only one retail model—typically characterized by supermarket chains—and views it as the ideal format (Goldman, Krider, and Ramaswami 1999).

Homelessness, Crime, and Political Resources

Other than unfriendly zoning ordinances and outdated infrastructure, another major hurdle for introducing more foot traffic to traditional food markets in Chinatown has to do with the neighborhood's poor safety reputation. Formerly a red-light district during the plantation era and World War II, Chinatown in Honolulu has largely transformed itself over the years with continuous revitalization efforts. Aside from being home to an immigrant community of fresh produce markets, the historic neighborhood also hosts dozens of hipster restaurants, boutique stores, and art galleries, attracting visitors from all walks of life. Yet, in some aspects, Chinatown is still haunted by its scandalous past. Drugs, gambling, prostitution, gang activity, and related crimes have made it a frequent headliner of local media, as well as an attractive destination for homeless people across the island. To be fair, homelessness is a grave problem even outside of Chinatown. According to the Point-in-Time count conducted by Partners in Care—a state coalition of dozens of non-profit organizations: as of January 22, 2018, there was a total of 4,495 homeless persons on the island of Oahu, among them 2,145 were unsheltered (June 2018). Consider that in terms of a ratio of 45 people per 10,000 who experienced homelessness on the island in 2018.²¹ By contrast, the national average was 17 per 10,000 (U.S. Department of Housing and Urban Development 2018). To combat the problem, both the county and state governments have taken multiple regulatory and economic approaches for homeless prevention and intervention throughout the years. However, even with the passage of a controversial law banning sitting and lying in outdoor malls in Chinatown in 2015, the issue of homelessness

²¹ The American Community Survey estimates the overall population of Honolulu County in 2017 as 988,650.

persists.

Interestingly, when interview participants complained about the presence of homeless people in Chinatown, only in rare cases were they speaking about their own experiences. “*Homeless hide in the market and then they steal, they steal from me every day. See this? I have to put a lock on my fridge*” (Opel, meat vendor). Other than Opel and two vegetable vendors who claimed to be victims of theft committed by homeless individuals, the rest of complainers relied on either anecdotes or testimonials from other small business owners and market shoppers in the area. This explains the vagueness of statements like “*Homeless people sleep on the street and pee everywhere, making Chinatown very dirty. And customers are scared away*” (Shan, vegetable and fruit vendor) and “*Homeless is the number one problem, customers see them outside and they tell me*” (Rumi, meat vendor). In other words, based on the narratives from interview participants, it is not direct interactions with the homeless per se that upsets people, but the mere presence of homeless individuals on the streets and in front of businesses.

To be clear, I have no intention of trivializing the potential problems caused by a concentrated presence of homeless people in Chinatown. Being homeless has long been studied as a negative social identity that is stigmatized and devalued, and this study is no exception (Rayburn and Guittar 2013). What is particularly worth noting here is the seeming lack of empathy toward the homeless from a similarly stigmatized social group and the latter’s sense of powerlessness in terms of seeking meaningful changes. As a key member of a local business and community association, Frank has been meeting regularly with city and state officials to improve Chinatown’s economic climate. “*We have monthly meetings to discuss events and problems in the community, but high-profile people don’t show up.*” Ian, who has been similarly volunteering for another community organization, echoed Frank’s description of Chinatown’s low political

visibility. *“Politically, it’s a small sector, small that nobody really complains, things have gotten by all these years, things have been ingrained, ahh don’t change the wheel, it’s been rolling, not reinvented. I worked here going on ten years. No changes, in the last ten years, it got worse.”*

Richard, a government insider with years of experience working with community advocacy groups, shared both Frank and Ian’s frustration.

Let me put it this way, people would be screaming if it’s in another neighborhood.

Chinatown is a safe zone, you go there and you can do anything and no one is gonna complain. The homeless, they don’t come just for social services, but it’s easier for them to stay. Someone drop his pants and pee, if there’s Waikiki, you have to do something but it’s not, Chinatown is a place they can fit in.

But he was also honest with the challenges involved in working with immigrant constituents, who often lack both the language or cultural familiarity to navigate the American political system.

People complain all the time, but there is a significant immigrant population in Chinatown, who don’t know who to complain to or they work all the time. Chinese, Cantonese usually, Korean, they work 14 hour jobs they just don’t have time to. Language-wise, they also have disadvantages. I mean, there are a lot of people who care about it. When you work on neighborhood issues, if the neighbors themselves don’t complain about it, don’t have a political sense, or don’t realize they have power, there’s not much you can do to help.

While a confluence of factors may contribute to the uneven distribution of homelessness across zip codes, a lack of political resources among Asian Americans and Asian immigrants in Chinatown deserves special attention. In the United States, Asian people are commonly perceived as a model minority with high socioeconomic success (Ecklund and Park 2005; Lien

2010; Wong, Lai, Nagasawa, and Lin 1998). Aside from masking any potential within-group heterogeneity, this stereotype also contributes to a rather limited understanding of the paucity of political resources in Asian communities and underlying reasons (Logan, Darrah, and Oh 2012; Wong, Lien, and Conway 2005; Xu 2005). Even less is known about Asian immigrants when it comes to political participation and civic engagement. In the general literature on the relationship between political activity and immigration, scholars identify legal ineligibility (Ramakrishnan and Bloemraad 2008), lack of political education (DeSipio 2011), cultural indifference to politics (Uhlaner, Cain, and Kiewiet 1989), poor knowledge of the regulatory environment of the host country (Khojasteh and Raja 2017), and a limited understanding of the English language (Barreto and Munoz 2003) as major hindrances to immigrants' active participation. In addition, many immigrants are low-wage workers who often work long hours (Capps et al. 2003), which means they do not have the time nor resources to be politically active. The political weakness of Honolulu's Chinatown thus presents a particularly interesting case as it highlights the precarious position of Asian immigrants in spite of the high Asian American concentration in Hawai'i (Wong et al. 2011). As a result, the disproportionate presence of homeless people is likely to persist in Chinatown, further reinforcing customers' reluctance to shop from traditional food markets for fear of the neighborhood's poor safety reputation.

Lack of Community Participation and Social Cohesion

Studies of race and ethnicity differences in political participation sometimes report relatively higher levels of involvement in community organizations than political organizations among ethnic populations (Uhlaner, Cain, and Kiewiet 1989; Verba, Schlozman, Brady and Nie 1993). But in most cases, the two forms of participation are closely related: membership in community

or civic organizations is essential to immigrants' political engagement in host societies, as it equips immigrants with the necessary political literacy and skills that they lack from limited interaction with formal politics (Ramakrishnan and Bloemraad 2008). Unsurprisingly, as community stakeholders described the low political influence of Chinatown, they also noted the reluctance among traditional food retailers to get involved in community issues.

We try but we can't get anybody to side. These people won't listen. Paul asked for five bucks or ten bucks from everybody, put in, chip in to buy bars for the window, after somebody threw a brick, so that people don't come in and steal. Nobody gave him money, five bucks, ten bucks, no unification. We are not talking about hundreds and hundreds. (Ian)

To be fair, when it comes to the community engagement, the same hurdles that keep immigrant entrepreneurs from participating in formal political activities discussed above may also apply. However, out of the 32 market vendors I have interviewed, only one mentioned working with community organizations to improve traditional food markets in Chinatown. Upon further prodding, the rest either said they have never heard of such organizations or attributed their inactiveness to time/money/language constraints. *"I am not part of any association, because I don't have time for them. You know you have to attend the meeting, things like that, right?"* (Suzie, vegetable and seafood vendor). Even though Suzie's response sounded typical compared to that of her fellow market vendors, it may not always be the case in the long historic course of Chinatown. Hu, president of an ethnic organization for overseas Chinese in Hawaii, bemoaned how the lack of social cohesion in modern-day Chinatown was nothing reminiscent of its past, when people cared about each other and their community much more despite a comparatively small ethnic presence.

Back then laborers will go back to the stores to collect their letters, old man who cannot write, so they [small food store owners] help write the letters, send money back, many of the local stores held an important job and be the link between community. Now you look at it, nothing more than turning a profit. No more comradery, nowadays. Those village stores, connections, those things are gone, you go to a Chinese store, you buy it or not buy it, it's purely economic; when I was young, I remember those Chinese laoban [business owners], they are very respectful. Jewelers, herb stores, we always see old people sitting in wheelchairs and read newspapers, nobody treat them like rubbish and they take up space, they [business owners] respect them, very nice...Now, you as a customer, buy or get out, people don't hang around.

To an extent, Hu's account corresponds to an important argument put forth by social science scholars that there is no "monolithic Asian American block" in the United States (Junn and Masuoka 2008:730). Aside from diverse national origins, languages, and religious beliefs, vast difference between newer and older immigrants also exist. These differences are often overlooked or even intentionally avoided because they are hierarchical, political, and "too challenging" (Natcher and Hickey 2002:351). However, in light of the large waves of migration from Asian countries recently, a more accurate understanding of their within-group differences is becoming ever more urgent. For Jeff, who leads another ethnic community-based organization in Chinatown, the growing internal diversity among Asian immigrants and Asian Americans may be responsible for their indifference to community engagement.

There are many organizations like us in Chinatown, many...all kinds of organizations, based on kinship, clanship, family, or even villages back in China. Say you have a last name Chang, you go to the Chang club. Then you have Fujian people in Fujian club. It's basically

impossible to get everyone together, you know. And everyone wants to be in the leadership role, all the organizations....so there is no unity, no common goal.

As mentioned earlier, traditional food markets in Chinatown are mostly owned by immigrant entrepreneurs from Asian countries, including, but not limited to China, Vietnam, Philippines, Laos, and Thailand. To accommodate their diverse and perhaps contradictory interests, numerous organizations have been formed. Yet, rather than strengthening community resources and engagement, the fragmentation and disconnection among organizations distracts people from committing time and resources to address pressing public issues. In this case, a multicultural perspective might help Chinatown's traditional food markets with regard to community building; a multicultural community combines "difference" and "unity", standing in contrast to a monocultural community that only sees similarity among members and a pluralist community in which different groups act on their own interests (Checkoway 2011:ii7).

Niche Market in a Changing Time

Immigrant entrepreneurs operating traditional food stores benefit greatly from their co-ethnics' desire for culturally-preferred foods and personal interactions in native languages (Khojasteh and Raja 2017). Taking a different perspective, though, these comparative advantages can also become disadvantages. Noticing the rapid loss of the mother tongue and traditional food ways among second- and third-generation immigrants, some interviewees revealed their concerns for the future of traditional food markets in Chinatown.

Yes, there are squash. There are certain things that nobody else has. Costco doesn't sell donggua. Costco sells watermelon. Okay, don't go. So different people, different culture,

different...older generation, immigrants might need it, so immigrants want to buy donggua. But the future generation, our kids are gonna eat hot dogs, versus eating a donggua soup (Ian).

I don't think they [younger generation of immigrants] have the need to [shop at traditional food markets in Chinatown], because supermarkets offer what they need. You see, the appeal of Chinatown is that you can get things at a much better price, because there's no waste at refrigeration, they lay out boxes on the streets...I don't care, I don't have problem [with that], but my children would rather stop shopping at Chinese style markets, old fashioned open air style, no parking. They cannot get away from work, younger generation have long long working hours. I have nephew who works at Chinatown and walks five blocks to Chinatown to buy and he's the exception; they just don't have the time to do. But even if they have the time, their taste is different, they are bought up in a super-market environment. (Hu)

Being a 3rd- and 5th-generation immigrant respectively, Ian and Hu reflected upon how their shopping habits have changed as modern supermarket chains came to dominate the local food retail landscape. Compared to their parents and grandparents, Ian and Hu shop significantly less at the traditional food markets in Chinatown. As a matter of fact, their children and grandchildren will be even less likely to shop in Chinatown due to lifestyle changes and/or assimilation into American culture. According to Junn and Masuoka (2008), Asian Americans tend to be more economically, socially and residentially integrated with whites than blacks and Latinos. Consequently, they generally exhibit less willingness to live and shop in ethnic enclaves. The following narratives from immigrant market vendors also confirm the diminishing patronage from their co-ethnic peers.

Back then [when the marketplace first opened], there were more vendors and each has

smaller space. Business was much better, I had four staff and two cashiers, and now it's just me. Before, every day we opened at 6 A.M. and closed at 6 P.M., and this place is still packed with people [at the end of the market day] (Kim, vegetable stall vendor).

Oh I definitely noticed our business got so much worse in the last few years. We had really great business when I was first here [seven years ago]. Every day we had long lines of customers going, all...the way to the corner of the street. Now? We barely have any customers after noon. (Lin, roasted meat vendor).

To accommodate declining sales and reduce overhead cost, Lin and many other market vendors in Chinatown have chosen to shorten their business hours. Yet, not everyone could afford to do so and in the long run it will possibly hurt the viability of traditional food markets in Chinatown.

Admittedly, different ideas exist with regard to the future of Chinatown food retailers. Tim, one of the only two white respondents I interviewed, was more concerned about how to effectively publicize traditional food markets in Chinatown so these small businessmen can have a much wider market niche. For Tim, the continuous flow of new immigrants will help sustain traditional food retailing in Chinatown, but for it to improve and thrive then more public attention and foot traffic are needed.

The real problem is, I don't think there is any, I don't know if there's any effort to...umm promote it. You know I mean Ala Moana, Kahala mall, there's, there's a...management company that promotes it, you know they put ads in the paper, you have social media, they have all the staff. The people I bring on tours, there are a lot of them that live here, five or ten years, and they just never knew where to go. When I go round, I show them, we stop and we try this we try that, you know they see these things, and you know they say, "oh wow, boy I

always hear this,” they say, “you know I’ve only been down here once or twice, I never knew where to go, now I know what I can get down here.” You know, people don’t ever know about that unless they get introduced to it, so I think there’s you know, no promotion, partly because you know it’s all these independent little vendors many of them with different backgrounds, many of them without the kind of consciousness about promotion that they, customers come to them, and that’s...they are busy, you know with family run businesses they don’t have experience and any of the things that would help them to promote their business, they just do what they’ve been doing, don’t have the time or inclination.

Again, Tim’s comparison between modern shopping malls and Chinatown highlights the severely limited resources that traditional food retailers have when it comes to self-improvement. On one hand, traditional food markets attract low-income and ethnic minority consumers for their provision of diverse foods at competitive prices, which is usually made possible through “utilization of family labor” and “low profit margin” (Short, Guthman, and Raskin 2007:361); On the other hand, with most of their waking hours devoted to greeting customers, managing inventory, and completing transactions, small traditional food retailers rarely have the know-how to improve their businesses. Like Tim, Ian agreed the lack of professional knowledge has been hurting traditional food retailers in Chinatown, but he focused more on the haphazard business model than poor publicity.

I think it’s the new immigrants, I do well, and you come in, you and your husband come in, you wanna buy a business, I give it to you for 50,000 bucks and I walk, I’m now happy with my 50,000, 40,000, whatever the figure is, I walk out I’m gone, okay, go back to China or whatever. And all of a sudden you and your husband take over, it’s like here is a new opportunity but you may put more into it or you may put in less, you work six, seven days a

week almost ten hours a day, you have no time to figure out your business anymore, what you do is basically unloading the boxes, pay the bill, collect and pay yourself and hopefully maybe one or two other workers. It's...it's a sad thing, these people don't, it's new people, it's only getting worse.

In theories about immigrant entrepreneurship, social networks and ethnic group resources are deemed essential (Oliveira 2007). But the narratives above caution against equating social connections with access to effective business training and mentoring. Although immigrant entrepreneurs of traditional food markets in Chinatown do occupy a niche market within the food retailing industry thanks to their business acumen and ethnic knowledge, their insufficient capability to develop and retain an effective business model during ownership transfer can have direct negative impact on the sustainability of their businesses. By contrast, backed by a multi-billion-dollar industry, owners of modern supermarkets have much easier access to all the necessary financial and technical resources that help them grow and succeed.

Discussion

Despite their occupational and socio-economic differences, in most cases the two groups of interview participants held similar views and reinforced each other's concerns. For example, stringent zoning regulations and stereotypical assumptions of an unsafe environment—two common barriers deemed responsible for supermarket absence from underserved neighborhood (Hagan and Rubin 2013)—were reported as major challenges faced by traditional food markets in Honolulu's Chinatown by both groups. But the research participants' answers somewhat diverged with regard to the specific strategies that should be utilized to surmount the multiple disadvantages of traditional food markets in face of supermarket dominance. Briefly, while

community leaders and policymakers were inclined to put immigrant entrepreneurs through more political education and business training to improve their low political visibility and small market share, few traditional food market vendors considered that necessary. In fact, most of the market vendors I interviewed perceived themselves nothing more than owners of small food businesses in Chinatown; by paying rent for retail space, they are supposed to receive services rather than devoting time and money to address problems in the marketplaces. This explains their generally low interest in participating in research projects, and to an extent, may also be held partially accountable for the near-absence of immigrant food entrepreneurs in the literature. Even though these people are “producers of alternative practices” by connecting at-risk populations with affordable, nutritious, and culturally preferred foods, they do not make such claims nor advertise their practices (Imbruce 2015:3).

To understand why traditional food market vendors generally exhibited passivity toward business improvement, we have to revisit the same set of factors holding them back from becoming more competitive in the American food retailing industry in the first place. As discussed above, on one hand, legal status, cultural difference, language barrier, economic pressure, and long work hours may all impact the time and resources that immigrant entrepreneurs can afford to devote to improving their political, community, and business profiles. On the other hand, poor political visibility, low community cohesion, and lack of access to business training and mentoring have in turn negatively contributed to the disadvantageous position of traditional food market vendors, and will likely continue to subject them to marginalization if no changes are made.

But it is too soon for traditional food market vendors and their allies to call it a lost battle. Even though the key to uplifting traditional food markets from their current precarious position

lies in the eradication of structural inequalities, numerous opportunities exist for us to improve the competitiveness of these types of businesses so they can be included in future food access and food security interventions and serve more populations in need. For example, encouraging more research on the obstacles and challenges of traditional food markets may serve as a starting point. As we can glean from the distinctive views held by the two groups of research participants discussed above, even with years of experience working and living in Chinatown, community stakeholders still appeared to underestimate the level of difficulty for traditional food market vendors to take on any additional responsibilities beyond their current market activities. In extreme cases, “incapability” was mistaken as “unwillingness”, further exacerbating the marginalization of immigrants in the food and agriculture literature (Imbruce 2015). More studies on the possible factors hampering traditional food markets’ development can therefore help to move us closer to uncovering business improvement strategies that resonate better with owners of these markets.

For policymakers, they may consider strategizing their future food security efforts by diverting resources from supermarket subsidy programs (e.g., New Markets Tax Credit and Healthy Food Financing Initiative) to traditional food markets. Given that only a privileged few are allowed to participate in a market of limited competition and growing concentration, supporting and improving traditional food markets’ competitiveness not only contributes to a healthier marketing environment, but also benefits ethnic and racial minorities whose access to nutritious, affordable, and culturally preferred foods is already limited. In response to immigrant food entrepreneurs’ insufficient experience with business management and branding, free education or training can also be provided to facilitate attendance. Regardless of approaches, it is essential for us to be conscious of the local food landscape heterogeneity and “the diversity of

real markets and their close kinship with configurations of class and gender”, and in this case, race (Crow 2001:6).

Conclusion

In contrast to their peripheral existence nowadays, traditional food systems once held a dominant position in the United States (Gorton, Sauer, and Supatpongkul 2011). With supermarkets spreading quickly in both developing and developed economies in the second half of the twentieth century, most independently-owned small grocers were either replaced or driven out of business. Instead of benefiting consumers through economies of scale, however, this supermarket revolution has enabled a few large multinational firms taking control of the food retailing market in many countries, contributing significantly to decreased customer welfare and rising food insecurity. In spite of this trend, so far food retail interventions aiming to improve food access and food security still focus primarily on large grocery stores like supermarket chains. Concerned with the approach’s mixed results, recently there has been a refocus of academic attention on the positive potential of non-supermarket food retailers in meeting people’s unmet food needs. In low income and ethnic neighborhoods particularly, researchers report that a mix of independently-owned small stores plays a critical role in connecting local residents with affordable, nutritious, and culturally preferred foods (Lyles et al. 2015; Raja, Ma, and Yadav 2008; Short, Guthman, and Raskin 2007; Taylor and Ard 2015).

Due to the relative novelty of this line of research, currently we have insufficient knowledge regarding the resources and strategies needed to strengthen the competitiveness of these small food retailers so they can be effectively included in food access and food security efforts. To advance this scholarship, I interviewed a total of 39 research participants including 32 immigrant

food vendors and seven community stakeholders from the Chinatown district in Honolulu, Hawai‘i, and examined the various economic, social and political obstacles facing traditional food markets in the area. In addition, field notes, discourse analysis of local news reports pertaining to Chinatown and notes from community meetings were included to enhance validity and reliability of the analysis.

As demonstrated in the analysis and discussion, I find that traditional food markets in Honolulu’s Chinatown suffer from low political visibility and limited community resources, which are largely reflected in the disproportionate amount of deteriorated infrastructure and undesirable social problems in the area. Compared to modern supermarket chains, traditional food markets are also often denied access to professional help with marketing and business development, compounding their precarious position in the current food system. Last but not least, under the pressure to assimilate into American culture, younger generation of immigrants tend to feel unmotivated to patronize traditional food markets, thereby bringing into question the long-term development of these types of small food retailers. Together, these issues expose the persistent economic, political, and cultural inequalities that disadvantaged groups face in a food system that systematically prioritizes efficiency and profitability over people’s health and wellbeing. I therefore advocate for an increased consciousness for local food landscape heterogeneity, and the incorporation of smaller independently-owned food outlets in future food access and food security interventions through more research, policy support, and entrepreneurship education.

APPENDICES

Appendix A:

Descriptive Info of Participating Community Stakeholders from Honolulu's Chinatown

Table 5: Descriptive Info of Participating Community Stakeholders from Honolulu's Chinatown

<i>Name</i>	<i>Organization Type</i>	<i>Role</i>
Frank	Chinatown-based business and community association	Member
Hu	Local ethnic organization	President
Ian	Chinatown-based community organization	Member
Jeff	Ethnic business organization	President
Pan	Community advocacy group	Member
Richard	Government	Politician who works closely with community groups
Tim	Non-profit organization focusing on food justice	Member/Chinatown food tour guide

Appendix B:
Interview Guide Questions for Community Stakeholders Involved in Chinatown
Traditional Food Markets

Basic Demographic Questions:

- Gender
- Age
- Race and Ethnicity
- Job Position

Open-ended Questions about Chinatown Food Markets:

- Tell me about your experience working with food vendors in Chinatown.
- What do you think that brings people to sell at Chinatown food markets?
- What do you think that brings people to shop at Chinatown food markets?
- Do you shop at other food markets in Chinatown?
 - If yes, how often?
 - What do you usually buy from Chinatown's food markets?
 - What makes you choose Chinatown over other places to do your grocery shopping?

Open-ended Food Security Questions:

- What is traditional food to you? Can you describe?
- What do you usually eat for breakfast/lunch/dinner?
- What is a typical breakfast/lunch/dinner in your culture?
- In your opinion, how Chinatown's food markets bring fresh and affordable food to local residents?
- How do you think Chinatown food markets might impact local food security?
- How do you think Chinatown food markets might impact racial and ethnic minority groups with culturally referred food?
- What are the constraints and challenges for traditional food markets in Chinatown?
- What can be improved for traditional food markets in Chinatown to strengthen their competitiveness?

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CONCLUSION

Food insecurity has far-reaching impacts on public health, economy and social sustainability. In addition to caloric and nutritional deficiency, the negative consequences of food insecurity also include elevated risk of mental distress, low performance in schools and workplaces and deterred social development (Gearing and Anderson 2014; Farrell et al. 2018). Alarmed by the global prevalence and magnitude of food security, activists, researchers and policymakers have been undertaking strenuous efforts to ensure that all people—regardless of backgrounds and differences—have stable access to meet their consumption needs for sufficient and nutritious foods. According to the most recent data released by FAO (2019), worldwide over two billion people suffered from varying levels of food insecurity in 2018. To make things worse, climate change is likely to negative impact and exacerbate food insecurity (Wheeler and Braun 2013). Existing evidence suggests that the impacts of food insecurity are not evenly distributed at all; rather, significant differences related to geography, class, income, race, ethnicity, gender and age have been observed (Allen and Sachs 2012; Block, Chavez, Allen and Ramirez 2012; Brown and Getz 2011; Cidro, Adekunle, Peters and Martens 2015; Howard 2016; Skinner, Pratley, and Burnett 2016). Of the aforementioned two billion food insecure people, about 85 percent of them live in the developing regions of Africa and Asia (FAO 2019). Yet, even in developed economies such like the United States, national surveys show that millions of people—predominantly women, children, racial and ethnic minorities, and those of low socio-economic status—still experience difficulty meeting their consumption needs each year (Coleman-Jensen, Rabbitt, Gregory and Singh 2019). The global persistence of food insecurity and its manifestation of social inequality thus underlines the urgency for more effective and responsive solutions to

improve food security, especially among social and culturally vulnerable populations.

In the United States and other economically developed countries, for decades formal approaches such as provision of public social safety nets have been used to ensure that a universal right to food is respected and fulfilled. From this perspective, food security primarily has to do with the welfare state and the satisfaction of collective needs (Richards, Kjaernes, and Vik 2016; Riches 2002). In contrast, ethnic entrepreneurship is generally understood as being driven by the individualistic pursuit of profit, and thus appears irrelevant or even in conflict with efforts to improve food security. When cast on a global scale, these tensions can have unintended consequences that are the topic of interest in some scholarly work (Chua 2004; Kotkin 1993). Although growing, so far research on the connections of race, ethnicity and food security has been insufficient and needs to be encouraged. Throughout this dissertation, I combined various methodologies—including systematic review, semistructured interviews and online media content analysis—to demonstrate how non-economic factors such as race and ethnicity need to be further incorporated in future research and policies to facilitate the achievement of food security across groups. I argue that a tendency to attribute food insecurity to economic insufficiency to the exclusion of non-economic factors may be held accountable for its persistence and intractability world-wide. To account for food insecurity and poor nutrition in the United States, so far scholars have primarily pointed to poverty and obstructed access to supermarkets (Walker, Keane, and Burke 2010). The assumption is that the higher risk of food insecurity that certain populations have is directly linked to their lower likelihood of being financially independent, as well as reduced ability to access food outlets that carry healthy food items. As a result, food assistance targeting low-income individuals or households and retail-based intervention aiming to increase the number of supermarkets in low-income neighborhoods

have become the main areas of emphasis of domestic food security policies and programs (Joassart-Marcelli, Rossiter, and Bosco 2017). While there is no denying that poverty has direct and significant impacts on food security, I argue that by overstating the importance of economic factors, we run the risk of failing to acknowledge the complexity and multidimensionality of food security, to which non-economic factors such as race and ethnicity may be equally significant. Despite ongoing debates, the consensus is that food security consists of at least four major components: availability, access, stability and utilization (Alonso, Cockx and Swinnen, 2018; Citro et al. 2015; Pinstруп-Andersen 2009; Scanlan 2009). In other words, aside from supply, issues like nutritional values, food preferences and temporal dynamics should all be considered in order to gain a complete understanding of food security.

In the following paragraphs, I summarize the key findings from each chapter and discuss how, individually, and together, they contribute to the food security literature. At the end, I identify areas for improvement, based on which I offer directions for future research. Briefly, my analyses show that: 1) existing food security programs in the United States have mixed results in terms of reaching and supporting certain groups whose food needs may be different due to their cultural or social backgrounds (Chapter One); 2) traditional food markets are not only a critical source of affordable, nutritious and culturally-preferred foods for marginalized populations, but also an important site for those who feel emotionally and culturally excluded from supermarkets to socialize and build relationships that may positively impact their food security status (Chapter Two); and 3) in spite of their potential to contribute to food security, traditional food markets face multiple economic, political and cultural disadvantages in terms of maintaining and expanding their businesses (Chapter Three). Based on my findings, I advocate for a greater awareness of the non-economic factors of food security and a higher sensitivity to the

heterogeneous food needs of different groups. Future food security policies and programs are also likely to benefit from a better incorporation of small, independently-owned food outlets that are common in socially and culturally diverse neighborhoods.

Implications Emerged from Individual Chapters

In Chapter One, I conducted a comprehensive examination of major food security programs in the United States through a systematic review of both grey and non-grey literature on food security efforts. My goal was to gain a clear understanding of where we are in terms of food insecurity reduction, and draw implications for future practice and policy toward food security. The persistent food insecurity in the nation suggests that there exists a critical need to map out unmet food consumption needs and programmatic gaps, based on which strategies can be adjusted accordingly to ensure better utilization of available resources and service to at-risk populations. However, current scholarship on food security intervention primarily comes from public health nutritionists and economists, whose work tends to focus on either a particular program or selective dimensions of food security such as nutrient intake in the case of the former or food demand and supply according to the latter (e.g. Burchi and De Muro 2016; Dinour, Bergen and Yeh 2007).

My systematic analysis therefore addressed this limitation and contributed to the food security literature by reviewing and analyzing major food security efforts in the nation through a sociological lens. Particularly, I found that these programs have so far yielded mixed results in terms of reaching and supporting different groups of people at high risk of food security (Barrett 2002; Berner and O'Brien 2004; Dean 2008; Dean and Flowers 2018; Hoynes, McGranahan and Schanzenbach 2015; Hoynes and Schanzenback 2015; Kabbani and Yazbeck 2004; Rosenbaum

2013; Zedlewski et al. 2005), and in some extreme cases, may even produce unintended consequences for participants' long-term health and financial well-being (Cheng 2002; Nelson 2002; Simmet, Depa, Tinnemann and Stroebele-Benschop 2017; Wimer, Wright and Fong 2013). Based on this systematic review of programs, I argued that the weaknesses of current food security efforts are linked to an over-simplified assumption that food insecurity is primarily caused by material hardship, and a subsequent over-reliance on provision of food assistance to low-income populations as the primary solution. In doing so, activists and policymakers run the risk of underestimating the complex formation of food insecurity, as well as missing important opportunities to accommodate the other dimensions of food needs. In short, aside from filling a knowledge gap on domestic food security programs, this chapter also illuminated how the multidimensionality of food security can be operationalized in practice and provided evidence for incorporating non-economic factors in future food security policy-making and programming.

To further explore the consumption needs of vulnerable populations left unaddressed by existing food security efforts in the United States, in Chapter Two I conducted a case study of traditional food markets in the Chinatown District of Honolulu, Hawai'i, with an aim to contribute empirical results to this subject. Instead of following the mainstream approach geared toward consumers where researchers study market shoppers, I chose to focus on market vendors who have years of experiences as well as rich knowledge of selling to and interacting with diverse groups of customers in a multicultural neighborhood. This not only represented a novel method for studying food security, but also helped to uncover perspectives that have been largely understudied. Consistent with extant literature, narratives from traditional market vendors in Honolulu's Chinatown confirmed the irreplaceable role that these markets play in terms of meeting racial and ethnic minorities' demands and preferences for affordable, nutritious and

culturally preferred foods (e.g. Lyles et al. 2015; Raja, Ma and Yadav 2008; Short, Guthman and Raskin 2007; Taylor and Ard 2015). In addition, my analysis also highlighted the critical social functions that traditional food markets serve for those who may feel emotionally and culturally excluded from mainstream food outlets such as supermarket chains (Sullivan 2014). This social embeddedness is often used as a justification for promotion of alternative food outlets such as farmer's markets (Hinrichs 2000), but is rarely discussed in studies of traditional food markets. Therefore, by investigating the varied ways through which access to traditional food markets positively impacts racial and ethnic minority populations' food security, this chapter both demonstrated the significance of race and ethnicity to food security achievement and reduced the stigma often attached to traditional food markets and the food environments of racial and ethnic populations in general (Imbruce 2015).

As an extension of both Chapter One and Chapter Two, Chapter Three sought to understand how to strengthen the competitiveness of traditional markets so they can be incorporated in future food security policies and programs to better serve vulnerable populations, whose food needs are currently left unaddressed. To achieve this goal, I drew on findings that emerged from semi-structured interviews with market vendors and community stakeholders involved in Honolulu's Chinatown marketplaces. From built environment, to political and community assets, to business training, I found that traditional food markets face multiple economic, social, and political disadvantages to scale up despite their current niche position. In sharp contrast, supported by loosened anti-trust laws and accelerated economic integration occurring around the world (Howard 2016; Sheldon 2018), supermarket chains now hold the majority of market share of the domestic retail grocery sector (Xia and Sancewich 2018). Because of their extensive networks and significant economic impacts, these markets have been the preferred recipients of

retail-based support for food security, and continue to receive attention both from the academic and policy communities (Balsevich, Berdegue, and Reardon 2006; Wiegel 2013; Reyers et al. 2016; Vetter, Larsen, and Bruun 2019). I argued that this prioritization of supermarkets to the detriment of traditional food markets is reflective of a culturally-insensitive assumption that people rely on the same food outlets to meet their food needs (Hagan and Rubin 2013; Taylor and Ard 2015; Vetter et al 2019; Yousefian, Leighton, and Hartley 2011). It also reflects the precarious position of minority groups in a food system that systematically prizes homogeneity, efficiency and profitability over people's health and well-being (Howard 2016). In this context, persistent structural inequalities along both racial and economic lines have to be addressed to uplift the disadvantageous condition of traditional food markets and minority populations. But before that can happen, this chapter contributed knowledge with regard to the resources and strategies needed to strengthen the competitiveness of these small food retailers so they can be effectively included in food access and food security efforts.

Implications for Future Research

As a sociologist, I am passionate about understanding, exposing and reducing structural discrimination and inequalities embedded in our current agrifood system. Throughout my work to date, I have been exploring particularly the ways through which race and ethnicity can be incorporated in existing work to enable an expanded notion of food justice. In this dissertation, I problematized the current economy-centered approach to food security and argue that non-economic factors like race and ethnicity need to be more directly incorporated in food security research and policies to ensure effective reduction of food insecurity across groups. As important as economic resources—such as income—are to the achievement of food security, it is

inadequate to rely on them as the only possible explanation for food insecurity and poor nutrition in the country. As diversity in the United States continue to rise, especially with regard to race and ethnicity, now more than ever we need to stay sensitive to the idea that food preferences and shopping patterns vary significantly across groups (Pinstруп-Andersen 2009; Stroink and Nelson 2012; Skinner, Pratley, and Burnett 2016). Therefore, both economic and non-economic factors have to be considered in order to account for the multidimensional nature of food security and its complex formation in different contexts.

Moving forward and building from conclusions emerged from three individual chapters and across the entire dissertation, my future research agenda will likely include four topics related to issues of race and ethnicity in both theoretical and applied efforts to improve food security and food justice. I. I explain each of them in more details in the following paragraphs.

Food Security Measurement

First, as I have discussed briefly in Chapter One, the tendency to equate economic sufficiency with food security can be observed both in the ways we measure food security and how we implement food security interventions. I have discussed the latter at length throughout the dissertation, but the former also carries important consequences that are worth exploring. Since 1995, the USDA has begun collecting nationwide data on food security through the U.S. Food Security Measurement project (Nord and Hopwood 2007). As a supplement to the Current Population Survey, the Current Population Survey Food Security Supplement (CPS-FSS) uses the U.S. Household Food Security Survey Module consisting of 18 questionnaire items to monitor the food security status of American households on an annual basis (Harrison et al. 2007). Because food security is conceptualized as economic access to sufficient foods in the

module (Nord and Hopwood 2007), the emphasis of the questions is on whether or not research respondents have sufficient money to attain adequate caloric intake. Accordingly, there is no mention of non-economic factors that may hinder food access nor concern for the type of accessible foods. In doing so, the survey and its derivatives undermines the multidimensional nature of food security and bears the risk of underestimating the severity of food insecurity (Wheeler and Braun 2013).

Especially in areas with high concentration of multiracial populations, for example, Hawai‘i, this can be a serious problem. Given that people of different racial and ethnic backgrounds are tied to distinctive histories and cultures, they may use different criteria to define what is adequate food. Similarly, they may also have divergent shopping habits and food preferences that cannot be fully satisfied even when affordability is not an issue (Stroink and Nelson 2012; Skinner, Pratley and Burnett 2016). For example, rice is key to the traditional dietary cultures of many racial and ethnic groups. When a survey respondent grew up eating rice as part of his or her cultural upbringing encounters difficulty obtaining the item, either due to limited store selection in remote areas or lack of transportation to access the stores, he or she will not be considered as food insecure by the survey despite the unfulfilled food needs and preferences. To improve the accuracy of food security measurement, researchers and professionals involved in administering food security surveys may consider incorporating considerations of non-economic factors of food access, as well as other dimensions of food security such as utilization. In other words, in addition to existing questions measuring research respondents’ economic access to food, a few more questions related to food types and food preferences could be potentially added to future surveys to gain a more complete understanding of the prevalence of food security.

On a related and relevant note, policymakers might also consider administering food security

surveys in languages other than English and Spanish to accommodate the growing language diversity in the nation. Since the CPS-FSS is currently only available in English and Spanish, people with no proficiency in either might simply be excluded from the survey or misunderstand the survey questions due to their distinct language or cultural backgrounds (Potochnick and Arteaga 2018). Using existing questionnaire items on hunger, food insecurity and food insufficiency as an example, Alaimo, Olson, and Frongillo (1999) explain how a poorly worded item may cast considerable doubts on the validity and reliability of survey data, given the potential discrepancy between the interpretation of respondents and researchers. Incorporating additional guidance or cognitive testing through more linguistically and culturally appropriate methods is likely to help respondents gain a clearer idea of survey questions, which ultimately contributes to survey validity and accuracy (Farrell et al. 2018; Lyles et al. 2015).

Collection of Quantitative Data on Traditional Food Markets

Another area for future research is related to the collection of more quantitative data on traditional food markets or small food retailers in general to build a stronger case for policy incorporation. Though I consider the qualitative sample used in my second and third chapters to be robust in terms of demonstrating the positive potential of traditional food markets with regard to food security, qualitative data by nature is unable to offer the same type of statistical generalization that quantitative data does and has been subject to constant criticism (Smith 2018). The incorporation of quantitative analysis can thus be used to expand the generalizability of the results from both qualitative chapters and contribute to a greater knowledge about the effectiveness and outcomes of retail-based food security intervention. During my fieldwork, I noticed that people who shopped at traditional food markets in Honolulu's Chinatown tended to

display different shopping habits than typical supermarket shoppers. For example, instead of buying a week's worth of groceries in one trip, those customers seemed to prefer visiting Chinatown marketplaces multiple times a week and each time only bringing home a few items. In addition, visitors of traditional food markets and supermarkets may have different preferences when it comes to purchasing specific types of food items. These observations potentially offer some entry points for quantitative data collection based on which comparative analysis may be completed.

Application of Advanced Statistical Techniques in Food Security Research

As Chapter One suggests, insufficient evidence is actually a common problem for community-level food security programs and may be responsible for their consistent low attention from academic and policy communities compared to those targeting individuals and households at high risk of food security. As a result, our current knowledge of food security impact assessment comes mainly from studies examining the latter and not much is known about the former's impacts on local residents' food security achievement. On one hand, this gap may have to do with the wide variation of community-level food security programs and small across different geographical places, and hence the difficulty for tracking; on the other hand, an insufficient application of advanced statistical techniques in studies of such programs using existing data may also be held accountable.

In order to properly measure the impacts of these community-level programs in specific locations and for specific population groups, data sources from multiple levels have to be brought together and examined. However, despite being much-needed tool for partitioning variances across level and space, so far statistical models such as hierarchical linear modeling

(HLM) and structural equation modeling (SEM) are only rarely used by food security scholars. One exception comes from Bartfeld and Dunifon (2006). Informed by theories that food security is influenced by household resources as well as the state food security infrastructure which conditions the resources available to households, Bartfeld and Dunifon (2006) conceptualize households as clustered within various state contexts, presenting an integrated model that accounts for both household and contextual influences. Denny and coauthors (2018) examine food insecurity in Africa to provide another example: using a structural equation model with latent variables (SEMLV), numerous social, economic, political and agriculture factors affecting food security are assessed together to reflect the complex and multidimensional nature of food security. In light of food preferences' significance to food security, as demonstrated throughout this dissertation, it could be potentially operationalized as a factor in future SEMLV to further capture the multidimensionality of food security among racial and ethnic minorities. More practical applications of HLM and SEM will not only help address a knowledge gap in the existing literature on food security, but also provide quantitative data to further convince policymakers to continue supporting community food environment improvement. For small food retailers such as traditional food markets whose positive impacts on food security long been overlooked and under-supported due to a lack of quantifiable data, this can be especially critical to their incorporation in future food security interventions.

Data Collection Methodologies

Fourth, we will likely benefit from more creative data collection methodologies specific to the immigrant entrepreneur population or for racial and ethnic minorities in general. Generally speaking, immigrant market vendors are difficult to access as they are not only disadvantaged in

terms of socioeconomic and cultural positions, but also tend to be overburdened by time and work. For similar reasons, in most cases they exhibit low interest in participating in research projects that do not appear to bring about any immediate positive change in their current situation. As noted in Chapter Two, this may be a possible reason for the under-exploration of ethnic food networks in food security research. As a result, snow-ball sampling is deemed essential to obtain sufficiently large qualitative samples. In my case, even though I was able to gain permission to interviews with the help of local contacts, empathetic market vendors and my identified ethnic minority group membership, there were several cases where I had to exclude market vendors from my research due to their unwillingness to collaborate. Echoing extant work on recruiting and researching the so called “hidden” populations (Atkinson and Flint 2001; Ellard-Gray et al. 2015), my own experience suggests that adjustments have to be constantly made to ensure the successful completion of research. For example, since traditional surveys or interview questions were impossible due to the nature of market activities, I chose to keep my questions short and only ask them when market vendors were not actively engaged in dealing with customers. For scholars seeking to conduct work on similar topics or in similar spaces, more creative data collection methodologies will need to be identified and tested.

System Approach to Food Justice

Last but not least, to broaden the scope of my research in future work, it seems necessary to combine the food justice approach with system thinking. Taylor and Ard (2015) suggests that we see a neighborhood, community, town or city’s food environment as a system that is under the influences from multiple actors across sectors. So instead of only looking at retailers, various types of players such as farmers and wholesalers involved in Chinatown’s food network in

Honolulu could be potentially examined together to get a more accurate understanding of food security. This way, we do not lose sight of the complexity and multidimensionality of food security, while at the same time are afforded opportunities to study the problem through multiple methods and perspectives. Potential applications of such system approach may also include comparative studies, either over time or across places in the United States where a large minority population similar to that in Honolulu's Chinatown can be identified. Doing so will likely enrich the qualitative findings emerged from this dissertation, as well as contribute to the extant literature on the intersection between food security and traditional food markets.

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