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# Understanding Urban Agriculture as a Food Insecurity Intervention in Jacksonville, FL

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This is to certify that the doctoral dissertation by

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Abstract

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## Abstract

Food insecurity impacts economically disadvantaged communities around the world, including in the United States where over 41 million people experience issues of food insecurity in their daily lives. This lack of access to food can have a ripple effect on individuals and communities in multiple ways, including impacts on mental, physical, and social states of well-being and stability. Therefore, the purpose of this study is to increase the understanding of urban agriculture (UA) as a component of food insecurity assistance. This study focused on the experiences of food insecure individuals with various forms of UA, asking the research question, if food insecure individuals perceive and experience UA as a contributor towards food security. Sustainable development and food justice theory are the guiding conceptual framework for the study. The research design is of the generic qualitative approach, including five semi-structured interviews with food insecure individuals participating in various forms of UA in Jacksonville, FL. Rigorous thematic analysis was used to interpret the data. Overall, the major overarching themes that emerged from the data are 1) Overall positive perception of UA and its potential contribution towards food security for oneself, family, and community and 2) There is a need for more UA in Jacksonville, FL that contributes to food security by providing ample supply of fresh, healthy food, that is affordable and easily accessible, contributing to overall food sustainability. Ultimately, the findings of the study may contribute to positive social change by gaining a better understanding of UA and how it can most effectively contribute towards greater food security in the community.

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# Chapter 1: Introduction to the Study

Food insecurity is "the economic and social condition of limited or uncertain access to adequate food" and is faced by over 41 million people in the United States, including over 13 million children (Ward et al., 2018, p. 400). Food insecurity exists when the availability of nutritionally adequate and safe foods; or the ability to acquire these foods is limited or uncertain (USDA in Ward et al., 2018). Food insecurity can create an array of problems beyond hunger including anxiety, depression, and other health related problems (Nagata et al., 2018). Additionally, food insecurity can lead to adverse family and social issues and buying and eating more unhealthy, inexpensive foods to compensate for hunger (Ward et al., 2018). Food security is having access to safe, nutritious food to maintain a healthy life and the ability to access these nutritionally adequate foods in a socially acceptable way (USDA, 2022). Research documents that food insecurity can partially be attributed to food injustice and the disruption of the natural state of the food supply chain (Bradley & Herrera, 2016; Ilieva & Hernandez, 2018).

In response to this imbalance, urban agriculture (UA) has emerged as an alternate food movement that supports the cause of food security (Ikejima, 2018). Some positive impacts of UA include an increase in local food production, positive social change in the community, and better access to healthier, fresh foods (Stanko & Naylor, 2018). This study will help further the goal of food security by gaining a deeper understanding of how food insecure individuals use and view the elements of UA. This will ultimately help

bridge the gap for the implementation of productive UA programs in the quest towards food security.

Chapter 1 of this dissertation will present a summary of the literature on food insecurity and UA and outline the gap in the research pertaining to this topic. The research problem and research question will also be elaborated on, providing relevant justification for this topic within the human services discipline. The purpose of the study will also be discussed in relation to the overall approach of the study, including the conceptual framework of sustainable development and theoretical foundation of social justice theory. In addition, a synopsis of the nature of the study will be included, highlighting the methodology and data collection methods. Furthermore, definitions of key terms, meaningful assumptions, transferability, and limitations of the study will be highlighted. Chapter 1 will conclude with the significance and implications for positive social change.

## Background

UA continues to grow as a source to support the mission towards food security (Stanko & Naylor, 2018). Due to rising food costs, climate change, and economic issues, UA is becoming a leading strategy in the food justice movement (Dobbins et al., 2020). Research defines UA by in various ways, so it is important to not let terminology hinder the purpose of research (Dobbins, 2020). One broad and universal definition, adapted from the American Planning Association by the University of California and cited by the USDA, of UA is "the production, distribution and marketing of food and other products within the cores of metropolitan areas and their edge" (Dobbins, 2020, p. 353). Although

this meaning is broad, it encompasses a wide range of activities including but not limited to community gardens, commercial gardens, community-supported agriculture, farmers' markets, personal gardens, urban farms, and peri-urban farming on the outskirts of city limits between urban and rural (Dobbins, 2020, p. 353). Other examples include schools, backyard and rooftop gardens and any other innovative food-production methods that maximize production in a small area (Dobbins, 2020; Stanko & Naylor, 2018). UA can also be defined in terms of residential, collective, and institutional (Dobbins et al., 2020). The primary focus of this study was on UA programs that reduce the cost of fresh, healthy food in urban areas.

## Benefits

There are many researched benefits of UA, including increased production of local food, improvement of social relationships, environmental conservation, and community change (Dobbins et al., 2020; Martin & Vold, 2018). According to Amato and Simonetti (2021), UA can create social cohesion and improve food insecurity and climate change. Furthermore, it can indicate sustainability-both environmentally and socially (Amato & Simonetti, 2021).

Despite the benefits of various UA, programs are not as widescale in some cities. Some research discredits UA as not supporting enough caloric intake, and therefore it remains on the sidelines in public policy (Davidson, 2017). Other criticisms include the high costs of implementation on a large scale, potential soil contamination, understanding the most feasible designs, and lack of support from community members (Kaiser et al., 2015). One study pointed out that low-income, food insecure individuals' express

hesitancy about UA due to the uncertainty of exactly what foods would be available for consumption (Haynes-Maslow et al., 2015).

However, research points towards a gap in research on UA and food insecurity. A recent case study conducted on food insecurity and food deserts in Jacksonville, FL focused on low-income families within one urban area and access to healthy food options (Lewis et al., 2018). Lewis et al. (2018) reported little fresh food options in this urban area, compared to other retailers such as convenience stores, dollar stores, and liquor stores. Also, within this one urban community, a large majority did not have their own gardens and very few participated in community gardens (Lewis et al., 2018).

The gap in knowledge that emerged from the Lewis study is the need for future research to focus on potential solutions to food insecurity. The study reported it would also be helpful to understand any economic barriers that may come with these interventions. Therefore, in response to this research gap, this study focused on UA as a potential solution to food insecurity, from the perspective of food insecure individuals in economically disadvantaged urban communities of Jacksonville, FL. This study is needed so that current and future UA programs can address any barriers to providing affordable and locally sourced foods.

## Problem Statement

Food insecurity is a complex issue that is faced by individuals and families around the world, negatively impacting health, and well-being, from young to old (Gilbert & Ashley, 2020). According to Gilbert and Ashley (2020), the USDA defines food insecurity as “a household-level economic and social condition of limited or

uncertain access to adequate food" (2020). This condition of lack of access to food is associated with poverty and disadvantaged communities. Urban areas with higher rates of food insecurity are often considered as food deserts (Hamidi, 2020). A food desert is defined as a geographic region with little or no access to fresh fruits and vegetables (Deener, 2017). Due to socioeconomic impacts, disadvantaged populations may also struggle with lack of transportation and finances, leading to the purchase of unhealthy food options that are more convenient (Hamidi, 2020). Food deserts are known to have an influx of convenience stores and gas stations, where fresh food is not readily accessible. The problem of food insecurity perpetuates a cycle of mental, social, and disease, including but not limited to obesity and diabetes (Hamidi, 2020).

Urban communities that have been able to implement UA initiatives on large scales, such Home Grown in Milwaukee, report many positive benefits for the food insecure population (Pettygrove & Ghose, 2018). Despite the researched benefits of UA, there are many urban communities and food insecure individuals that are not able to use UA and its various forms to source their daily food needs. Therefore, it is significant to understand how UA can best play a role in working towards food security.

## Purpose

I, the researcher, focused on understanding how food insecure individuals view and experience UA and its various components. There was a gap in the research to understand the experiences and perspectives of UA from those experiencing food insecurity. By asking the individuals themselves, local stakeholders will have a better

understanding of the best ways to approach UA initiatives, ultimately contributing to greater food security for the community.

## Research Question

How do food insecure individuals perceive and experience UA as a contributor towards food security in Jacksonville, FL?

## Framework

Sustainable development was the conceptual lens through which to view UA programs related to food insecurity. From a sustainable development theory perspective, UA has the potential to serve as an important component towards food security (Mikalauskien et al., 2018). Although UA may not be able to provide all of one's food needs, the concept of sustainable development is viewed as an integral process (Mikalauskien et al., 2018). Sustainability is an appropriate guiding framework because it targets multiple issues that are experienced in disadvantaged communities, such as one main indicator of sustainability: sustainable production and consumption of food.

The other conceptual lens or framework to view the study is from the standpoint of food justice. Research refers to food justice as a component of social justice, and the ability for all peoples to have access to healthy, affordable food that is culturally viable in each one's community (Bradley & Herrera, 2016). One major component of food justice is food availability, and another major component is that the food be of a quality standard to provide health benefits to the person. UA is viewed as a proponent in food justice because of its association with sourcing fresh, local foods at an affordable price.

Food justice and sustainable development go hand in hand because these theories are based in the re-establishment of a natural food cycle. According to food justice advocates, this natural process has been disrupted by big box retailers, supermarkets, and the mass production of manufactured food worldwide (Ikejima, 2019). Therefore, sustainable development and food justice are concepts that work together to provide a strong foundation for the purpose and methods of this dissertation study. By using this guiding framework, it can best be understood just how UA can best serve this cause.

## Nature of the Study

### Rationale

The nature of the study is based on the generic qualitative research design. The generic qualitative approach is the most appropriate methodology because this study seeks to understand the phenomenon of UA and food insecurity from the perspective of those who are food insecure. According to Pekince and Avki (2018),“ in generic qualitative studies the researcher attempts to understand the meaning of a phenomenon based on the perspective of the participants. Meanings are discovered by concentrating on how individuals build the truth in their interaction with their social environment” (p. 431).

### Phenomenon

Working towards food security is a process, and therefore it is especially important to understand the perspectives and experiences of different individuals in a specific urban area. This study focuses on individuals living in disadvantaged communities in Jacksonville, FL to understand how UA is working and how it can work

better for this population's food security needs. It will provide a broad sense of the UA programs available to residents and help identify what UA programs will be most effective for the community.

**Methodology**

Data was collected through maximum variation purposive sampling of five individuals considered as food insecure in Jacksonville, FL, to ensure broad insight into the topic (Kahlke, 2014; Pekince & Avki, 2018). Participants were selected by reaching out to community members of Jacksonville, FL through social media such as Facebook and Instagram, as well as a paper flyer. Potential participants were given a preliminary informed consent survey about UA, which was used to help select interview participants that meet the study criteria. In-depth semi-structured interviews were used to complete the objective of generic qualitative research: to expose and describe the meanings that participants associate with the phenomenon (Lange et al., 2019).

Therefore, data were analyzed with descriptive analysis (Pekince & Avki, 2018). In comparison with interpretative analysis, descriptive analysis focuses on the participant's own reflections, and remains as close as possible to the original data (Kahlke, 2014). According to Sandelowski (2010), although some interpretation is present in qualitative descriptive analysis, it minimizes inferences to document events accurately (Kahlke, 2014).

The constructivist epistemology of naturalism set the ethical standard for this dissertation study (Kahlke, 2014). As used widely in many descriptive qualitative studies, naturalism is defined as "entailing a commitment to studying a phenomenon in a manner

as free if artifice as possible in the artiface-laden enterprise known as conducting research" (Kahlke, 2014, p. 40). The constructivist, in depth nature of this study sets the foundation to focus intensively on the meaning in the data collection, with less emphasis on quantity of participants. Researchers agree that even a single example can be highly instructive (Boddy, 2016).

## Definitions

*Disadvantaged populations:* A population or community whose health, economic, cultural, or social circumstances produce disadvantage (Mulvale et al., 2019).

*Food deserts:* a geographic region with little or no access to fresh fruits and vegetables (Deener, 2017).

*Food insecurity:* A household-level economic and social condition of limited or uncertain access to adequate food (USDA, 2022).

*Food justice:* The mission to change disparities in today's food system and the social, economic, and environmental problems that occur due to the uneven distribution of power in food production and distribution, with the overarching goal for every person to have access to fresh, healthy and affordable food (Bradley & Herrera, 2018).

*Food security*: People having access to safe, nutritious food to always maintain a healthy life and the ability to access these nutritionally adequate foods in socially acceptable ways (marginal food security) (USDA, 2022).

*Social change*: Advocating for action and policies that promote the health and well-being of the greater community (Kilmer & Mcleigh, 2019).

*Sustainable development*: The ability of the urban environment to meet the social, economic and environmental needs of subsequent generations of residents in terms of security and convenience of living and working, communications, logistics, infrastructure, architecture, and design, with minimal costs for multiple transformations (Elena et al., 2020).

*Sustainability:* The long-term health and vitality — cultural, economic, environmental, and social — of a community. Sustainable thinking considers the connections between various elements of a healthy society, and implies a longer time span (i.e., in decades, instead of years) (Duval County, FL, 2012).

*Urban agriculture*: The cultivating, processing, and distributing agricultural products in urban and suburban areas (USDA, 2022).

## Assumptions

Genuine and truthful answers from participants is one major assumption in the study. Through the establishment of clear informed consent and confidentiality, participants were at ease to share truthful experiences and perspectives (Mattison, 2018). In addition, participants were selected carefully to ensure they were participating with no concerns about sharing information on these topics.

Although there is some degree of uncertainty about UA being sustainable over the long run, agriculture for human survival will never go away. In the event extreme weather destroys UA farmland or crops in one area, there is still potential to implement other forms of UA and connect with other farms and organizations that were unaffected

by such a disaster. Therefore, it is assumed that UA will always be a relevant topic of study.

## Scope and Delimitations

Food insecurity is a multi-faceted problem with a wide range of potential solutions. Therefore, it is important to focus on one component--UA-- as it relates to food security. This specific focus was chosen because of UA's ability to produce and provide access to fresh and healthy foods. And when individuals are faced with food insecurity, research shows a tendency to turn to unhealthy options which over time can lead to further health concerns, such as diabetes and depression (Janzadeh et al., 2020). Therefore, UA is a natural choice that relates to food justice and the right for every person to have consistent access to healthy, affordable food.

### Population

Populations for the study was limited to those who are considered food insecure. This study does not place strict boundaries on income, because depending upon circumstances, food insecurity can exist for those outside of poverty parameters. The study was not limited by race, family size, or gender to gain a variety of perspectives on UA from people experiencing food insecurity.

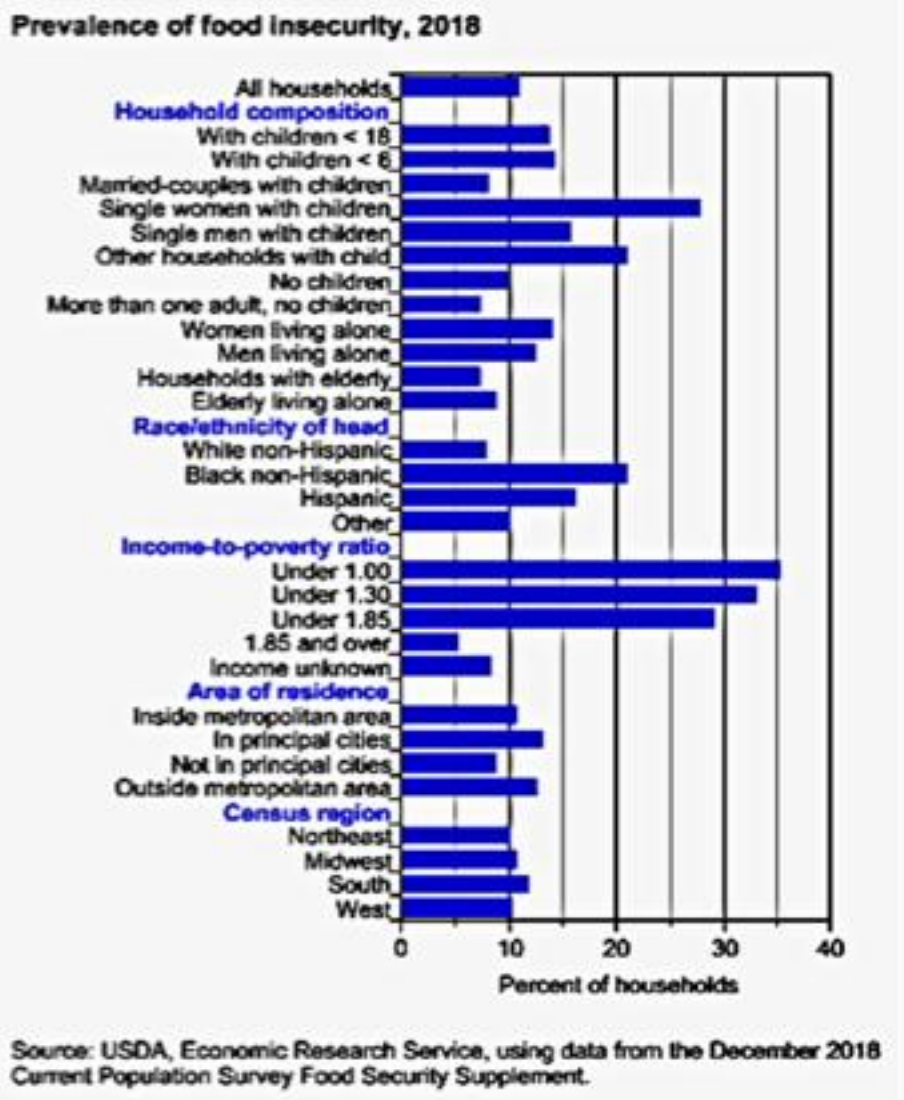
In addition to identifying with food insecurity, participants had to be residents of Jacksonville, Florida and 18 years of age or older. According to research representing the Prevalence of Food Insecurity in the U.S. (2018) published by the USDA, the Southeast region has a higher prevalence of food insecurity than the other regions of the United States (USDA, 2018; see Figure 1). Figure 1 also shows that there is a higher rate of food

insecurity in principle cities. Due to Jacksonville's location as a principal city in the Southeast region of the United States, this study is pinpointing a significant need for this population. In addition, Figure 2 demonstrates Jacksonville's health zones, showing the highest levels of poverty in the Urban Core, and in the areas surrounding the downtown vicinity. Figure 3 also displays that Jacksonville has multiple areas considered as food deserts.

Populations that were excluded from the study were those who did not identify with food insecurity and did not live in Jacksonville, Florida. Future studies may use the perspectives of these populations, such as UA directors and urban farmers; however, this study focuses on the experiences and perspectives of food insecure individuals, filling in an exposed gap in the research. Conceptual frameworks not included for the scope of this research include Food Insecurity and Health, a conceptual framework highlighting the impact of food insecurity on women and specific diseases and similar conceptual frameworks that focus on the analysis food security (Sassi, 2017; Weiser et al., 2015).

**Figure 1**

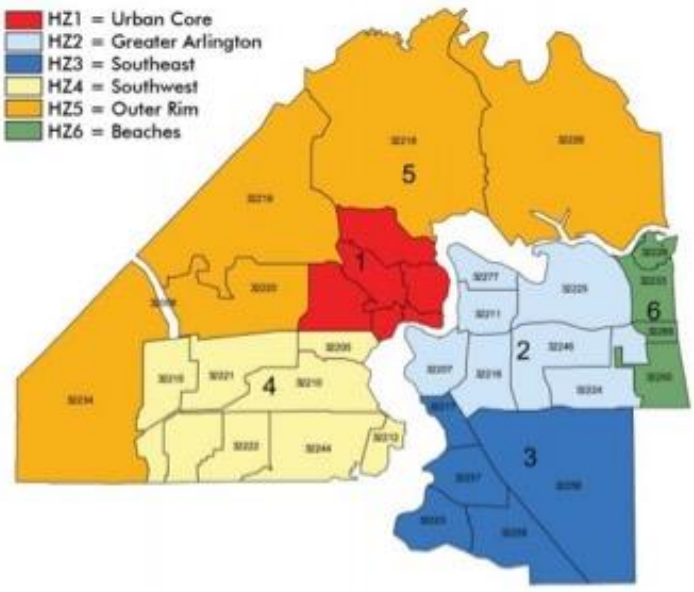
*Prevalence of Food Insecurity in the United States, 2018*




(Coleman-Jensen, A. et al., 2018, p. 20)

**Figure 2**

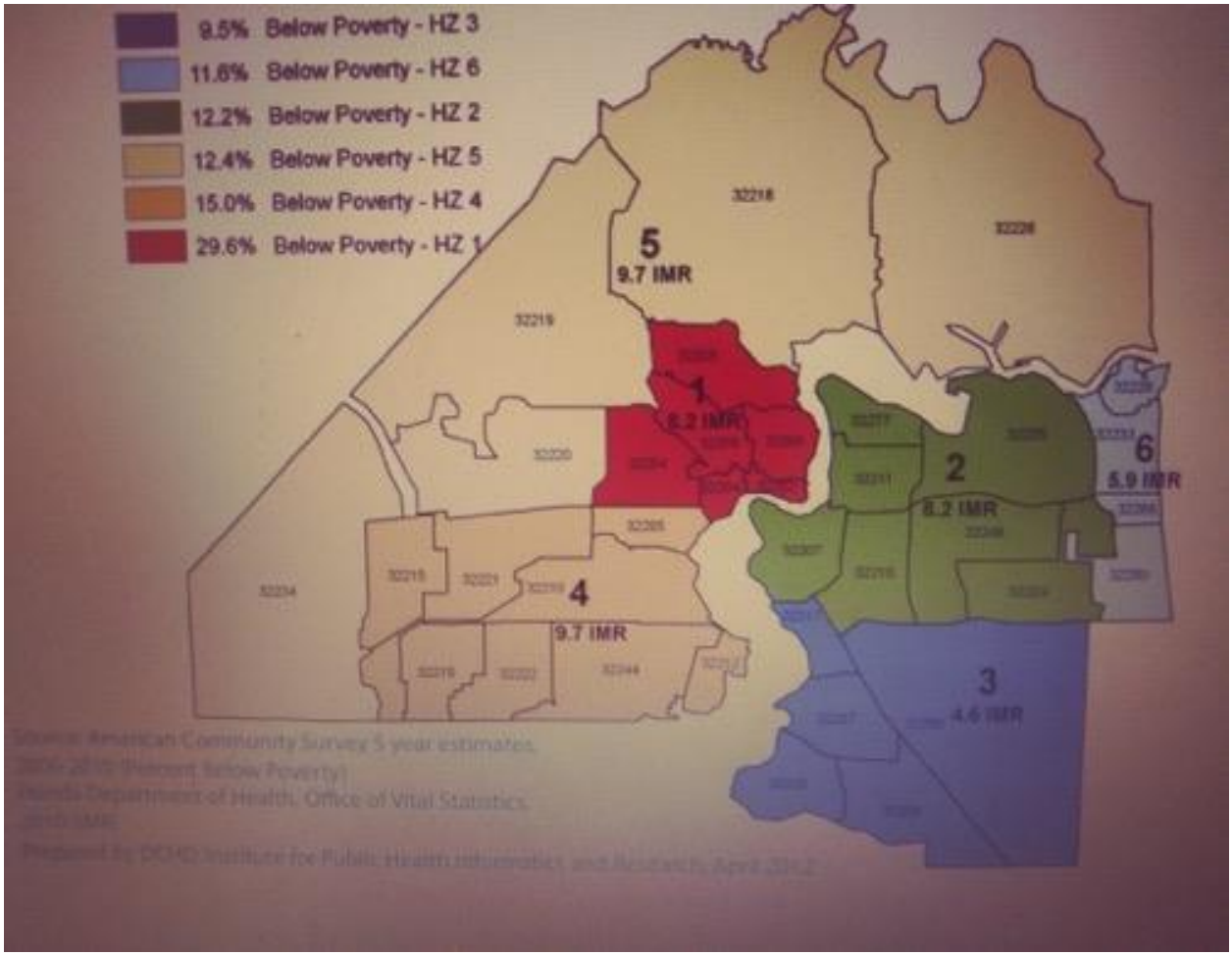
*Health Zones in Jacksonville, Florida*




*Note:* Data from Duval County, Florida (2012). Community Health Assessment & Community Health Improvement Plan, p. 5.

**Figure 3**

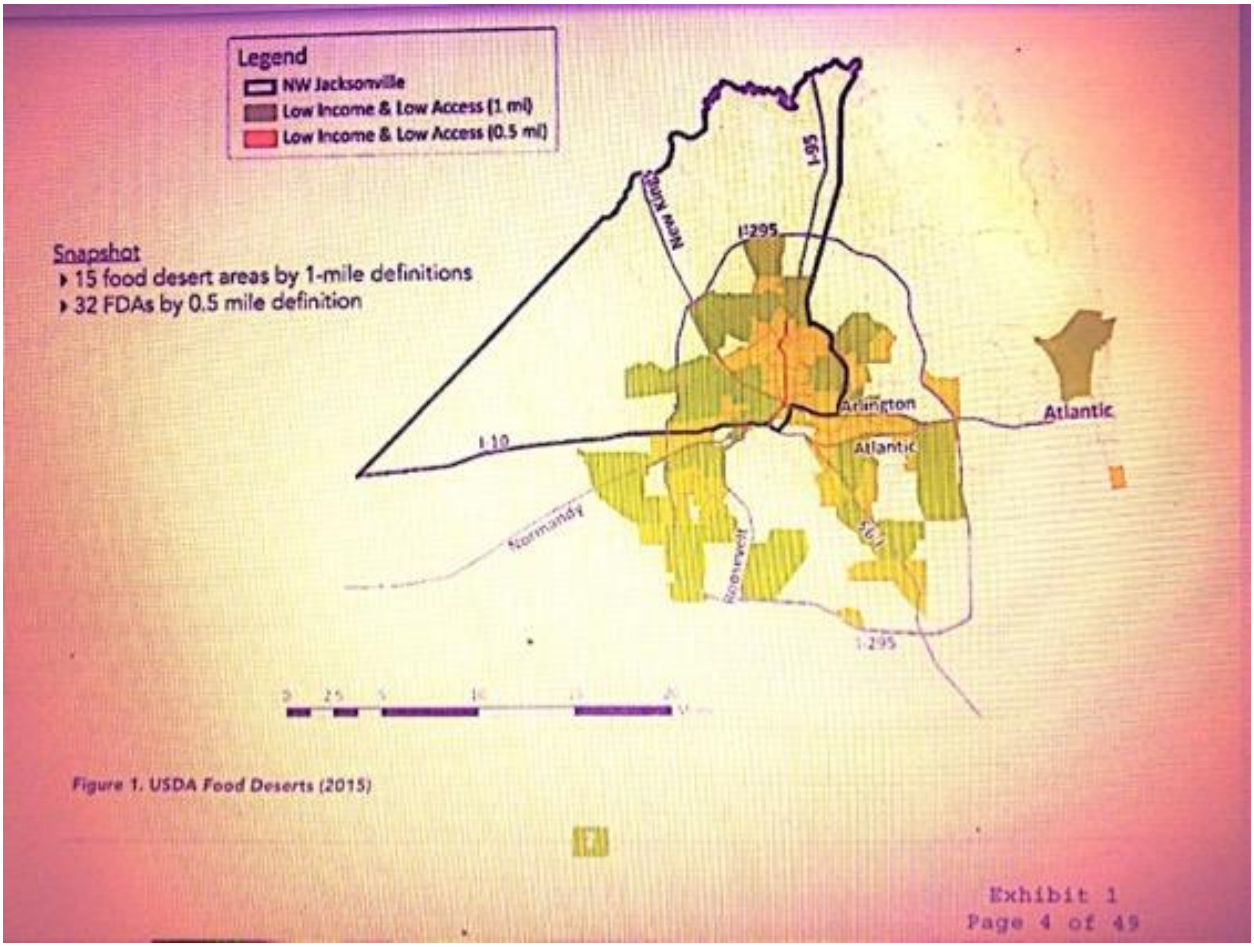
*Percent of Residents Below Poverty in Jacksonville, Florida (Per Health Zone, 2012)*




*Note*: Data from Duval County, FL, Community Health Assessment Plan & Community Health Improvement Plan (2012). American Community Survey, Florida Department of Health, Office of Vital Statistics, 2010 (IMR). Prepared by Duval County Health Department, Institute for Public Health Informatics and Research, 2012, p.30.

**Figure 4**

*USDA Food Deserts, Jacksonville, Florida (2015)*




*Note:* Data from USDA Food Desert Atlas/ USDA-National Agricultural Statistics (2015) in

**Transferability**

One of the main ways quality research can be measured is by addressing transferability. As the researcher, it is important to provide a rich and detailed account of the participant's experiences and the research process, so the reader can use their best judgement and decide whether the findings are transferrable to their own settings (Korstjens & Moser, 2018). Therefore, transferability judgement was taken into

consideration throughout the interview and transcription process to provide detailed descriptions of not only the participant's experiences, but the context in which they occur (Korstjens & Moser, 2018).

**Limitations**

A limitation associated with the generic qualitative design is the lack of concrete theoretical assumptions (Lange et al., 2019). Generic qualitative studies are known to be more generalized regarding guidelines that support its approaches. However, there are counterarguments that address this concern. Although qualitative design may be less theory driven, there is still strong alignment between research questions, choice of methodology and research methods (Lange et al., 2019). In addition, relying too heavily on methodological rules can lead to other limitations. Therefore, researchers hold the responsibility to think thoroughly about their approaches and work with a regarded research mentor.

Credibility for generic qualitative design can also be achieved through reflexivity. Reflexivity is the process by which the research examines their own preconceptions and values, and these can potentially influence the study in any way (Korstjens & Moser, 2018). Therefore, the researcher will be aware of their own views and cognizant to report only the views of participants in the study. Data will stay true to the facts and not stray from the participant's own reflections.

Another limitation associated with this design is the number of participants. In order to address this potential issue, the researcher pays close attention to the quality of the data. Researchers concur there are varying views and expectations regarding the

number of participants that are sufficient (Staller, 2021). However, experts on qualitative research including Staller (2021), Boddy (2016), and LaDonna (2021) remind researchers that the number of participants is not the primary focus, rather the quality and rigor of data triumphs. When it comes to constructivist qualitative research, even one sample can exemplify important data that is meaningful and relevant (Boddy, 2016). This research design is conducted from the constructivist approach, homing in on the in-depth data from participants. Looking beyond the typical depiction of data saturation, qualitative researchers consider various points such as nature of the study, sampling strategy, population, and resources available to determine if the sample size is adequate. In addition, Staller states one of the core elements of qualitative inquiry is purposive sampling. Therefore, to address any limitations of sample size, the researcher uses purposeful sampling strategies to carefully select participants that are able to give detailed and honest information that can be explained, described, and interpreted (Staller, 2021). The researcher continues to focus on *information-richness* throughout the study, with a constant reminder of which the goal is quality research that gives relevant insights and in-depth understandings, not generalizations (Staller, 2021). In qualitative research, participants' views and experiences are inherently crucial to understanding the phenomena being studied, but should not be generalized, rather reported authentically and interpreted to bring meaning to the topic of study,

## Significance

There are prominent examples in the research literature linking UA to food security needs. One major study by Algert et al. (2016) documented that participation in

community and home gardening contributes to food security, because it provides access to healthy food that may not be available because of the cost or lack of retail outlets. In San Jose, CA, Supplemental Nutrition Assistance Program (SNAP) recipients can purchase seeds and plants with their benefits and have better access to growing healthy food. Another program in San Jose, La Mesa Verde (LMV), assists families interested in starting a home garden. One major goal of LMV is cost savings and food security (Algert et al., 2016). LMV also provides cooking classes to help participants learn how to prepare the food they grow.

Overall, the significance of conducting this study in Jacksonville, FL is that in order to evaluate food initiatives, it is important to understand food issues community by community. Therefore, this study will contribute to new and up to date knowledge on UA as it applies to food security in Northeast Florida, specifically Jacksonville, FL. By understanding the views and perspectives food insecure community members, social change is possible. The study can ultimately be used as guidance for individuals or organizations seeking to implement and expand UA programs, so informed decisions can be made about what will be most beneficial for their communities.

## Summary

In summary, food insecurity is a problem that has negative impacts on far too many people in the United States and around the world. As researchers and stakeholders work to find solutions, UA continues to grow as a highly recognized option. And although UA programs are working in some urban areas in the United States, there is no scholarly research that reports the impacts of UA on food security in Jacksonville,

Florida. Therefore, this study is needed to understand how food insecure individuals view the aid of UA initiatives in their community and how UA currently or in the future can impact their food security needs. By viewing this study from the conceptual lens of sustainable development and food justice, UA can be viewed as one large piece in solving the puzzle of food insecurity. Chapter 2 will elaborate on the important concepts that were introduced in Chapter 1, discussing the existing scholarly research and how it relates to this study.

# Chapter 2: Literature Review

## Introduction to the Literature Review

This literature review focuses on UA in relation to food security. The concept to be further explored is food security as a multi-faceted goal, where multiple sources of food contribute one's overall sustainable food needs. Therefore, current literature on the topics of UA, including urban gardening, urban farming, community supported agriculture, and community gardening, will be discussed. Current research on existing UA programs will be reviewed, as well recent scholarly articles on the theories of sustainable development, social justice, and food justice. In addition, this review will relate the concepts of food deserts and the need for communities to have access to healthy, safe, affordable food.

The overarching purpose of this literature review is to create a well-balanced framework for the study and outline the most important aspects of UA and the problem of food insecurity in urban areas. Another major concept that will be highlighted is the current successes, obstacles, and limitations of UA and how literature states these problems can be confronted. For example, current literature points to the need to understand the views of UA from those experiencing food insecurity (Lewis et al., 2018). Especially in large cities where UA programming is more well-advanced, studies point to multiple individual and community benefits which will also be discussed (Ertmanska, 2015). A synopsis of this literature review is:

1. The theoretical concepts of sustainable development and food justice
2. Food insecurity in the urban environment

3. UA

i. Objectives and benefits of UA

ii. UA, community gardening, and urban farming

iii.UA planning and development

iv. UA programs in the United States

v. Challenges and limitations of UA

vi. Soil contamination and safe gardening practices

## Literature Search Strategy

There were search criteria used to complete this literature review. Peer-reviewed scholarly articles were found through keyword searches including sustainable development and food; social justice and food; and food justice. In addition, keywords urban agriculture and food security and/or food insecurity, food insecurity and urban, food deserts, community supported agriculture, urban gardening, urban farming, and soil contamination yielded an abundance of background information to substantially cover the relevant literature on this subject. In detailing specific initiatives in Jacksonville, FL, a search including Jacksonville and food and Jacksonville and urban was also performed. The Walden University Library Database was used including Thoreau, Academic Search Complete and ProQuest Central. The largest proportion of research covered in this review was published in the last 5 years (2017-2022) apart from some essential research slightly beyond this time frame. The peer-reviewed scholarly journals *Agriculture and Food Security* and *Global Food Security* were located through a journal search for food

security. A search within the publications was then performed using the term urban agriculture.

## Theoretical Framework

The major theories covered in this literature review serve as the grounding framework for the study: sustainable development and food justice. This section of the literature review will break down the major concepts of each theory, according to the most recent scholarly research. Both theories will also be discussed in relation to the phenomenon of food insecurity and UA.

### *Sustainable Development*

Sustainable development is an integral process and based on multiple factors and indicators (Mikalauskien et al. 2018; Samofatova, 2018). Mikalauskien et al. (2018) stated there are main indicators which point toward sustainable development of families and their ability to provide adequate healthful food. These main indicators include socio-economic development, sustainable production and consumption, public health, natural resources, and social inclusion. Samofatova (2018) suggested that when considering sustainable initiatives, it is important to evaluate current food conditions to determine the best ways to use resources productivity.

### *Sustainability*

Other indicators of sustainability, according to Mikalauskien (2018), include climate change and energy, demographic changes, sustainable transport (energy consumption), good governance, and global partnership. This further exemplifies the building block nature of the sustainable development theory and the need for multiple

factors to achieve goals of food security and sustainability of communities (Mikalauskien, 2018). In addition, Samofatova (2017) discussed three main factors contributing to sustainability: ecological, economic, and social. Ecological or environmental factors focus on the construction of effective and natural ecological processes that were potentially interrupted, in part, due to unfair treatment of some communities (Samofatova, 2017). Economic factors refer to the creation of stable economic systems in concordance with ecological systems. It is suggested that resources, including technology, should be used to benefit nature and all people. The third main factor toward sustainability is social, or the right to a high standard of living (Samofatova, 2018).

A broad definition of sustainable development used by the Brundland's Commission, an entity set up by the United Nations on environment and development, commonly defines sustainable development as "the ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (Kates et al., n.d., p. 10). Kates et al. further supported the sustainable development theory stated by Samfatova (2017) by listing three pillars of sustainable development: economic, social, and environmental, established by the World Summit on Sustainable Development. Through this World Summit and the organization of 40 caucuses internationally to advocate the cause of sustainability, a social movement was created. One factor that should be noted is that although a formal organization has been established for this cause, local initiatives are key towards sustainability of each community (Samfatova, 2017).

The sustainable development theory ties in directly with food security, which according to Bazgă (2015), is a major component of sustainable development. Bazgă went on to state that sustainable development involves a strategy of factors pointing to agricultural productivity and the way to create food security in each specific community. Therefore, food security problems can be broken down into two areas: quality and quantity. These two areas are impacted by the five dimensions of food security: food availability, price volatility, population access to food availability, food utilization, and stability of food (Bazgă, 2015). Bazgă also conferred that strategic development of sustainable communities should focus on regional growth, sustainability and globalization with ultimate concern for all resources—natural, human and financial. In addition, Bazgă gave direction for sustainable initiatives in the future: better infrastructure, investment in research, use of innovative technologies, sustainable culture, and improvement of risk management systems. In totality, countries and communities who can produce an abundance of raw materials through agriculture will lead to higher rates of food security (Bazgă, 2015).

The food system approach is another example of a sustainability framework. The Bureau for Resilience and Food Security Food Systems Conceptual Framework was created to strengthen food systems and build more resilient communities and sustainably reduce hunger, malnutrition and poverty. This framework shows relationships between food environment, food supply, and food and water use to outcomes of sustainability, health, income and nutrition. This food system approach is outlined in Arthur (2022),

stating that it takes different elements to understand food systems, and the relationships between food production.

### *Sustainable Development and UA*

According to these definitions of sustainable development, UA is a prime initiative that provides services to communities through use of the environment. As sustainability has a focus on nature and human condition, UA was developed to address these issues (Kates et al., n.d.). Sustainable development efforts through UA initiatives are highlighted in research which support various ecological, economic, and social benefits of UA. By using natural resources in urban communities there is high potential for providing healthy food to local communities at an affordable cost. For example, as part of the New York City food justice movement, support for local UA food producers has spawned multiple benefits for the community including sustainability (Ilieva & Hernandez, 2018). Ilieva and Hernandez (2018) also supported sustainable development as a multi-level process.

## Food Justice Theory

### *Food Justice Theory*

The food culture of each community plays a significant role in people's food choices and ability acquire affordable food. Social justice, and even more specifically food justice, also provide substantial theoretical foundation for the study. Through this lens, UA initiatives can be evaluated.

It is evaluated that the current agri-food systems are dominated by unjust, unhealthy, and insufficient practices in need of examination (Ilieva & Hernandez, 2018).

In a multiple comparative case study, three contrasting cities were investigated to determine the main themes supporting the effective transition to sustainability of communities (Ilieva & Hernandez, 2018). The study outlines health imbalances between those from different socio-economic backgrounds. One of the main themes discussed is that in order to transition towards sustainability, it is first necessary to respond to the challenges and inequalities in the current agri-food system (Ilieva & Hernandez, 2018). In response to identified social injustice in the food system in New York City, affordable community supported agriculture programs were formed and continue to benefit lower-income neighborhoods (Ilieva & Hernandez, 2018).

Food justice focuses on the disparities in today's food system, and the social, economic, and environmental problems that occur due to the uneven distribution of power in food production and distribution (Bradley & Herrera, 2016). One of the overarching goals of food justice is for every person and community to have access to "fresh, healthy, affordable, culturally appropriate food" (Bradley & Herrera, 2016, p. 101). Food justice especially applies to low-income communities, and those which may be more at risk of racial and social discrimination (Bradley & Herrera, 2016).

### *Food Justice and Social Change*

For the food justice theory to be productive in "decolonizing" the food system, it is important theory and practice go hand in hand (Bradley & Herrera, 2016). According to Bradley and Herrera (2016), social change is possible when theory is put in action. Another important key factor in overcoming food injustice, is to understand the perspectives of those who have been oppressed. Bradley and Herrera went on to state that

although there are many problems concerning power distribution in the system, individuals and activists must take account of being the change that is desired and making a commitment to collaborate with all stakeholders in the food justice movement.

Overall, Ikejima (2019) summed up the social justice framework in relation to food insecurity; for food justice and sustainability to be present, equal access to healthy, affordable food is essential. Therefore, this dissertation study on UA will help determine the perspectives of food insecure individuals on UA to further understand how to confront any obstacles in creating a just food system. The frameworks of both sustainable development and social justice theories keep focus towards a central goal: examine UA in relation to contribution to a just, sustainable food system that is centered around affordability and healthy, fresh foods.

## Food Insecurity in the Urban Environment

This segment of the literature review will address food insecurity as it pertains to the urban environment, especially in the United States. Food insecurity is defined by the U.S. Department of Agriculture (USDA) as a "household level economic and social condition of limited or uncertain access to adequate food" (Murthy, 2016, p. 65) due to lack of funds and other resources (Gundersen et al., 2017). Current research shows food insecurity is a crisis in need of direct action. It is reported that approximately 20% of children are food insecure, with one in eight adults also experiencing food insecurity (Bruening, 2017; Flores & Amiri, 2019. Organizations such as the Food Research Action Center (FRAC) are pushing for change. For example, the FRAC has partnered with the

American Academy of Pediatricians and developed more well-constructed approach to screen for food insecurity in children (Bruening, 2017).

**Causes and Contributing Factors of Food Insecurity**

There are both direct and underlying causes of food insecurity. Economic inequality is one of the main contributing factors to food insecurity in the United States (Bruening, 2017). Economic inequality is defined as "an uneven dispersion in resource endowments, access to productive resources, and rewards for labour in a social collective that limits the fulfillment of human functions" (Bajupi, 2015 in Elmes, 2018, p.1046). Despite overall growth of the economy, communities and families on the lower threshold of the income scale find themselves unable to sustain a consistent diet of nutritional foods (Bruening, 2017). Murthy (2016) supported this notion, stating that food insecure families have issues accessing nutritional fresh foods that are affordable.

There are multiple factors that contribute to food insecurity such as the high cost of food, lack of health care, unemployment and education (Flores & Amiri, 2019). According to the study by Flores and Amiri (2019), healthy food options within a reasonable distance to one's home is also a contributing factor towards food insecurity. It was determined that one in eight adults is food insecure, and one in six children are food insecure in the United States alone (Flores & Amiri, 2019).

It is the lack of consistent food supply that defines food insecurity and classified into two distinctions: low and very low food security. Low food security is the lesser severe of the two; however, families still face issues with the quality and consistency in diet. Low food security can still contribute to other stressors and issues.

Food insecurity can be addressed globally in both urban and peri-urban areas through development of programs that work with multiple stakeholders (Khumalo & Sibanda, 2019). According to the study by Khumalo and Sibanda (2019) food security status and consumption of six or more food groups was increased by participation in UA and peri-urban agriculture (UPA). The study showed that 54% of participants consumed greater than six food groups and over 72% of UA participants had little to no concern of food shortages. UPA households also fared better than non-UPA households in terms of accessibility to food (Khumalo & Sibanda, 2019).

**Health Issues**

Food insecurity can cause other problems for families, including poor health conditions due to the lack of adequate nutrition. One of the major issues associated with food insecurity is inadequate eating habits and poor food quality (Murthy, 2016). When families are forced to compromise food quality in order to save money, negative health issues continue to arise such as obesity (Gunderson et al., 2017 & Flores & Amiri, 2019). It is reported that food insecurity especially affects children, leading to issues such as weakened physical and mental health. In many circumstances this can impact developmental and educational milestones (Murthy, 2016).

**Mental Health Issues**

Food insecurity can cause different types of psychological issues contributing to problems such as coping skills, employment, parenting, and communication. It also has direct effects of socio-economic hardship which can also induce domestic violence (Flores & Amiri, 2019). For example, in a case study conducted on food insecurity of

mothers and adolescents in a Phoenix, Arizona public housing development, food insecurity led to binge eating and other socio-emotional issues for the mothers, such as depression (Bruening, 2017). Flores & Amiri (2019) also reported food insecurity led to other mental health issues such as anxiety and toxic stress.

**Measuring Food Insecurity**

Gunderson et al., (2017) outline the Core Food Security Module, which is a set of 18 questions designed to determine if a household is food insecure. A 6-item scale is the concise version of this instrument, which includes the following responses to a statement given: often, sometimes or never true. For example, one statement reads "The food that we bought just did not last, and we did have the money to buy more (Was that often, sometimes, or never true?)" (Gunderson et al., p.505). According to the six questions, if a household gives an affirmative answer to two or more questions, there is a degree of food insecurity present. Quantitative tools to measure food insecurity includes the Household Dietary Diversity Scale (HDDS) Household Food Insecurity Access Score (HFIAS) (Khumala & Sibanda, 2019).

**Food insecurity in North Florida**

One study conducted by Will & Milligan (2016) sought to better understand the perspectives of food insecure residents living in the North Florida region. This study is important because the City of Jacksonville is a part of this region and is serviced by Second Harvest North Florida which the study focuses on. In collaboration with Northeast Florida Center for Community Initiatives (CCI), the study sought to understand those experiencing food issues. One of the major outcomes of the study was a renewed

focus on the distribution of fresh foods for recipients. Therefore, Second Harvest was in the planning stages for a one-acre community garden, including a place for residents to grow food and education opportunities on using the food they grow (Will & Milligan, 2016).

### Summary

Overall, it is important to understand the many dimensions of food insecurity to evaluate UA for food insecure individuals. Understanding the causes and issues created by food insecurity helps directly target these underlying hardships through development of UA programs that keep these disadvantages in mind. This background on food insecurity shows the multiple challenges faced by food insecure communities and represents the impending need for research to understand the viewpoints of food insecure individuals on UA in their community.

## Urban Agriculture

### Objectives and Benefits

The main objective of UA is local food production and actively addressing the issue of food deserts by productively using land to plant, grow, and harvest food for the community (Glasser, 2018). UA is based on the goal of providing better access to fresh food for food insecure communities in urban areas (Siegner, Sowerwine & Acey, 2018). Benefits of UA in urban communities are cited in multiple research articles and span a broad spectrum including social, cultural, economic and community benefits (Pearsall, 2017). UA is shown to provide fresh produce, encourage positive community development, and address the issues of distressed land and blight (Pearsall, 2017).

Benefits include “greening urban cities, utilizing organic waste, reducing pollution, minimizing heat and improving air quality” (Kopiyawattage et al, 2018, p. 229). Kates et al. cites additional benefits such as job creation, diversification of leisure and education (in Felix, 2017). One of the major advantages of locally grown food is the health and overall well-being of the community (Deller, 2017).

UA also has the unique position of crossing multiple disciplines in the research field (Corcoran, 2018). Through this multi-faceted approach towards changing the urban food landscape, programs are currently being implemented to unite those such as agriculturalists, city planners, social scientists, and political ecologists (Corcoran, 2018).

**Food Deserts**

UA initiatives are often designed to target areas known as food deserts. Some of the major characteristics of a food desert include lack of access and mobility, economic disadvantage, little choice in local food stores, many with poor nutrition and diets, and limited selection of higher priced food (Cerovecki & Gruenhagen, 2015). The U.S. Department of Agriculture defines a food desert as a Census Tract in which 33 percent of the population or 500 people, whichever is less, live more than a mile away from a grocery store in an urban area (USDA, 2014 in Cerovecki & Grunhagen, 2015).

Another defining factor of food deserts is having insufficient access to affordable, fresh foods and an influx of fringe food retailers (Lewis et al., 2018). Fringe retailers include fast food chains, liquor stores, convenience stores and other stores in which the only food available are ready to make, often in lower quality and foods (Lewis et al., 2018). Food deserts are known to have low socio-economic conditions and are often

minority communities where supermarkets are not within walking distance (Lewis et al., 2018). These communities are considered out-of-balance because fringe food is more abundant than fresher, healthier food options (Lewis et al., 2018).

**Urban Agriculture, Community Gardening and Urban Farming**

The major distinction between UA and urban gardening is that UA is associated with large scale urban farming projects with the ability to impact food insecurity issues in a community (Drake, 2019). For example, the city of Chicago defines UA as a commercial process intended for the sale and production of fresh foods for the intention of community (Drake, 2019). Urban gardening produces fresh, local produce, but with less emphasis on output and more focus on the betterment of community, socially and aesthetically (Drake, 2019).

**Community Gardens**

According to Pearsall (2017), urban community gardens are defined by "open spaces which are managed and operated by members of the local community in which food or flowers are cultivated", providing many benefits to the community (Guitart, Pickering & Byrne in Pearsall, 2017, p. 476). Community gardens are an important subcategory of UA and focus on community support for growing food in the urban environment. In the pursuit to re-create food systems that work in favor of low-income and food insecure residents, community gardens provide economic growth and contribute to food security for friends and family members of garden participants (Bussell et al., 2017). Bussell, et al., finds of eight community gardens in San Diego (C.A.) cites multiple member benefits including increased fresh food consumption, sharing locally

grown produce with friends and family, saving money on food costs; with some participants reporting being able to sell their excess of fresh food for additional income (Bussell et al., 2017). Trading produce for other goods was another positive economic impact of growing crops in the community garden.

In the mixed methods ethnographic study by Furness & Gallaher (2018), community gardens are examined in Rockford, Il. It was determined that many food insecure individuals using food pantry services viewed fresh foods as expensive. Some of the major barriers to acquiring better food sources were transportation and lack of awareness. However, participants in one urban garden pantry saw positive results and appreciated being able to pick their own vegetables, rather than have them wrapped in plastic from the store (Furness & Gallaher, 2018).

**Urban Vertical Gardens**

Research on vertical urban gardening relates UA programs to improving the quality of life of individuals. Felix (2018) states that UA addresses wasted space, contributes to sustainable living and confronts environmental issues in the biggest cities. Positives include control of insects, controlled atmosphere, no use of soil, and multiple crops in one space (Felix, 2018). The results of the Felix (2018) study report that 80% of interviewees support “Public green spaces” and “intercultural gardens” as ways to productively use blighted urban spaces (p.805).

Vertical farming is also referenced in Northfield (2017), who examines creative ways to use urban landscapes such as indoor and vertical farming. Vertical growing in urban areas can also be implemented using hydroponic water systems which show

benefits for air quality, aesthetics and overall health of the community (Mojski et al., 2018). Results of the Mojski et al., (2018) study report a stable and lightweight system produces a sustainable system that can last through varying climate conditions in Europe (Poland). Touliatos also finds that vertical systems have the potential to yield a higher density of food per square foot than horizontal hydroponic farming.

**Urban Greening**

Urban greening is another important term in relation to UA initiatives that continue to find a place in city development (Carlet et al., 2017). There are a growing number of cities using this model in support of research that shows a strong positive socioeconomic impact in large cities where the problem of blight plagues the landscape of the city. Urban greening describes communities where greening techniques, such as the creation of various types of UA programs, including pocket park development, are used to deal with vacant lots and blighted properties (Carlet et al., 2017).

**Edible Landscape**

Research supports the link of green infrastructure, edible landscape and other farming alternatives with an extension of social well-being (Ling, Wu & Lin, 2018). The spatial operative of an agriculture initiative outlines the agriculture typology, such as vertical (edible greening), hydroponics, greenhouses, roof gardens, public (edible urban greenery), private urban / community garden, and interior edible greening (Ling, Wu & Lin, 2018). Edible landscaping can be referred to as "food-sapping" and is forward-thinking programming which encourages locally grown food in every way possible for each community—home, school, work, and communal spaces (Ling, 2018, p.146). Edible

landscaping can also be referred to as defined as “the growing of plants and the raising of animals for food and other uses within and around cities and towns” (Veenhuizen, 2016 in Ling, 2018). Ultimately the goal of edible greening is to reintroduce food production into the city environment (Ling, Wu & Lin, 2018).

**Community Supported Agriculture**

Community Support Agriculture (CSA) is another form of an Alternative Food Network (AFN) that forms a relationship between a local farm or farms and the community (Galt et al., 2019). Community members who choose to be members of a CSA program agree to season long weekly or monthly payments in exchange for produce and other foods grown by the farm. CSA programs started springing up in the 1980’s and have been successful for growers and consumers when member retention is maintained (Galt et al., 2019). In a quantitative survey analysis of former CSA members in California, it was determined the issues of variety, quantity and choice were major factors in consumers decisions to terminate their CSA membership. Other recent challenges include increasing competition from large food companies who offer delivery of farm to table ingredients (Galt et al., 2019).

The Small Business Association (SBA) of the United States government provides incentives for the development of “historically underutilized business zones” which can aide in the advancement of urban agriculture ventures (Cheav, 2014, p. 486). HUBZone is a program for small businesses to provide incentive in areas with high unemployment and lower median income. The program is designed to create employment and

opportunities in distraught areas, especially for "small agriculture cooperative" businesses with offices in the HUBZone (Cheav, 2014, p. 486).

**Urban Food Hubs**

The support CSA's have given to the local food movement has given rise to food hubs, which are also based on providing local food to a community (Deller, 2017). One of the largest and most comprehensive food hubs is the East Capitol Urban Farm (ECUF) in Washington, District of Columbia (D.C.) (Jones, 2017). ECUF was created out of the need to establish a food hub which according to the University of the District of Columbia (UDC)'s decentralized model for food hubs comprises of the following elements: 1) fresh produce in the urban area 2). Food preparation in the urban area 3). Food distribution in the urban area 4). Regaining of resources in the urban area. This decentralized model differs somewhat from the U.S.D.A. definition of a centralized food hub, however the concept to distribute food to the local community is the same. The U.S.D.A. definition of a food hub is "

ECUF was created out of the need for local food production and invigoration of a low-income area, partially at a request of the D.C. Housing Authority for a group to acquire multiple acres of land in a vacant urban area (Jones, 2017). UDC rose to the challenge and worked with multiple community organizations to create this unique urban farm, comprising of aquaponics, urban trails, raised gardening beds, a farmer's market operated by the community, as well as other community building initiatives such as urban green spaces and a nature/discovery zone for children (Jones, 2017). Other cultural

aspects to this UA initiative include public art, a community plaza and water efficiency strategies (Jones, 2017).

**Urban Farms**

In a study conducted in Baltimore, UA programs were quantified through the following categories: personal gardens, school gardens, community gardens, demonstration gardens, urban farms, vacant lot gardens, rooftop gardens, aquaponics, commercial enterprise and other (Young, Hyman & Rater, 2018).

The United States Department of Agriculture's National Agricultural Statistics Service (NASS) defines a farm as "any operation that produces or sells, or has the potential to sell, USD 1,000 more of agricultural products in a year" (Young, Hyman & Rater, 2018). Therefore, community gardens, backyard gardens, residential gardens or institutional gardens (schools, churches, private or public organizations) can be included in the definition of urban farming if they have met this dollar amount of output or have the potential to.

**UA Planning and Development**

The planning and development of urban agriculture initiatives, with the purpose of growing enough food to contribute towards food security efforts, must allocate a multitude of time and resources to plan strategically (Saha & Eckelman, 2017). One large plan in Boston, Mass. utilized technology such as remote sensing and GIS-based modeling framework to allocate usable land for farming on the ground and on rooftops. The planning phase also included the use of public data of abandoned lots, both private and publicly owned. In conclusion of this geospatial analysis study, 10% of the total

ground land was potentially usable for food production, 7.4% on rooftops (Saha & Eckelman, 2017). With this information, it was then determined how much food could be grown on these parcels. Researchers concluded that fruits and vegetables grown on these mapped areas could produce enough food to feed the whole city population (Saha & Eckelman, 2017).

Cohesive and purposeful design of UA initiatives consider the relationships between different elements of a social-ecological model: environmental, economic, spatial, and social relevance (Ling, 2018). The systems thinking approach focuses on the building block approach for UA design. The following are the major aspects of planning UA: *environmental;* biodiversity, wasteland incentive, energy conversation, and micro-climate control; special: place identity, horizontal, vertical, and visual enhancement; *economic*: revitalization and production value, and lastly; social: community, human, cultural, and education (Ling, 2018, p. 149).

**Urban scaling**

Ernwein (2017) also argues spatial planning and urban scaling are essential in the productivity of urban agriculture projects. "Socio-spatial framing of urban agriculture" is a topic that receives less emphasis than other issues in UA, however Ernwein (2017) displays framing networks to determine usable land and potential for food production in large urban areas (p. 77). The terminology of UA is also discussed in relation to professional cultivation in an urban environment, rather than solely for social and community engagement and beautification. According to Ling, Wu & Lin (2018) the scales of UA can be broken down into three parts: Micro, Meso, and Macro. Micro

encompasses interior units, green roofs, walls, courtyards, backyards and street green strips. Meso refers to community gardens and individual collective gardens. Macro involves commercial scale farms, orchard, grazing, nurseries, or greenhouses (Ling, Wu, & Lin, 2018).

**Agroecology and Agrodiversity**

Agroecology is a holistic approach to sustainable agriculture which is complex and emphasizes management of ecological processes, using natural planting designs for masses of land, soil development and the recycling of nutrients (Herrmann et al., 2018). Agrodiversity is defined as "the many ways in which farmers use the natural diversity of the environment for production, including not only their choice of crops, but also their management of land, water, and biota as a whole", a subcategory of biodiversity (Brookfield & Padoch in Pearsall, 2017, p. 478). Moreover, agrodiversity can be classified as "all plants useful to people, the diversity of crop combinations, and how people make use of these combinations (Brookfield & Stocking in Pearsall, 2017, p. 478). The study by Pearsall (2017) finds that choosing plants based on cultural heritage can also benefit communities and create a greater degree of cultural identity and investment in the garden.

**UA Programs in the United States**

Herrmann et al., (2018) addresses the issue of vacant land in urban cities suffering from social and economic vulnerability. However, vacant land can also present opportunities for green development and sustainability efforts (Herrmann et al., 2018). This agroecological approach to utilizing vacant land has increased in The Rust Belt

Cities, including Detroit, Michigan where the city government uses demolition in high numbers (almost 5,000 buildings per year) as a tool for urban reconstruction. While this creates many vacant lots that are unused and blighted, UA initiatives help take on this burden and turn the land into productive growth. Other large cities with a significant amount of UA initiatives include Philadelphia (PA), Seattle (WA), Baltimore (MD), San Diego (CA), Austin (TX) Boston (Mass.) and Washington, D.C.

***Detroit, MI***

One example of a community UA program in Detroit is D-town Farm, an initiative created by the DBCFSN, a community food security network of residents to address the lack of healthy affordable food within a reasonable distance (Herrmann et al., 2018). One of the main objectives of D-town farm is to transform vacant land and reestablish natural relationships between the land and residents, while reinvigorating the city as a whole. According to Young, Hyman & Rater (2018) cities like Detroit have implemented local legislation to increase the overall food resiliency of the city by growing the food needed by its residents (Young et al., 2018).

***Philadelphia, PA***

One other such city is Philadelphia, PA, where the UA movement was resurged in 1970's through the University of Pennsylvania's Urban Gardening Program and the Pennsylvania Horticultural Society's Green Program (Pearsall, 2017). Philadelphia currently operates over 470 gardens, including ten urban farms, on 600 parcels of land. Urban market farming also saw its beginning with Greensgrow Farms, established in 1998 (Pearsall, 2017).

One of the most recent studies of UA initiatives highlights the goals of Food Policy Councils (FPC's) in Philadelphia and Ghent (Belgium), which help transition cities to localized food systems (Prove, 2019). The goal of UA supported by FPC's is clear: to create local systems that are just and work in favor of the public (Prove, 2019). The purpose of these programs is to assist community members with alternative methods to the industrialized global food systems. The study is based on the premise that local governments should lead the way in food initiatives to create more stabilized sustainable food for its residents (Prove, 2019).

Research conducted in Philadelphia on UA also includes a focus on sustainability and questions the financial sustainability of UA programs, mainly small-scale market farming (Hunold et al., 2017). Hunold et al. (2017) sets out to determine the long-term economic stability of UA programs, in comparison to the many studies that focus mainly on social benefits of UA. According to results of this exploratory mixed methods study, most non-profit urban farms rely on outside funding sources to remain sustainable, and UA cannot always meet the demands for food justice, social capital, and job creation goals (Hunold, et al.,2017).

Important UA initiatives in Philadelphia include The Greenworks Sustainability Plan (2008) which focused on urban sustainability and local food production (Stanko & Naylor, 2018). In evaluation of this new initiative in 2016 it was determined even more food production was needed to sustain the city and a greater emphasis should be placed on fresh foods for all residents. A mandate was set to expand UA programming in 2016 and the program has contributed to over 100 markets, gardens, and farms. Two other

initiatives were also a success: Parks & Recreation FarmPhilly program which implemented and trained junior farmers, created 18 community gardens, 9 orchards and 1 food forest in 2015 (Stanko & Naylor, 2018). The Philadelphia *Land Bank Trust Strategic Plan & Disposition Policies* also helped facilitate different government agencies to work together towards UA goals.

***New York***

Other innovative food assistance programs include the SNAP-Ed School and Community Gardens Policy, Systems, and Environment initiative (Gaines, 2018). The goal of this initiative is to provide increased access to fresh fruits and vegetables for community members in New York State. The outcome of the mixed methods design showed that the 2017 program was successfully implemented, with more support needed for garden skills training and future emphasis on sustainability (Gaines, 2018).

New York City is also home to one of the largest urban farming operations: Green Thumb. Other New York initiatives include 596 Acres, the New York Restoration Project, GrowNYC, and Five Boroughs Farms (Sullivan et al., 2015). NYC is home to over one thousand community gardens (Spliethoff, 2017).

***Other Large Cities***

UA initiatives are springing up all over the nation with the help of collaborations between public, non-profit, community, and volunteer stakeholders, with the common goal to use vacant land for food production and green spaces. Other examples of UA projects include the City of Seattle's Urban Garden Share Program and the City of Austin's Sustainable Urban Agriculture and Community Garden Programs (Young,

Hyman & Rater, 2018). In addition, federal funding programs, such as The New Farmers Initiative and The Brownfield's Economic Development Initiative in Baltimore (MD), have been created to help interested organizations with redevelopment of land (Young, Hyman & Rater, 2018).

### *UA In the State of Florida*

Considering this study will be conducted in Jacksonville, FL (U.S.) it is of important cause to investigate the literature on urban agriculture in the State of Florida. Florida's climate and year-round mild temperatures provide different climate and growing conditions for food production than its northern large city counterparts. Therefore, it is essential to understand UA programs and their effect on food insecurity from this sub-tropical perspective.

As a result of this search, the study by Ansbacher & Olexa (2015) uncovered major challenges to UA rooted in Florida's zoning laws. Although Florida zoning laws have changed over the years, it is important to understand the history behind these changes. Ansbacher & Olexa (2015) point to why there is vacant land in urban areas, never used for food production enterprises. In the early 1900's the Florida Supreme Court enacted a law separating businesses due to incompatible use. This was mainly due to public protest that farming operations were a public nuisance, hence the term Florida nuisance laws. Florida nuisance laws changed the way businesses interacted and eliminated farming operations in urban zoned sections. This shaped the way agriculture in the 20$^{th}$ century took form in the State of Florida, and potentially why urban farm businesses were never prevalent before the 21$^{st}$ century.

However, more recent legislation allows less stringent zoning codes. Starting in 1979 the Florida's Right to Farm Act established farmer protection from the nuisance claims. More recently, The Community Planning Act of 2011 was enacted to foster "creative mixed-use urban development and minimize city core food deserts" (Ansbacher & Olexa, 2015, p.28). Although there is less restriction, clear protection for agricultural land use was not established, it minimized criteria for school and park management, lessened population caps and focused more on market-based decisions. However, Florida gives local municipalities the power to enact creative zoning and permitting given that there is a municipal purpose. However, this ambiguity did not always benefit the public and finally the Court of Appeal ruled the purpose must be "needed for the health, morals, safety, protection, or welfare of the city" (Ansbacher & Olexa, 2015, p. 31).

The article also notes that a two-year pilot program for backyard chickens was established in Jacksonville, issuing over 300 permits, as a result of resident's activism. Overall, Ansbacher & Olexa (2015) conclude that UA is a vital component to economic and sustainable growth, addressing stagnation and revitalizing communities and should be viewed as a development goal in and of itself. In addition, according to Negro and Terranova (2015), Florida changed legislation to override any local bans on beekeeping in urban areas.

***UA In Jacksonville, FL***

A case study in Jacksonville, FL by Lewis et al., (2018) addresses the issues of food deserts and food insecurity in one urban area. An analysis of the relation between food deserts and food insecurity was performed and the results were inconclusive. Many

food insecure residents did not consider access to drive them away from eating fresh foods. However, for those without transportation having access in their community to fresh foods did affect their food choices. The Lewis et al. (2018) study also reported very few residents had gardens or participated in community gardens, especially those on the Supplemental Nutrition Assistance Program (SNAP).

Overall, Lewis et al. (2018) states that future research is needed to understand "community perceptions about solutions to the economic and geographic barriers that urban communities experience where food deserts exist" (p. 48). The research resulted in a plan for a community garden initiative as an entrepreneurial center for the community. This urban garden and greenhouse learning laboratory would also encompass a market for fresh-healthy food options and educate and employ residents (Lewis et al., 2018).

**Challenges and Limitations of UA**

To evaluate the future potential and limitations of UA, Moschitz et al., (2018) take a comprehensive analysis of the urban food system in one urban city in Europe. This approach included evaluating current food policies, how urban agriculture contributes to the food system, the influx of food coming into the urban center, and finally a full sustainability assessment of the urban food system. Results show that a more sustainable food culture can be created with more support for "short food supply chains" and contributing towards awareness of local food productions through educational projects. The outcome focuses on the future for a better understanding of the way local municipalities, food producers, and community members can work together to create more sustainable communities.

One limitation of UA is the current status of research relating UA to food security. When local governments are unsure of food security benefits of UA initiatives, administration does not have the confidence to allocate funding towards programming (Siegner, 2018). In addition, Siegner supports that UA initiatives alone cannot combat the issues surrounding food insecurity. Research states food security needs to be addressed from multiple levels', such as "planning and civic engagement efforts to provide affordable, healthy food through neighborhood groceries, food hubs, cooperative markets, culinary and nutrition education programs, farm to school programs or other means of addressing structural causes of food insecurity (e.g., poverty and access)" (Siegner, 2018, p. 21).

Hunold (2017) also reports challenges of gaining community member support of UA. Some farmers who were interviewed addressed concerns of customers' lack of support of UA in the community. Some residents did not understand the benefits, and even felt produce from the supermarket was superior to organically, locally grown offerings at the UA market stand (Hunold, 2017). Hunold (2017) points to more education programs to grow awareness of the current system and how UA producers and community residents can come together to make UA more successful.

One of the major challenges experienced for UA initiatives is the distribution of work that makes urban farms and gardens sustainable and successful (Drake, 2019). According to Drake (2019), in the ethnographic study conducted for over two years showed that surplus labor, or those unpaid for their work in urban gardens, fluctuated frequently. Garden volunteers, or urban cultivators, are the driving force for food

production of UA (Drake, 2019). This topic has garnered very little attention in research, and this study helps to understand how surplus labor can work continuously, so the planting, growing, and harvesting cycle can work efficiently (Drake, 2019).

Ling (2018) states another challenge in the urban agriculture movement is the mixing of green landscape and food systems to respond to the influx of people in the urban environment. Urban planners and landscape planners may consider the term "edible landscape" as an alternative to typical landscape design in urban centers. The purpose of this food design is to re-introduce food cultivation into the city and reactivate the relationships of people and growing food. According to case studies analyzed by the International Network of Resource Centers on Urban Agriculture, the UN Development Program (UNDP), and International Network of Resource Centers on Urban Agriculture and Food Security found that edible landscape programs intrinsically contributed towards the food security in the city (Ling, 2018).

**Soil Contamination and Safe Gardening Practices**

Hunold (2017) points to the safe gardening practices in UA practices. The standards for growing food include using raised beds filled with clean, nutrient-rich soil which is imported to ensure safety. In cases where a potential urban garden was a former site with high levels of metal contamination, the current soil must be removed and built up before new high-quality soil beds are installed (Hunold, 2017). The concern of previously contaminated ground is addressed in Ibn Mafiz et al. (2018), in respect to soil properties containing antibiotic resistance. A case study was conducted on an urban garden in Detriot, MI, where 21 soil samples were collected and tested for various

antibiotic resistance genes, in which there was a positive correlation. The study also points to the need for more investigation to determine how former industrial sites impact the quality of UA.

Spliethoff et al. (2016) discusses one of the major contaminants in the soil as lead. Because of potential lead exposure directly from the ground, Spliethof (2016) also promotes the use of raised beds to mitigate exposure to such toxins. Multiple scholarly articles cite the need for raised beds for planting in urban soils, to avoid any contamination issues. Subirrigated Planters (SIPs) are a type of bed design that leaves a slight space on the bottom allowing for irrigation and water supply to circulate, which may be especially beneficial for large scale urban farms. Farmers using this design note the efficiency of water use and the ability to produce a high volume of crops (Sullivan, Hallaran, Sogorka & Weinkle, 2015).

Potential soil contaminants of concern for food production in the urban environment include lead [Pb], arsenic, mercury, cadmium, and polycyclic aromatic hydrocarbons (Wortman & Lovell, 2013). Especially in areas with older lead-based homes there can be a higher concentration of Pb in the soil, which is the leading contaminant of urban soil in the United States. Even when using raised beds, there is potential for lead and other pollutants to taint growing food through re-entering the air, such as in roadside gardens from vehicle traffic (Wortman & Lovell, 2013).

However, researchers also show that plant intake of these contaminants are minute and do not pose risks in small amounts (Wortman & Lovell, 2013). Risks can be reduced through simple procedures such as washing hands and produce and mulching

between crop areas. Cities have implemented processes to remediate soil and many times use the cap and fill method. This involves capping off older soils and filling clean new soil on top. Although this can alleviate concern, it is also an expensive method (Wortman & Lovell, 2013). The use of organic waste turned into compost is also another way to build quality soil in urban areas. Compost with dense nutrients such as humic acids and metal-humate complexes are most effective at changing soil properties and alleviating Pb (Wortman & Lovell, 2013).

### *Aquaponics*

Aquaponics is another innovative form of UA that avoids any potential issues of soil contamination and pesticides. Aquaponics utilizes indoor spaces and enables food production without the use of soil (Palma Lampreia dos Santos, n.d.). The set up of these systems can be produced in old, deserted buildings and can urbanize food production without use of widespread land (Palma Lampreia dos Santos, n.d.) Aquaponic urban farming has also been shown to provide socio-environmental benefits, such as job creation and food production free from environmental contamination (Palma Lampreia dos Santos, n.d.)**.** According to Laidlaw & Magee (2016) aquaponics can also be related to the cause of food sovereignty. Aquaponics is the "combined cultivation of plants (hydroponics) and fish (aquaculture) in recirculating systems (Laidlaw & Magee, 2016, p. 573).

### *Water Use in UA*

When considering UA initiatives alternative water supply sources such rainwater may be considered. According to Richards et al. (2015) rain gardens are a type of

bioretention or biofiltration system that can be used to retain and treat stormwater. Raingarden programs have been established in cities such as Kansas City and Melbourne, Australia, both with positive results (Richards et al., 2015). Overall, Richards et al. acknowledges the impact that rain gardens can have on "stormwater reuse practices in urban food production, and to incorporate food production into Water Sensitive Urban Design" (p.653). Water use management has also been evaluated by Egrer, Lin & Philpott (2018) in Central California urban gardens. The study found that drought and heat in cities impacts sustainability of water used and gardeners have different perspectives on the quantity of water they use.

In a contingent valuation (CV) study in Jacksonville, FL it was determined the City of Jacksonville has one of the worst water quality levels in the country per capita (Chatterjee, 2017). The study determined the views and opinions of residents and if they would be willing to pay for higher quality drinking water. According to Chatterjee (2017), residents were willing to pay more for higher quality water when concerned with health issues. The study found that many residents did have concerns about the smell of sulfur coming from the public tap water supply (Chatterjee, 2017).

## Summary

UA is continuing to rise as a global phenomenon to address multiple issues in the urban environment. This literature review gives various examples of the ability of UA to be a viable solution towards sustainability in urban communities around the world; and documents its contribution to food justice and food security for individuals and families. Although the benefits and challenges of UA are fully disclosed in multiple studies,

research shows there are issues which are unique to each urban community. Therefore, it is important to understand the views of UA from food insecure individuals in Jacksonville, FL. This dissertation study will serve as one of the only research studies that focuses on the urban communities of Jacksonville, FL, and ultimately provide stakeholders with concrete views of UA from actual community members in potential need of food justice interventions.

Chapter 3 will discuss the methodology of the study in full detail. It will include a detailed description of the generic qualitative approach and justification for this design choice. Chapter 3 will also outline participant selection, instrumentation, data collection procedures, data analysis, issues of trustworthiness, and ethical procedures.

# Chapter 3: Methodology

## Introduction

As stated in Chapter 1, I sought to understand how food insecure individuals view and experience the various components of UA in the City of Jacksonville, FL. There is a gap in the research to understand the experiences and perspectives of UA from food insecure individuals in disadvantaged communities. The information obtained from this study is helpful for community stakeholders in the development and implementation of UA food security initiatives and ultimately can create positive change through the restoration of food justice. The focus of qualitative research in global public health and human services is to understand and give a voice to those who are directly affected by health policies and programs (McMahon & Winch, 2018). This study places emphasis on the perspectives and experiences of food insecure individuals because most often they do not have the resources or power to change policy and programming on their own (McMahon & Winch, 2018).

Chapter 3 of this dissertation elaborates on the research design and rationale, role of the researcher, and methodology. The methodology portion includes information on participant selection logic, instrumentation, procedures for recruitment, participation, data collection, data saturation and the data analysis plan. In addition, it addresses issues of trustworthiness, credibility, transferability, dependability, and confirmability. It also includes information on ethical procedures and ethical concerns related to the Institutional Review Board (IRB) approval for this dissertation study.

## Research Design and Rationale

### Research Question

How do food insecure individuals perceive and experience UA as a contributor towards food security in the urban core of Jacksonville, FL?

### Central Phenomenon

The major concept that was considered in this study is UA as it relates to food security. Research shows that urban areas have been plagued with food injustice and an influx of convenient stores.

### Generic Qualitative Research Design & Rationale

The selection of a generic qualitative design is based on the need to understand the perspectives of UA by those experiencing food insecurity. This design allowed for in-depth data collection that effectively reports direct views of participants (Percy et al., 2015). Purposeful sampling was used to select five individuals to discuss their experiences, views, and perspectives of UA. The qualitative approach was selected to ensure inquiry into the phenomenon of UA and food security was open-ended and focused on each participant's individual views and experiences (Jackson et al., 2018 & Smith et al., 2015). By maintaining the focus on detailed accounts from individuals, a foundation of knowledge was established which can be evaluated and ultimately contribute towards positive social change (Jackson et al., 2018). Five individuals proved to be sufficient as a sample size due to multiple factors including the in-depth nature of semi structured interviews, obtaining participants of a vulnerable population, and the limited time frame and monetary resources of a dissertation. In addition, data saturation,

or sufficiency in quality findings, was achieved through quality rigor of data inquiry and analysis, diversity of participants experiences, and clear evident thematic patterns in the data (LaDonna, 2021).

Generic qualitative design was fitting for this study because it required elements of various qualitative designs but does not fit into a specific philosophical category (Percy et al., 2015). Ethnography, phenomenology, grounded theory and case studies all have specific parameters that the purpose of this study did not equate with. Ethnography involves researchers immersing themselves into the culture and contributing towards the transformative efforts (Louis, 2016). Ethnography was not sufficient due to time constraints and concern to remain unbiased. Phenomenology was also not encouraged for a dissertation due to the extremities of detailing lived experiences and essences of cognitive processes of the participants (Percy et al., 2015). This would be more suitable for a more experienced researcher. Grounded theory was also not suitable because it involves using data from people to develop a theory, which I did not seek to do (Percy et al., 2015). A case study on a particular UA program would not yield the most needed research for positive social change. There are beneficial case studies in relation to UA, such as, "Perception of Community Residents on Supporting Urban Agriculture in Mala," gaining views from one farming community deemed as a Green Earth & Urban farming project (Ramaloo et al., 2018). In contrast, this qualitative study focused on Jacksonville residents who had varying degrees of experience with UA, to gain a broader understanding of UA and its current and potential impact on food security in Jacksonville, FL. Other considerations, including narrative research and participatory

research, also did not align with the structure of this study. Narrative research involves the study of lives through storytelling, which I did not seek. Participatory action research includes participation by all stakeholders and is most often conducted by an action group with at least one expert, which also does not align with this study (Yates & Leggitt, 2016).

The generic qualitative approach is also justified further through scholarly research on the topic. For example, Bahmonde (2019), in the study entitled “Mental Health Through the Art of Gardening,” justifies the use of a generic qualitative design "to explore the perceptions” of school counselors concerning agriculture in schools to contribute to mental wellness of students (p.33). Percy et al., 2015) also break down the specific parameters for using a generic qualitative design: 1) Research problem requires a qualitative approach. 2) Ethnography, grounded theory, phenomenology, and case study were not fitting for the research question and purpose. 3) The researcher has a pre-understanding about the topic he or she wants to fully describe from the participant’s subjective perspectives (Percy et al., 2015). Pekince (2018) also described the use of generic qualitative design “to understand the meaning of a phenomenon based on the perspective of participants,” and where “meanings are discovered by concentrating on how individuals build the truth in their interaction with their social environment” (Merriam, 2015 in Pekince, 2018, p.432). According to this research, this dissertation study on UA and its relation to food security was a prime fit for the generic qualitative design.

A qualitative approach also aligned with the conceptual framework of the study: sustainability and food justice theories. Both sustainability and food justice theory use a multi-dimensional approach to address the issue of food insecurity. Due to the complex nature of food insecurity, the qualitative approach to research was a fitting design (Burkholder et al., 2016).

**In-Depth Interviews**

It is evident that qualitative inquiry, specifically through interviewing, is ideal in public health and human services research because it provides an "in depth understanding of participants experiences, opinions, feelings, and knowledge" (Wood et al., 2019, p.2441). This is exactly what this study set out to do. Therefore, the selection of in-depth, semi-structured interviews for data collections had multiple advantages. According to Merriam and Tisdell (2016), interviews add significant depth to understanding of the topic, and Roulston et al., (2003) pointed out that interviewing is considerably valuable in research with vulnerable populations (Wood et al., 2019). Specifically, semi-structured interviews afford the researcher the ability to tailor discussions that are unique to each participant (Wood et al., 2019). Although there are some limitations of interviewing such as time constraints and resources, there is no restrictive requirement on the length of time it takes to reach saturation (Wood et al., 2019). The qualitative interview design focuses on quality rigor and identifying reoccurring thematic patterns, as a means to data saturation. It places a broader focus on findings as sufficient, hinging on the rigor of analysis and richness of data (LaDonna, 2021). Consequently, five interviews proved to be efficient for the scope of this dissertation study. Clear reemerging themes were

recognized in the data and participants gave detailed and thorough accounts of their perspectives and experiences. The data collection and data analysis process was rigorous and required a considerable amount of time to gather all the data.

## The Role of the Researcher

The role of the researcher in a qualitative study is to evoke quality information while remaining unbiased (Burkholder et al., 2016). As the data collection instrument, the researcher (myself, Christopher Eddis) facilitated the understanding of participant experiences and views about UA and its relation to food security. I collected data accurately and effectively through gathering, organizing, and analyzing views and perceptions within the guidelines of the research methodology (Burkholder et al., 2016). My ability to create a rapport with the participant was essential. Full disclosure of informed consent procedures ensured participants are comfortable discussing true experiences and perceptions about UA and food security (Burkholder et al., 2016).

After examining any potential personal or professional biases, I held firmly to having no conflict of interest that would compromise the study in any way. The participants' incentive to partake in this study is firstly to help further the cause of food justice in the community. For compensation of participants time, participants were given a gift certificate to a local grocery store. This incentive was justified so the study will move forward with ease. By providing this small incentive, individuals were more willing to dedicate their time and personal views, and the gift certificate served as a sign of respect for their time and willingness to discuss important topics and report their views truthfully.

It was also essential for me to be aware of the complex and potentially sensitive nature of the topic and therefore be constantly mindful to never cause stress for the participant when asking questions. When engaging in dialogue, I remained conscious of these important guidelines and did not ask any questions that have potential to cause emotional harm. No in-depth questions were asked about poverty, food insecurity, income, etc., and questions mainly centered around UA and its ability to provide better, affordable food options in the community. Informed consent was also fully established and explained during the preliminary screening for interviews and before and after the interviews took place (Sundler et al., 2019). The participants' names and personal information will never be disclosed, and all names and personal information will be kept confidential.

## Methodology

### Participant Selection Logic

#### *Sampling Strategy & Criterion*

The study took place in Jacksonville, FL, Duval County, the largest city in the United States according to land mass (EPA, 2012). It focused on the neighborhoods surrounding the downtown of Jacksonville, FL, which are more disadvantaged and impacted by poverty, food insecurity, and food deserts in comparison with other areas of Jacksonville (Brown, 2019; Waite et al., 2015). The major sampling criteria in a qualitative study is the presence of the phenomena being studied (Jackson et al., 2019). In addition, generic qualitative studies seek information from representative samples of people to gain rich information about the subject (Percy et al., 2015). Therefore, five

participants were selected to participate in semi-structured, in-depth interviews (Lange et al., 2019). The three major criteria for interview participants were:

1) Over the age of 18

2) Resident of Jacksonville, Florida

3) Identification of food insecurity issues (not having adequate supply of food for oneself and/or family on a consistent basis).

Participation in UA was not a requirement. It was important to understand perceptions of UA from those with various degrees of experience.

***Selection Procedure: Voluntary Informed Consent Form***

Participants were recruited using a social media post on Facebook and Instagram. The social media flyer included information about the study and a link to the Voluntary Informed Consent Form on Google Forms. The initial outreach to potential interview participants yielded three participants that met the study criteria. I followed up by phone to schedule phone interviews, confirming important information and establishing rapport with the participants. To gain more qualified participants, a paper flyer was distributed and hung up in grocery stores, libraries, bus stops, local human services organizations and various UA sites in and surrounding the Urban Core of Jacksonville, FL, including organizations that are involved with addressing food insecurity, such as Feeding Northeast Florida. The paper flyer included a phone number to text for potential participants to receive the UA study information (Voluntary Informed Consent) directly to their phone. A total of nine participants filled out the online Voluntary Informed

Consent Form; however, only five met the study criteria. Two people did not identify with food insecurity, one could not be contacted, and one form was a duplicate.

Participant selection branched out through multiple sites and online platforms to be thorough and diverse. Due to the selection of participants considered as a vulnerable population, along with the in-depth nature of data collection (semi-structured interviews up to one hour long), the process was rigorous and time-consuming. However, the final interviewee selection included participants who all identified with food security, varied in age, gender, and degrees of experience with UA.

***Social Change***

There are multiple factors contributing to the decision to conduct the study in Jacksonville, FL. According to the Duval County Community Health Improvement Plan (2017-2019) facilitated by the Florida Department of Health, one Strategic Priority is to "increase access to nutritious and affordable food" (2019, p. 5). Some initiatives outlined in the plan include the establishment of community gardens, school gardens, and collaboration with organizations such as Department of Health-WIC, SNAP, and UF Health Extension Office to expand access to healthy foods. Another goal includes initiatives to increase healthy food choices (Florida Department of Health, 2019). The revised Duval County Community Health Improvement Plan (2017-2022) also includes these food security health goals as well.

In addition, a recent study commissioned by the City of Jacksonville (2019) "Northwest Jacksonville Food Desert Study Report, March 18, 2019" exhibits the need for fresh, healthy food outlets, especially in Northwest Jacksonville (Brown, 2019). The

study went on to say that Northwest Jacksonville has over 240 retail stores that accept EBT for purchases, such as convenience stores, but these stores offer little to no healthy food options such as fresh fruits and vegetables (Brown, 2019). The City of Jacksonville has now implemented a Food Desert Ordinance for Northwest Jacksonville (Health Zone 1) for more accessible healthy food choices (Brown, 2019).

***Saturation & Sample Size***

In qualitative research, the concept of saturation helps to determine an appropriate sample size. With varying researcher opinions on how to specifically define saturation, qualitative researchers are shifting their perspective to a focus on quality findings as *sufficient,* with sufficiency depending on both "rigor of the analytical process (analytical sufficiency)" and "the richness of data it generates (data sufficiency)" (LaDonna et al., 2021, p. 608). The theory of qualitative saturation places the focus on the value of unique human perspective. (Pekince & Avci, 2018). The IRB approved the selection of five to seven interviews for this qualitative study. Five interviews proved to be sufficient due to multiple factors:

1) Purposive sampling & rigor of participant recruitment: Purposive sampling was utilized for this study, the backbone of qualitative research (Staller, 2021). It took an intricate selection process to find participants who identify with food insecurity, a vulnerable population. Although personal information is kept confidential, it took courage for the participants to identify with food insecurity on an informed consent survey and discuss their views on UA. Despite this challenge, it was important to conduct a study that filled in the gap in

understanding views of food insecure individuals on UA (van Rijnsoever, 2017). (Note: This study took place during the COVID-19 Pandemic (2022). In person participant selection was originally planned for the study, but due to cautionary measures taken for COVID-19, participant selection had to take place online and with paper flyers.) Although this was an obstacle, I made sure to be as diverse as possible in recruitment strategies. When online recruitment was not yielding enough qualified participants, I filed with the IRB to change the recruitment strategy to include physical flyers as well. This change was approved, and the study recruitment flyer was hung up in multiple urban areas of Jacksonville, FL including supermarkets, libraries, bus stops, convenience stores, and UA sites, which helped to yield a diverse pool of participants.

2) Information rich data/ In-depth, semi-structured interviews: The quality construction and implementation of in-depth interviews, using the semi-structured interview format shows sufficiency in the data. I asked important follow up questions to clarify perspectives and experiences. Participants were detailed, truthful, and candid speaking about their personal experiences and perspectives on UA, demonstrating the value of human experience (Pekince & Avci, 2018).

3) Rigor of data analysis: The rigor of data analysis strategies implemented in the study showed the emergence of clear, quality themes to sufficiently answer the research question (LaDonna et al., 2021). This included initial coding, second, third, and final coding processes. Multiple levels of coding were used to

document subthemes, categories, and overarching themes (Table 7). Values coding was also used to provide an in-depth perspective to the data.

4) Participant diversity: Purposive sampling provided a mix of individuals that varied in age and family size. Participants also varied in their experience with UA (Table 1 & 2). For a smaller sample size, it was essential have diversity in participants to contribute towards data sufficiency (Staller, 2021).

5) Researchers continue to shift towards the perspective that saturation is not about the number of participants, rather the quality of information (Staller, 2021, LaDonna et al., 2021 & Rijnsoever, 2017). Staller (2021) focuses on relationships between the data, rather than, how many participants are enough. The better questions to ask, are how? and why? in relation to the data. Adding more participants would not have changed or influenced the themes already found (Staller, 2021).

6) Multiple factors influenced the sample size of five being the final number of participants for this study. The range in a qualitative study is anywhere from 1-700, and sample size is mainly based on resources and purpose of the research (Staller, 2021). It is important to point out the limited resources and time constraints in a dissertation study. The purpose of this study was to understand the perspectives and experiences about UA from food insecure individuals. This purpose was achieved with five participants.

## Instrumentation

### *Semi-Structured Interviews*

The primary source of data collection was through semi-structured interviews questions, which centered around the goal of the participant describing experiences and views concerning UA and food security (Pekince & Avci, 2018). The interview questions were constructed using qualitative guidelines, designed around one central question, "How does UA contribute towards greater food security?" (Pekince & Avci, 2018). Semi-structured interview questions provided an important guideline to fulfill the purpose of the study, while maintaining the flexibility needed to evoke meaningful responses from the participant (Pekince & Avci, 2017). In-depth interviews are sufficient because of their detailed nature and ability to answer research questions; therefore, no other source of data collection is needed.

This was an appropriate choice because it enabled the researcher to ask specific questions which evoked a complete description of the person's views of UA (Lange et al., 2019). In addition to collecting concrete descriptions and perspectives as raw data, the following methodological principles and analytical steps were used.

### *Interview Procedures*

Before the interviews began, full disclosure of informed consent was established with the participant through the Voluntary Informed Consent form. One major criterion was structuring questions that are unbiased and do not guide the participants towards a specific answer (McMahon & Winch, 2017). Also, most questions are open-ended to evoke a substantial dialog concerning the participants' perceptions and views on the topic.

### *Data Collection*

Interviews were conducted over the phone and recorded using an iPhone application. This ensured accuracy in the transcription process, as well as allowing the interviewer the full capacity to listen and engage with the participant. The interviews lasted a mean average of 30 minutes per participant.

### *Debriefing*

Debriefing was conducted at the outset of data collection (McMahon & Winch, 2017). During the debriefing process, I reiterated the purpose of the study and what the data will be used for. Although there are no changes in the use of data, it is important the participant is clear about how the information they shared will be utilized. This procedure can also be referred to as the exit-interview consultation and is used for validation (McMahon & Winch, 2017). Confidentiality was also discussed, thanking the participants for their time and for discussing this important topic.

## Data Analysis Plan

### *Transcription Process*

Sense of the whole is the concept to utilize during and after transcription, where the researcher sets all distractions aside and is completely engaged in the process (Jackson et al., 2018). After transcribing the interview word for word using the program Rev.com, the I read over the transcription multiple times in a quiet place, keeping an unbiased and open perspective of what the participant shared. This established credibility in the data collected. According to McMahon & Winch (2017), it is important that debriefing also occurs within a short time frame after the interview is complete.

Therefore, the researcher transcribed and coded the interview within one to two days following the interview to ensure the information is as accurate as possible and immediately shared the transcription with the dissertation chair and committee for review.

***Thematic Analysis***

Using inductive reasoning and driven by the data, I used thematic analysis to locate themes and similarities which point to meaning in the data (Sundler et al., 2019). The main goal was to use a reflective mindset to determine significance in the participants 'descriptions as they relate to the phenomena. As I located meanings in the data, they are marked with short notes (Sundler et al., 2019).

Thematic analysis is a process in which the transcription is re-evaluated multiple times. Through reading and re-reading the transcription, the researcher kept an open mind and became very well-versed with the data (Sundler et al., 2019). At the conclusion of each reading, specific meanings were related to one another to establish patterns, called subthemes, from the participant's responses (Sundler et al., 2019).

The patterns were then formulated into larger significant subcategories and themes, that became evident when comparing the data from multiple transcriptions (Sundler et al., 2019). It was of special importance to use significant words to identify meaning related to themes of the phenomenon. (Jackson et al., 2018).

Lastly, themes were then organized into larger meanings of the whole (Sundler et al., 2019). Overall, the purpose of analysis was " to find insights that apply more

generally to the cases being studied in order to emphasize what we may have in common as human beings" (Todres & Holliday, 2010 in Jackson et al., 2018, p. 3312).

## Issues of Trustworthiness

### *Research Ethics and Codes of Conduct*

The selection of methodology and research procedures aligned with the values of the Ethical Standards for Human Services Professionals and the National Association of Social Workers (NASW) Codes of Ethics. Both codes reference ethical research standards that were adhered to. The NASW Code of Ethics states that research should promote access to social resources and respect all fundamental human rights (NASW Code of Ethics, 2017 & NOHS Ethical Standards, 2015). In addition, the NOHS Code states that research should recognize all cross-cultural biases and address limitations. The limitation of this study is the low number of participants. Results should not be generalized to all food insecure individuals.

The principles of autonomy and beneficence were considered throughout the research process in order to minimize any risk to participants (Sobocan et al., 2019). In order to protect participants confidentiality, informed consent was fully established before, during and after the research process to ensure research participants are informed about the purposes, methods and risks associated with the research, and they voluntarily consented to participate (Sobocan et al., 2019). Every measure to uphold the principles of justice, respect, and fairness will be upheld (Sobocan et al., 2019). In consideration of ethics of practice, equitable selection was applied when selecting participants (Sobočan, et al., 2018). The selection of participants was non-invasive and in community friendly

environments. There was not significant monetary compensation to avoid participants misrepresenting the eligibility criteria (Mirick et al., 2017).

Although interview participants identified as food insecure, this was not the main area of focus for the interviews. The interviews sought to understand the participants' experiences and perceptions of urban agriculture. This ensured there is no undue harm to participants from potentially stressful emotional reactions discussing a more sensitive topic.

### *IRB Requirements*

The role of the Institutional Review Board (IRB) is to ensure research is conducted in an ethical manner and meets specific requirements according to a universal research law in the United States. The Code of Federal Regulations exhibits the main criteria of IRB requirements. The fulfillment of this dissertation diligently fulfilled all subparts, especially Part 46-Protection of Human Rights. Being that the IRB is required to be especially cognizant of research that involves participants with economically and educationally disadvantaged persons, the following ethical challenges will be addressed. (eCFR. 46.3).

## Summary

In conclusion of this methodology section, the qualitative research design outlines how the study was conducted. For this generic qualitative study, in-depth interviews took place over the phone. The purpose was to understand how UA is viewed and utilized by those experiencing food insecurity. This will ultimately help determine how different programs can be most effectively facilitated in the future for community food

sustainability. This research will also aid in the development of new programs that benefit this community. All precautions were taken to protect the autonomy and rights of the individuals, including establishment informed consent throughout the data collection process. All due diligence was taken to meet IRB requirements, research ethics and codes of conduct.

# Chapter 4: Results

## Introduction

Chapter 4 is an exploration of the participants' perceptions and experiences with UA in Jacksonville, FL. Throughout this chapter, themes are discussed that shine light on the fact that food insecure individuals are interested in UA and appreciate acquiring their food locally. The research question for the study is: How do food insecure individuals perceive and experience UA as a contributor towards food security in Jacksonville, FL? The purpose of this study is to understand how different forms of UA are working for food insecure families and individuals and to understand their views and experiences with UA. Chapter 4 outlines the setting, demographics, data collection, and data analysis procedures.

## Setting

Participants completed an online informed consent form prior to the interviews. A phone interview was the only option for the setting of this study. Five interviews were conducted over a recorded phone call from my home office. All participants completed the interviews, and there were no requests to withdraw from the study. In addition, every participant was content and there were no signs of mental or emotional distress from the interviews.

## Demographics

Five individuals, four women and one male, who live in Jacksonville, FL and identify with issues of food insecurity, participated in the study. Participants ranged in age from 32 years old to 62 years old. They also ranged in family size from one person

households up to a four person household. Participants identified with different levels of experience with UA. This diversity in experience is identified as ***Subtheme (S0):*** *Participants Identify with Different UA participation.* Each participant shared their experiences and perspectives on UA, and all had a *positive outlook and interest in UA (S0).* These themes will be elaborated on throughout Chapter 4. Table 1 illustrates the participants general experience with UA, family, size, and age.

**Table 1**

*Participant Demographics and Experience With UA*

| Participant | Family size | Age | Experience with UA |
|---|---|---|---|
| I.1 | 1 | 62 | Community garden & farmers market |
| I.2 | 3 | 32 | Farmers market/Fresh Access Bucks |
| I.3 | 1 | 47 | no experience with UA |
| I.4 | 2 | 60 | Backyard garden, community garden & farmer's market |
| I.5 | 4 | 46 | Farmer's market & garden club |

## Data Collection

The online participant recruitment flyer was posted on social media (Facebook and Instagram), as well as forwarded to relevant organizations and residents of Jacksonville, FL through this social media. This took place directly after IRB approval was received on May 2, 2022. A link to the Online Participant Questionnaire and Informed Consent Form using Google Forms was included on the online participant recruitment flyer. The recruitment flyer circulated online for 3 months, with some

participant feedback. Two Voluntary Consent Forms were completed, and both people met the qualifications of the study. I followed up to schedule phone interviews for a time and day that worked well for the participant's schedule.

Due to this lower-than-expected participation, a change of procedure form was submitted to the IRB for approval of a paper flyer to seek the remaining necessary participants. Upon approval from the IRB on August 8, 2022, a paper flyer was distributed and hung up in Jacksonville, FL at relevant locations such as UA sites, bus stops, libraries, and grocery stores. The flyer was slightly edited to include a phone number/text line for interested participants to text and receive the link to the online informed consent form via text message.

After a month of letting the flyers circulate, a total of seven more individuals completed the survey. A total of three new people met the study criteria; two people did not meet the study criteria, one person did not respond to further contact for the study, and one qualified person filled out the survey twice. Therefore, a total of three more interviews were scheduled for people who met the study criteria, totaling five confirmed interviews in total. The original study criteria were five to seven, and due to the vulnerability of identification with food insecurity it was difficult to obtain participants. Participant recruitment continued until September 6, 2022. Interviews took place between September 7, 2022, and September 21, 2022. Upon completion of each interview, the participant was emailed a $20 gift certificate to a local food market.

The interview data was recorded electronically using the iPhone application for recording. All participants were informed the interview would be recorded, could be

stopped at any time, and data would be kept secure and confidential. Interview times varied slightly in length, averaging approximately 30 minutes. Sixty minutes was the initial estimate for how long the interviews may take, and when actual interviews took place, 30 minutes was sufficient to ask all the questions and for participants to give detailed responses. Once the interviews were completed, the data was transcribed using Rev.com and uploaded into Microsoft Word for data analysis. Interview recordings were transferred from the computer and stored on an external hard drive for security. Follow up interviews were not needed, and the data collection methods outlined in Chapter 3 were completed.

## Data Analysis

This generic qualitative study explored the perspectives of UA and experiences with UA, of Jacksonville residents that identify with food insecurity. Each of the five interview participants were asked the same 17 questions regarding UA. These questions were semi-structured, and I asked additional follow up questions to gain a better understanding of the participants' views and experiences with UA, when necessary. Each interview was transcribed electronically using the program Rev.com. The transcriptions were uploaded into Microsoft Word and read simultaneously with the recordings to ensure accuracy of the transcriptions.

Throughout the transcription process, I became more well-informed of the views and perspectives of each participant on UA. It became clear after the initial reading and re-readings of each of the five interview transcriptions, clear themes were emerging from the data, and the interviewees had the willingness to share their experiences (Chitac,

2022). Various UA experiences were disclosed and truthful perspectives on UA and food security were shared, providing valuable, detailed information related to how UA can be utilized toward food security goals for the individuals and their community. Through further analysis and processing of raw data, significant meaning continued to be highlighted and quality findings were sufficient to mark as data saturation (LaDonna, 2022). The data were analyzed through a rigorous process of coding. Due to the diversity in participants, their diversity in experience with UA, more interviews would not equate with new themes. It is also important to note that due to the limited time and resources of a dissertation study, I wanted to ensure data analysis was completed thoroughly and recruitment of new participants would have taken time away from this crucial step. Five participants proved to answer the research question in meaningful richness, as will be displayed throughout the Results section.

**Coding and Themes**

The concepts of coding highlighted by Saldana's Coding Manual (2013) were used in this study. Being that this is a dissertation study, manual coding was used so that mental energy was focused on the data, rather than the software (Saldana, 2013). Thematic analysis, or thematic coding was used to create themes in the responses of the interview participants. Open coding was first used to decipher an initial set of codes, highlighting important information as field notes on each individual interview transcript. The majority of first cycle coding used initial coding and in vivo coding, quoting participants. Color coding was used for any similar answers from the participants to help develop subthemes. This step aimed at classifying the data in terms of subthemes,

highlighting similar words, phrases, and concepts. During this process, interviews were read numerous times over again.

**Second and Third Cycle Coding**

Next, each interview question / topic was listed on a coding chart in Microsoft Word. Preliminary codes from the participants' answers were identified on the chart as subthemes. This chart helped to identify further patterns that began to immerge from the data, known as Second level coding, or axial coding. After all the interviews were coded, the data was reanalyzed, and participant's codes were compared using the constant comparison method and staying close to the data through the process (Williams & Moser, 2019). Subthemes were read over and grouped according to connections in the codes and sorted into subcategories to show relevance in the data. These new categories, or axial codes, were documented in the coding chart to classify the data, See Table 7 (Williams & Moser, 2019).

***Selective Coding/Final Themes***

Finally, the process of selective coding, or third level coding, was used to establish the major themes and meaning in the data. More in vivo codes were used during this process, as to stay as close to the original sentiment of the participant as possible. The third-level codes or subcategories that emerged from the second and third-level codes were *(1) Perception that most UA is healthy & affordable, (2) Need for more UA options/programs, (3) UA benefits the community through supporting personal and community sustainability and overall environment, 4) Need for UA to be easily accessible,* and *5) Potential barriers to UA participation & level of impact UA can have*

*on food security include location/ vicinity to residence, transportation/ accessibility and/or lack of resources.*

Overarching themes for the study were then observed: *(1) An overall positive perspective on UA, support of local, fresh food sourcing, and its ability to contribute to food security* and *(2) UA can contribute to food security by providing fresh, healthy food when there is more available, it is affordable, and easily assessable; contributing to overall personal and community sustainability.* There were no discrepant cases to report.

## Evidence of Trustworthiness

The following elements of trustworthiness were evaluated: credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985 in Stahl & King, 2020). According to Korstjens and Moser (2018), there are multiple ways to evaluate credibility, or the ability of the research findings represent reasonable data coming from the participant's original responses. For this study, peer debriefing was used. Peer debriefing provides the researcher with a detached, unbiased view of the research procedures and data (Stahl & King, 2020). Therefore, this study used the feedback of the dissertation chair and committee to evaluate interview coding and data analysis.

The second criteria of trustworthiness, transferability, was also evaluated. Transferability refers to the degree the findings can be transferred or applicable in real situations (Korstjens & Moser, 2018). It is the researcher's responsibility to provide a rich description of the data, which is all outlined in the data collection section of this study: sample size, sample selection process, inclusion criteria, and interview procedures (Korstjens & Moser, 2018). In terms of applicability, this study establishes a need for UA

that is affordable and easily accessible. It is important to point out that results are variable and may or may not apply in similar circumstances. It is up to the reader to use their own transferability judgement (Korstjens & Moser, 2018).

One aspect of dependability in this study is the reliability of the researcher. Interview questions were in the semi-structured format to ensure participants could give detailed and in-depth accounts of their perspectives and experiences with UA. During the interviews, important follow-up questions were asked for clarification and in-depth understandings of the phenomena. The second aspect of dependability involved the technology system and its ability to perform a service that can be trusted. The interviews were transcribed using the recording program, Rev.com. To be certain the technology worked correctly, the interviews were read simultaneously with the recordings to ensure accuracy. In addition, bracketing during the coding process was used to separate participant responses from data interpretations, always being mindful of researcher bias.

The fourth element of trustworthiness is confirmability. Confirmability refers to "getting as close to objective reality as qualitative research can get" (Stahl & King, 2018). Therefore, precision and accuracy were evaluated every step of the way during the research process and analysis. Confirmability also considers the degree of neutrality (Korstjens & Moser, 2020). All conclusions, themes, and viewpoints were formulated from the data itself and researcher views did not influence these findings. In addition, the interview transcripts were read and re-read throughout the analysis process, and the researcher provided a detailed audit trail of the findings made during the analysis. An

audit trail makes the research design, data collection procedures and analysis, and methodology transparent: all which is included in this dissertation paper (Cacary, 2020).

## Results

This research study examined experiences with UA, and perceptions of UA from food insecure individuals in Jacksonville, FL, especially as UA relates to food security. In the following section, sub-themes, categories, and major themes that emerged from data analysis are discussed and displayed. Interview participants had varying degrees of experience with UA in Jacksonville, and all had interest in different forms of UA. This attitude concerning UA is displayed as a major subtheme; ***Subtheme 0 (S0):*** *Varying experiences with UA; overall interest and positive outlook of UA.* Table 2 below outlines specific UA involvement and length of time participating in UA programs. Only one participant had no specific experience with UA. However, inclusion criteria did not include active participation in UA. This gave a more diversified perspective to understand how food insecure individuals view UA and its potential contribution towards food security for oneself, family, and community.

### Participant Experience With UA

The following information about participant experience was derived from Interview Questions 1 through 4.

- Question 1*: There are many forms of Urban Agriculture (UA) including but not limited to community gardens, urban farms, community farmer's markets, community supported agriculture (CSA's) farm delivery services, farm*

*cooperatives, livestock, bee gardens, school gardens or a backyard garden? What is your experience with UA?*

- Question 2*: How long have you been participating in this form of UA?*
- Question 3*: How did you hear about this program/service?*
- Question 4*: Can you tell me more about your experience participating in this initiative?*

Table 2 shows the level of experience with UA from all five participants.

**Table 2**

*Experience with UA in Jacksonville, Florida (Interview Coding Chart)*

| **Theme** | I.1 | I.2 | I.3 | I.4 | I.5 |
|---|---|---|---|---|---|
| **Overall Experience with UA** | 20 yrs<br>56 yrs | 8 yrs | N/A* | 5 yrs<br>16 yrs<br>2 yrs | a few months<br>9 years |
| **Type of UA** | CmGard (CW)<br>FarmM* (JAX) | FarmM (RAM)<br>( FAB) | N/A* | Backyard G<br>FarmM* (JAX)<br>CmGard*(CW) | Garden Clb<br>FarmM(JAX) |

*Interview Coding Key*

CmGard= Community Garden

CW= Clara White Mission Community Garden (White Harvest Farms)

FarmM= Farmer's Market

JAX= Jacksonville Farmer's Market (Beaver St.)

RAM= Riverside Arts Market

FAB= Fresh Access Bucks/ SNAP Match program available at RAM

Backyard G= Backyard Garden

Garden Clb= Garden Club

*N/A= Not Applicable/ Not currently participating in UA/ Major interest is community gardens

Overall, participants had varying degrees of experience with the following UA programs. Jacksonville Farmer's Market, Backyard Garden, Garden Club, Clara White Community Garden and the Riverside Arts Market/ SNAP Fresh Access Bucks (FAB) program. Participant 3 did not identify with participation in UA. *Participant 3 candidly responded,* "To be honest with you, I'm really not all that familiar with UA, but I am interested in learning what it's about" (S0). This response establishes support for Subtheme 0: Overall interest in UA. *Participant 3* went on to say, "I work for a food bank, so I hear tidbits here and there, but I'm not too familiar…" As priorly noted, participation in UA was not in the inclusion criteria. It was important to understand the views and perceptions of UA from someone without experience, but that did identify with food insecurity.

***Jacksonville Farmers Market (Participants 1, 2, 4 & 5)***

Participant 1 had a positive view of the Jacksonville Farmer's Market. She had fond memories of going to the market with her family since she was six years old. Participant 4 also a had a positive view of the Jacksonville Farmer's Market. She explained she frequents the market for fish and produce and started going there when she moved to the area in 2007. Participant 5 explained that he liked going to the Jacksonville

Farmer's Market and would like to go there more often. However, the market is not in walking distance *(S5),* and he works at a restaurant, so he eats there for free.

***Historic Springfield Garden Club (Participant 5)***

The Historic Springfield Garden Club group is for individuals who share a love of gardening, learning about plants, and are interested in improving green spaces in the neighborhood. The group is maintained by the Springfield Improvement Association and Archives (HistoricSpringfield.org).

Participant 5 explained he just started participating with the Garden Club, because he knows the person who runs it. He expressed his appreciation in being able to ask someone about growing that has a huge garden of her own and knows when to plant and harvest certain foods. He said they meet every Monday at the local pub in Historic Springfield and exchange clippings and seedlings. He currently has a squash and sweet potato plant growing from the clippings they gave him.

***Clara White Mission/ White Harvest Farms (Participant 1 and Participant 4)***

The Clara White Mission established White Harvest Farms with the goal to target food desert residents, low-income, homeless veterans and disadvantaged who lack education and skills for employment. This property was an ash site, until it was cleaned up by the City of Jacksonville. The property was remediated, and new soil was brought to the site to accommodate the new initiative of the mission's urban farm, White Harvest Farms. (ClaraWhiteMission.org).

Participant 1 had some experience with the Clara White Mission Community Garden. She first found out about this initiative through driving by, and then further

through working with the Clara White campaign. She went on to explain she was amazed at what they were doing and got the chance to see volunteers gardening and even do some picking. However, she never did any growing.

Participant 4 also had experience with the Clara White Mission Community Garden. She spoke highly of their programs to teach people how to cultivate and grow their own food. This participant used to volunteer at the garden, so she was aware they have a farmer's market on site which is open on the weekends, which she explained was very affordable (even more so than grocery stores or other farmers markets). She noted they have a very good variety of fruits and vegetables, and ladies come out there especially for their greens (collard greens and mustard greens). She no longer participates in this program on a regular basis, mainly due to its location.

***Riverside Arts Market (RAM) / (Participant 2)***

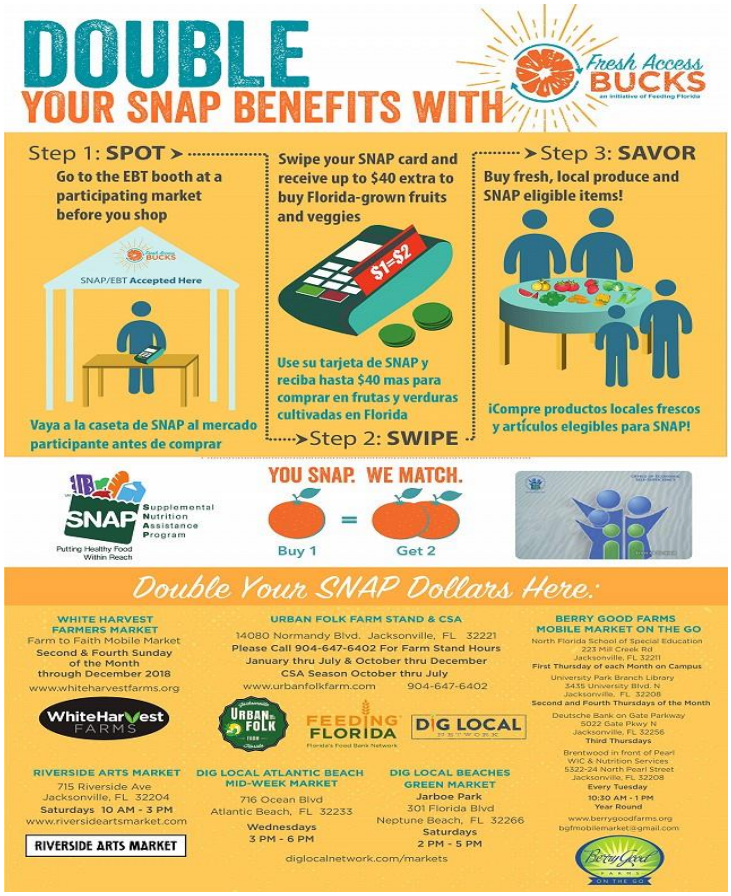
Participant 2 has weekly experience frequenting the Riverside Arts Market (RAM) on Saturdays, "It's our thing", speaking about her and her eight year old son who she's taken with her for the last seven to eight years. The mission of RAM is "Loyal to Local" and RAM is a participant in Florida's Fresh Access Bucks program.

She likes supporting RAM as a local initiative and really likes how they accommodate SNAP benefits and match it. The participant is referring to the Fresh Access Bucks (FAB) program when she says, "What I love about RAM is they have this SNAP benefits, and they match it. I like that that's available" This sentiment about her weekly experience, represents ***Subtheme 1(S1):*** UA contributes to sustainability and food security.

***Fresh Access Bucks (FAB)***

Fresh Access Bucks (FAB) is a nutrition incentive program, an initiative of Feeding Florida, that gives SNAP recipients the ability to buy fresh local fruits and vegetables from participating farmers markets, produce stands, mobile markets, and community grocery outlets, at half the price. FAB aims to address food access, affordability, and nutrition; building healthy, resilient communities supported by robust local food systems. Essentially, FAB matches your SNAP purchase when you buy local produce (FeedingFlorida.org). Figure 5 shows the FAB flyer describing the SNAP benefits program.

Figure 5. Fresh Access Bucks, an initiative of Feeding Florida Flyer




Note: from Feeding Florida (2018).

It was interesting to

find that participants were familiar with some of the same forms of UA in Jacksonville. Overall, part of the ***overarching theme*** begins to emerge from the data: *participants have varying experiences and an overall positive perception of UA.* In relation to food security, Participant 2 utilized UA to contribute towards weekly food security using the FAB program which rewards her with 50% off Florida produce at the Riverside Arts Market (RAM). Although Participant 4 has daily experience with a backyard garden, it is currently not enough supply to significantly contribute towards food security. Participants 1 and 5 also did not participant enough in UA for it to have a substantial impact on food security. And as already noted, Participant 3 did not participate in any forms of UA.

The Results section will continue to elaborate on the participant's experiences, perceptions, and attitudes about UA, especially views on UA's contribution and potential contribution towards food security. In vivo (direct quotes), are used from interview transcripts to highlight subthemes from the participant responses and are discussed in detail. Subthemes that are highlighted in bold are noted throughout the results section. Table 7 on pg. 88 represents all of the subthemes that are highlighted throughout the results section.

**Participant Perceptions on UA in Relation to Food Security**

The following section reveals and discusses participant's perceptions of UA and food security. This information was analyzed from Interview Questions 5, 6, and 17.

- Question 5: *Does this UA initiative contribute to greater food security for yourself and/or your family? If yes, please explain how*.

- Question 6: *Do you think any of the programs regarding community farmers' markets or urban agriculture can contribute to better food access to the community?*
- Question 17: *Do you have anything to share about programs that would make healthy affordable food more accessible to you?*

See below table 3 on participants perceptions on UA in relation to food security.

**Table 3**

*Participant Responses- Perceptions on UA in relation to food security*

| | Participant Responses |
|---|---|
| Participant 3 | In response to Interview Question 6, "Well, for one thing, it would keep funds in the community***(S1).*** If I was to purchase food from a community garden, it would support our community members **(*S2*).** It would be something that's healthy and nutritional for me ***(S3, VC2)***. Well, I'm the one person as a family, so it would be something that's good for me to purchase something from a fresh garden rather than go into a grocery store and buying something that's processed" **(*S3*** ***Subtheme 1 (S1):*** *UA & Sustainability (Self-sustainability & community)* ***Subtheme 2 (S2):*** *Desire to support local* ***Subtheme 3 (S3):*** *UA provides healthy and fresh food (desire to be* ***Values Code 2 (VC2):*** *Passion/enthusiastic about supporting local healthy)* |

Participant 5

Following up to Question 17, the *Interviewer* asks, “How does urban Agriculture, any of the programs for UA, how is it helpful in Acquiring healthy, affordable food?

*Participant 5:* “Oh, with the whole learning factor, you can learn how to do it yourself and the fresher the better I would think*”.* ***(S1 & S3***

*Interviewer:* “And what about affordability? Do you think it could be more affordable if more communities got together and had community gardens and shared that way?”

*Participant 5:* “Definitely, … to share different things with each other, say you have one fruit that somebody else doesn't…” ***(S2 & S3)***

***Subtheme 1(S1)****: UA & Sustainability: Learn to grow food yourself*

***Subtheme 3 (S3):*** *UA provides healthy and fresh food (desire to be healthy)*

***Subtheme 2 (S2):*** *Supports local*

in response to Questions 5 about UA and food security for self & Family “Yeah, definitely. Just to have it locally grown ***(S2)*** produce close by ***(S5)*** that's readily available and not crazy expensive, pretty reasonably priced ***(S4)***

I think is a good thing. Plus I'd like to start doing it more my own where I can(S1) ... But I don't have really the size yard. But I could definitely do some more in my yard than I've been doing to help sustain myself.”

***(S6*** In response to Questions 6 about UA and food security for "I guess it does help with community. It's a little far away from where I'm at right now. It's not really in walking distance, but I think there could be more community gardens ***(S7).*** There was definitely a few more five\ years ago, that are no longer around. I guess maybe they didn't upkeep them… but there was three of them within this area within a mile and those three are all gone now. It's just the Garden Club and the Beaver Street Farmer's Market."

***Subtheme 4 (S4)****: UA contributes to better food security when its offered at lower prices*

***Subtheme 5 (S5):*** *UA contributes to better food security when it is easily accessible*

***Subtheme 1 (S1):*** *UA & Sustainability: Desire to be more self-sustaining UA supports self-sustaining practices*

***Subtheme 6 (S6):*** *Interest in backyard gardening for food security needs; Obstacle: yard size*

*Obstacle: animals destroying crops*

***Subtheme 7 (S7):*** *Need for more UA (Community Gardens)*

Participant 1 In response to Questions 5 & 6: "Yes because it's just me. So, a bag of Lettuce and a tomato might be just suffice for me so I can pick that up

just about anywhere"… "I don't think the supply is big enough… for a family…Well it could be." ***(S7 & S8)***

In response to a follow up question from Question 17 the *Interviewer* asks:

"Is there anything else you want to share about the programs that would make healthy, affordable food, more accessible?

*Participant 1:* "The people around me… I've heard and seen that they have a hard time getting in and out the grocery stores, but they're building grocery stores. And the only thing I think that's hurting people probably is their transportation, getting there." ***(S5)***

***Subtheme 7 (S7):*** *Need for more UA*

***Subtheme 8 (S8):*** *UA supply may not be large enough for families*

***Subtheme 5 (S5):*** *UA is contributes to better food security when it is easily accessible for community members*

Participant 2 In response to Question 5 about family food security: "Absolutely, I feel like [food security] that's one of the benefits. That's one of the important things about the urban agriculture. I think it would improve, Yes, definitely."***(S1)***

In response to Question 6 about community food security: "I absolutely think so. It would improve health." ***(S3)*** "And it cuts down on so many costs." ***(S4)*** In response to Question 17: "The importance of it, of community ***(S2)*** and nutrition*(S3),* the economy, our local economy

***(S2),*** reducing our footprint and carbon footprint (*S9)* and just keeping things green here and local here ***(S2),*** for our babies, for our kids- to be healthy ***(S3)*** and engaged in nature. And just the beauty of our agriculture here."

***Subtheme 1 (S1):*** *UA Contributes towards food security*

***Subtheme 2 (S2):*** *Supports local*

***Subtheme 3 (S3):*** *UA provides healthy and fresh food, beneficial for kids health*

***Subtheme 9 (S9):*** *UA is good for the environment/children/engage in nature*

Participant 4 In response to Questions 5 & 6, "I think there should be a lot more people like

me that grow vegetables and fruits and things in their backyard *(S6*), to have a little garden. It needs to be done more…(***VC1)*** I definitely believe that it can help, but I think there needs to be a lot more."***(S7)***

In response to Question 17, "Those [UA] I've heard about…and doing my own backyard gardening and wanting to expand to do the bees is just about everything to me because I want my home and yard to be self-sustainable."**(*S1)***

***Subtheme 6 (S6):*** *Interest in backyard gardening for food security*

***Subtheme 7 (S7):*** *Need for more UA*

***Subtheme 1 (S1):*** *UA & Sustainability: Desire to be more self-sustaining*

***Values Code 1 (VC1):*** *Responsibility of individuals to be more sustainable*

All participants had positive things to say about UA and its potential to contribute to food security, supporting the developing overarching theme of the study; participants express an *overall positive view of UA and its potential contribution towards food security*. *Participant 3* had no direct experience with UA programs but had a positive outlook regarding UA and food security. She spoke with conviction it would support the community by keeping funds in the community and by providing healthy, nutritious foods. Participant 4 and 5 both had positive views on UA's contribution to food security, and both felt there should be more available in their direct community. *Participant 3* felt that if she was able to purchase from a community garden it would keep funds in the community, and therefore contribute to overall food security for the community. *Participant 2* had an exceptionally positive outlook on food security as one of the important "benefits" of UA. *Participant 2*, a weekly supporter of the local UA initiative Florida Access Bucks (FAB) / SNAP program, also reflected a similar view to participant 3, noting UA keeps money in the community and supporting local is best for the community ***(S1 & S2).*** Participant 1 was somewhat hesitant that UA would not be able to supply enough for a large family, but hopefully it could. This establishes a need for more UA as well. However, she definitely thought that it would be enough for herself and

contribute to overall food security for the community. The initial subcodes generated from participant responses on UA and food security point to ***Second Level Codes:***

*(1) Perception that most UA is healthy & affordable*

*(2) Need for more UA options/programs*

*(3) UA benefits the community through sustainability & overall environment*

Finally, for third level coding and to establish meaning from the data, an ***Overarching Theme*** continues to develop: *UA can contribute to food security by providing fresh, healthy food when there is more available, it is affordable, and easily assessable; contributing to overall community sustainability.*

**Participant Interest in Backyard Gardens, Community Gardens & Other UA Programs**

***Backyard Gardens***

The participants discussed backyard gardening based on Interview Questions 8, 11, and 16. A clear theme emerges here from the data: ***Subtheme 6 (S6):*** *Interest in Backyard Gardening.*

- Question 8: *Would you be interested in programs that help you start your own backyard garden?*
- Question 11: *Are you interested in other UA programs, such as backyard gardening, community gardens or urban farms to grow your own fruits, vegetables, and herbs to meet your food security needs? Why or why not?*

- Question 16: *Are you interested in learning more about safe gardening practices, such as planting vegetables in raised beds, and/or being a part of a community garden to grow your own fruits and vegetables*?

*Participant 4* reflects on backyard gardening, "My experiences are I have a backyard garden. I started a vegetable garden. I have a butterfly garden and I'm trying to start fruit, but nothing has developed or grown yet. I've had one good bell pepper and I have several ghost peppers as well, as I have a fruit tree that may bear fruit soon. But the animals in my area have been totally destroying that for me" (***S6).*** **Subtheme *6 (S6)*** further develops here: *Interest in backyard gardening / One barrier is wild animals that destroy crops. Little has grown/ could use help*. *Interviewer* asks: Would you be interested in programs that help you start your own backyard garden? Now you said you've already done that, so would you be interested in programs that help maybe get it to a point to where it's growing at a speed that you're more comfortable with? *Participant 4* responds, "Oh my goodness. A program like that would be great and perfect for me because as I was saying earlier, I have been doing this for about five years per se, but I've been talking about it for the last 15 years. But I've put it into practical steps to doing it now. But if there was some sort of program to help, I would really love the structure. Because of course now, it's all what's in my head and how I want it done. But a structured program would be great for me." ***Values Code 2 (VC2: Enthusiasm)*** is noted here regarding enthusiasm about a UA backyard gardening educational program.

*Participant 1* also showed interest in a UA program that would assist in starting a backyard garden. When asked, "Would you be interested in other programs to help start your own backyard garden?", *Participant 1* responded, "Yes, that sounds good".

*Participant 3* wasn't as interested in a program like this because she said, "I don't have much of a decent backyard to do that in." This reiterates ***Subtheme 6:*** *Barrier to implementing backyard garden is lack of backyard space.*

*Participant 2* said that one of her goals is to have her own property for chickens and she expresses her support for backyard gardens. She goes on about backyard gardens, "It takes a lot sometimes. You just have to be willing to…Like I am willing, I just don't have that green thumb. I've tried little things. I have herbs in the windowsill. They just won't last so long and microgreens." Participant 2's willingness to try planting with lack of resources shows the desire to participate in more UA; ***Subtheme 17 (S17)****: Desire to participate in more UA (backyard gardens).* It also exemplifies that a lot goes into gardening, therefore to learn this new skill, UA programs could be beneficial. When asked if she would be interested in programs to help start your own backyard garden, *Participant 2* responded, "Yes, but I live in an apartment complex". This is another example of *Subtheme 6:* Interest in backyard gardening/barrier is no approval from property management for gardening.

*Participant 5* said, "the whole learning how to do it yourself factor I am super interested in because I'd like to have my own herb garden as well". This is an example of ***Subtheme 1:*** *UA (backyard gardening) supports self-sustaining practices* and ***Subtheme 6:*** *Interest in Backyard Gardening*. Participant 5 also noted he has little backyard space

but could do more in his backyard. With this sentiment, *Participant 5* reiterates

***Subtheme 6 :*** *Interest in backyard gardening, but a barrier to implementing it is lack of backyard space.*

***Community Gardens***

Each participant was asked what form of UA they would be interested in and all five participants noted experience and/or interest in community gardens.

- Question 11 : *Are you interested in other UA programs, such as backyard gardening, community gardens or urban farms to grow your own fruits, vegetables, and herbs to meet your food security needs? Why or why not?*

**Table 4**

*Participant Responses- Perceptions on UA (Community Gardens)*

| | Participant Responses |
|---|---|
| Participant 1 | "the community garden, I would be really interested in" ""it will help with the cost of food. It has really gone up now". ***(S4 & S10*** "I know Clara White has a community garden. I think theirs is out on Moncrief. They used to have one right there at the facility on Broad Street, but I don't think they any longer have that one*."****(S11)*** |
| Participant 2 | "I would love that [a community garden]. I've brought that to the Attention of my apartment manager so many times" "I think it would improve health". ***(S3 & S10)*** |
| Participant 3 | [Out of the UA mentioned] "probably a community garden. I believe in my neighborhood, I've been told there is farm or garden if |

that you can go and pick fresh fruits and vegetables. I haven't yet visited the garden, but I was pick one of those [UA], it'll probably be a community garden." ***(S10)***

Participant 4 "They have it open on the weekends and it's called White Harvest Farms. It's really a nice farm area that they have out there. Fresh vegetables, fruits, they have lemon grass growing and it's really farmers nice. "Very affordable, yes, they will beat grocery stores [prices] and markets" ***(S4 & S10)***

"Having a community garden would make access to fresh vegetables without a lot of chemicals or things like that being put on them ***(S9).*** The nutritional value, the nutrients would be greatly increased ***(S3)*** because you would know what's in the soil, how it's being grown and what the benefits are, because you'll know what you're growing and it'll be close and local

***(S5).*** You won't have to travel so far ***(S5)*** in order to have fresh fruit and/or vegetables or chickens and eggs and even bees and honey".

Participant 5 "I definitely am interested ***(S10)*** because we can't rely on the big conglomerate places like Walmart of something to buy all of our herbs, spices, fruits, vegetables, everything like that ***(S2).*** I think it should be more readily available and close by ***(S5),*** it would be more fresh for sure" ***(S3).***

"I think there could be more community gardens. There was

> definitely a few more five years ago that are no longer around. I guess maybe they didn't upkeep them or whatever, but there was three of them within this area, within a mile, and those are all gone now*"* ***(S7 & S10)***

All the participants showed interest in community gardens. Therefore, a primary subtheme emerged from the data, ***Subtheme 10 (S10):*** *Participant interest in community gardens.* Participant 1 and 4 both share the perception that community gardens are affordable, an example of the perceived contribution of UA towards food security when prices are low. This data supports ***Subtheme 4(S4):*** *Perception that UA (Community Gardens) make fresh food more affordable.*

Participant 2 spoke about her support of community gardens and her view that it could help improve health. This data supports ***Subtheme 3 (S3):*** *UA provides healthy and fresh food (desire to be healthy).* Participant 4 also feels that having a community garden would provide healthier food with more nutrients, supporting ***Subtheme 3 (S3):*** *UA provides healthy & fresh foods.*

Participants 4 and 5 express the need for more community gardens, echoing the sentiment of ***Subtheme 7(S7):*** *Need for more UA (Community Gardens).* Another subtheme emerges from Participants 1 and 5, ***Subtheme 11(S11):*** *Community Gardens no longer operating.* Participant 1 notes that the Clara White Community Garden is operating in Moncrief (West Jacksonville), however there was a facility on Broad St (Downtown, Urban Core), and that garden is no longer operating. Participant 5 also notes that there were three gardens in Historic Springfield (Downtown, Urban Core), however

they are no longer functioning. Participant 3 notes she would be most interested in a community garden, out of the UA mentioned. Although she heard there is one in her neighborhood, she hasn't been able to visit it.

***Backyard Chickens in Urban Areas***

Overall, the participants were supportive of backyard chickens in urban areas. The following information was derived from Interview Question 10.

- Question 10: *What are your views about livestock in the urban areas, such as chickens? That has been a debate in Jacksonville for some time*.

No participants had personal experience raising backyard chickens. Overall, participants were supportive of backyard chickens, supporting a new theme: ***Subtheme 12 (S12):*** *Overall support for backyard chickens with some concerns due to sanitary reasons and noise. Participant 2* was very supportive of backyard chickens stating, "I love that", because it is her goal to have her own property with a chicken coop one day so she can have eggs. *Participant 2* continued, "When I go [to RAM] on Saturdays, I always make sure I get a few dozen eggs. I don't know what the bad part of it would be, because that would help".

*Participant 3* explained, "I have a neighbor. I haven't seen these roosters in a while. Well, I don't know if they're roosters or chickens, but I have a neighbor that lives across the street that has had some livestock, I guess you would call them. *Participant 3* went on to explain, "I personally don't have a problem with it…as long as the rooster's not crowing" (***S12).***

*Participant 4* also has a neighbor with chickens noting, "I have experienced chickens owned by a neighbor in a yard two homes to the left of my home. And those chickens have been caught in my yard and garden sometimes. And growing up, we had such things available, chickens, and roosters and cows and goats." Despite catching the chickens in her yard *Participant 4* was supportive of anything that makes lives more sustainable ***(S1).*** She said, "I consider myself a pro environmentalist. So I'm for anything that makes our life sustainable and having a backyard garden as well as either livestock and or chickens or bees even, which I want to one day have bees in my backyard" (***S1 & S9).***

*Participant 5* was also supportive of backyard chickens, noting his experience of a friend giving him some backyard eggs. *Participant 5* said, "A friend had a chicken coop and I had some of the eggs that were delicious. They were so good ***(S13).*** They didn't even have to refrigerate them. So I definitely think that it's a good idea". Another subtheme emerges here, ***Subtheme 13 (S13): Fresh and local taste excellent.***

*Participant 1* was not supportive of backyard chickens in the city stating, "I'm going to tell you, I don't like it. It was right up the street; somebody has some chickens out there. I guess I'm a little afraid…I'm thinking of the sanitary part, because it may take a lot to make sure that ground is clear, it's clean, so that's what I'm concerned about".

***Farm Delivery Services***

When asked about awareness of farm delivery services all five participants had no direct experience with a service like this in Jacksonville.

- Question 9: *Now let's talk about farm delivery services which are similar to farm coops. Are you aware of any in this area?*

Overall, there was lack of awareness of specific farm delivery services in Jacksonville, which supported a new subtheme; ***Subtheme 14 (S14): Lack of awareness of specific farm delivery services in Jacksonville.***

*Participant 2* heard of something like a farm delivery service from the Jacksonville Mom's Blog, but couldn't remember the name ***(S14).*** *Participant 2* had the view, "It's a little pricey for me*"(**S15**),* especially compared to the SNAP benefits program she uses at the weekly farmers market. Another subtheme emerges here; ***Subtheme 15 (S15): View that farm delivery services may be too expensive***.

*Participant 4* said, "Honestly, I do not know of any in the area (***S14***). I only know of those; I think it's called Instacart… from several grocery stores that deliver vegetables…but nothing farm specific. So, it's needed." This statement is additional support for ***Subtheme 7: Need for more UA; farm delivery services.***

*Participant 1* spoke to the fact that if farm delivery services were affordable it may be a good idea. *Participant 1* said, "Now, I recently heard about that. I'm glad you brought that back up because I kind heard that listening to a report somewhere and I thought about it **(*S14*).** I said, Well, that might not be a bad idea, but then I thought about cost too, wondering what that would cost a person ***(S15),*** but then sometimes you just got to wait and put that aside and see just what you can balance out in your life or with your finances to be able to have that service brought to your home". According to Participant's 1 statement, there was lack of awareness of specific farm delivery programs ***(S14),*** and

the view that it may be too expensive as well ***(S15).*** *Participants 3 and 5* were not aware of any farm delivery services in Jacksonville, but would be interested in a service like this if it were affordable ***(S14).***

***Community Farmers Markets***

Participants also discussed their experiences, views and perceptions regarding community farmers markets. There were multiple interview questions that gave participants the opportunity to speak about their experiences and perceptions on community farmer's markets. In the beginning of the Results section, Table 2 outlined the two farmer's markets in Jacksonville that were discussed by participants, the Jacksonville Farmer's Market & the Riverside Arts Market. Participants gave more detailed information regarding these farmer's markets.

*Interviewer* asked *Participant 4:*" Now let's talk about community farmer's markets again, did you say you participate in any of them or go to them?" *Participant 4:* "I have, yes. I have recently. And yes, and I previously have gone to them, yes" The *Interviewe*r asked, Do you think that community farmers markets contribute towards better food access for the community?" *Participant 4* responded, "I believe they do help out tremendously in certain areas" ***(S16).*** A theme emerges here, ***Subtheme 16 (S16)****:* UA (farmer's markets) contribute to food security in certain areas

*Participant 2* went on to discuss her participation with the Riverside Arts Market (RAM) on Saturdays. *Participant 2* said, "What I love about RAM is they have this SNAP benefits, and they match it. I like that that's available". This statement also supports ***Subtheme 16 (S16)*** UA (farmer's markets) contribute to food security in certain

areas. In addition *Participant 2* went on to say that the [farmer's market], "It's better for fresh fruits and vegetables, they just, they taste differently. They're better for you. There's so many benefits." **(*S13*).** This echoes the sentiment of Participant 5 who felt similar about the eggs he received from a friend's backyard chickens, supporting ***Subtheme 13 (S13)****:* UA tastes excellent.

*Participant 1* elaborated on her experience at the Jacksonville Farmer's Market stating,

"I know about the farmer's market. I grew up at that farmer's market down on Beaver Street. Oh, so much, so involved with that one as far as going there with my family and my parents and grandparents. I've been going to that farmer's market since I was a six year old little girl". ***(S16)*** Participant 1 establishes that the Jacksonville Farmer's Market has been contributing to family food security for over 50 years in her case, resonating with ***Subtheme 16 (S16)****: UA (farmer's markets) contribute towards food security in certain areas. Participant 1* went on to say, "People reach out to the farmer's markets here and I think they really like some fresh vegetables and fruit and the growth that they're being able to get to the type of food, because I'm thinking it is like, I don't know, earthly grown, farm grown, and people just kind of take to that type" ***(Subtheme 3 (S3)****: UA provides fresh, healthy foods and people desire this).*

*Participant 5* also was familiar with the Jacksonville Farmer's Market. The *Interviewer* asked, "Can you tell me more about your experience, you said, with the community farmer's markets and participating in that?" *Participant 5* answered, "Probably been going there for nine years since I live here. I want to go more because I'd

like to cook more at home, but I also work in a restaurant. So it's tough because I just eat for free from the restaurant." Participant 5 expresses the desire to participant in UA more bringing to surface another subtheme, ***Subtheme 17 (S17):*** Desire to participate in UA more (community farmers market).

**Barriers to Utilizing UA to Contribute Towards Food Security**

Table 5 displays responses on the participants views of the major obstacles in providing sustainable and nutritious meals for oneself or family, in relation to UA, based on Interview Questions 14 and 15.

- Question 14: *What are some major obstacles, if any, you experience in providing sustainable food for yourself and/or your family?*
- Question 15: *Describe your views about UA vs. other ways of acquiring food.*

Table 5 illustrates the participants responses- barriers to utilizing UA towards food security contribution.

**Table 5**

*Participant Responses- Barriers to Utilizing UA to Contribute Towards Food Security*

| | Participant Responses |
|---|---|
| Participant 3 | "If it's in my community, it's easy to get to. I don't like to drive too far, so something that's local and convenient for me and good for me" ***(S5)*** |
| Participant 1 | "The cost of food"… "And inflation". "We have some pantries around. They've been very helpful, especially the Salvation Army"…" They've helpful. A couple of years ago back I went to Salvation Army for, |

a very long time, two or three months just to help me alone. And there are other pantries around that I'm familiar with. So I can say I've been very lucky, very fortunate when it came to food…"

Participant 4 "Money is always an obstacle. And the gas to go retrieve such things*."**(S5)*

Participant 2 "As a single mom, or even a working mom, a parent, or just a busy person, I guess maybe, that accessibility, or convenience*"**(S5)*.

Participant 5 "The transportation issue. Because if you don't have a car, it's pretty difficult to get to these places that are spread out and few and far between." "You have to go to bigger conglomerate type of store where price points go down*"**(S5).*

There may be multiple reasons why individuals and families experience food insecurity, including lack of financial resources and the rising cost of food. However, these specifics were not in the scope of this study. Interview questions 14 and 15 did point out that in addition to financial reasons; accessibility, convenience and transportation is a barrier to utilizing UA resources. These responses reiterate ***Subtheme 5 (S5):*** UA is contributes to better food security when it is easily accessible for community members. Specifically, it is important to point out that some participants may not have access to a car, so in order for UA to be more accessible it is beneficial to be in walking distance, or even delivered.

In addition, Participant 1 spoke about food pantries, such as the Salvation Army, and how they have been very helpful in providing food during difficult times because they are in the area. Participant 1 especially expressed her gratitude towards the Salvation Army and other pantries in Jacksonville. Participant 4 also noted she has used food banks. ***Subtheme 18 (S18)*** is established here: food pantries/food banks are integral for some food insecure community members.

**Food Access in the Community**

There were mixed experiences with access to fresh and affordable food in the participant's local community, as discussed through Interview Question 13.

- Question 13: *Please describe your views on food access in your community. Is there an influx of corner stores? Or are you able to easily access fresh, affordable foods?*

Table 6 illustrates the participants responses to healthy & affordable food access in the community.

**Table 6**

*Participant Responses- Healthy & Affordable Food Access in the Community*

| | Participant Responses |
|---|---|
| Participant 5 | "It's kind of difficult. There's a lot of corner stores. There's not many fresh produce *(S19).* There's not any stands or anything like that. I remember growing up there being stands around and then we had a... I don't know if you remember the hucksters back when they would come to your door with fresh produce in a truck and they would drive it right |

through the neighborhood, which was very cool. Something like that around here would be excellent if they would do that" ***(S15).***

Participant 3 "There is an influx of corner stores but I don't go to them*"(**S19).*

"There are grocery stores in my neighborhood, and I can get foods from there."

Participant 1 "There are two grocery stores right in my area and very plentiful"

Participant 2 "There is a lot more trash than there is wholesome whole food"

"I do feel like it's hard to have access to healthy affordable, fresh produce in my community" ***(S19).***

Participant 4 " I personally have access to both fresh fruits and vegetables for an actual grocery store within a block walking distance of my home"

I have a personal issue with one of the corner stores due to management style, shall we say, which has been an issue for the urban environment" ***(S19).***

Three of the five participants had grocery stores within their direct community that were easily accessible for them. Although Participant 4 noted there are grocery stores in her area, she spoke about the negative environment of one corner store in her neighborhood. Overall, participants noted an influx of corner stores compared to those that sell fresh fruits and vegetables creating ***Subtheme 19 (S19):* :** Influx of corners stores compared to fresh foods available in direct community/Issues with corners stores. Participant 5 especially expressed his dissatisfaction with the influx of corner stores and

lack of fresh produce stands or produce delivery services. Participant's 5 response confirms ***Subtheme 15 (S15):*** *Interest in UA delivery services.*

**Values Coding**

Values coding was used throughout the coding process to identify perspectives and worldviews on UA. Values coding focuses on the participant's values, attitudes, and beliefs (Saldana, 2012 & Frels, 2016). In this study on UA, the values of *responsibility* and *sustainability* were emphasized by participants (***Values Code: VC 1***). In addition there was *enthusiasm* and *passion* expressed about having more UA initiatives in the community ***(Values Code: VC2).*** Table 7 illustrates subthemes, categories, and overarching themes

**Table 7**

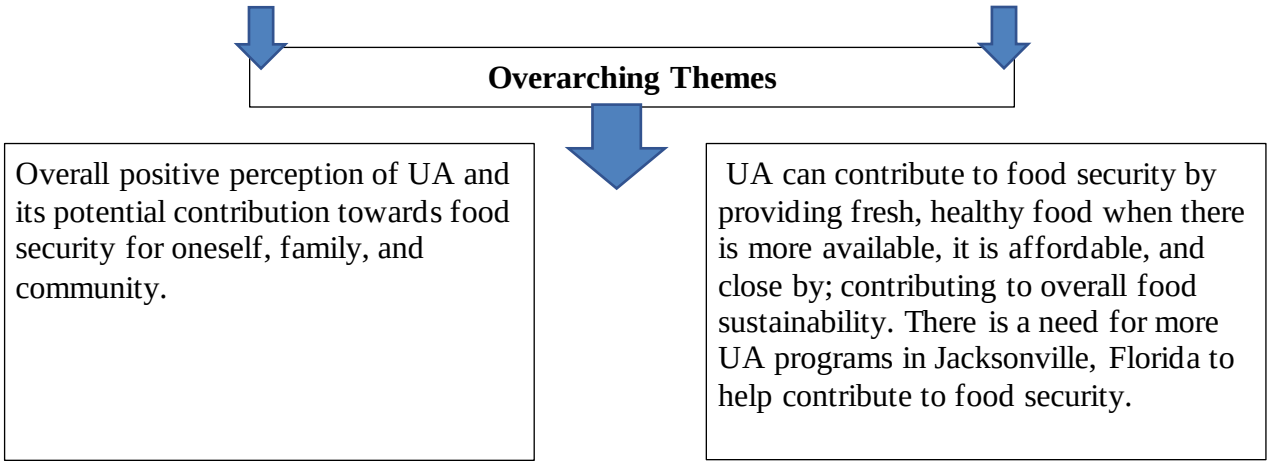
*Subthemes, Categories, and Overarching Themes*

| **Major Subthemes** | | | | |
|---|---|---|---|---|
| ***S0***: Varying experiences with UA participation. Overall interest in UA and positive views of UA. | ***S4:*** Need for UA programs to provide food at low prices / View that most UA is at lower prices | ***S8:*** UA as food supply alone, may not be enough for a family | ***S12:*** Overall support for backyard chickens with some concerns due to sanitary reasons and noise. | ***S16:*** Community farmer's markets contribute to food security in certain areas |
| ***S1:*** UA contributes to sustainability | ***S5:*** Need for UA to be easily accessible to community members | ***S9:*** UA is good for the environment | ***S13:*** Fresh & local taste excellent / better than grocery stores | ***S17:*** Desire to participate in UA more (community farmers market) |

| | | | | |
|---|---|---|---|---|
| ***S2:*** Supports local | ***S6***: Interest in implementing backyard gardening /view for potential in contribution towards food security / UA backyard gardening program would be helpful for better sustainability/food security | ***S10:*** Interest in Community Gardens/view for potential contribution towards food security | ***S14:*** Lack of awareness of specific farm delivery services in Jacksonville**.** | ***S18:*** Food banks/pantries help food insecure community members |
| ***S3****:* UA provides fresh, healthy foods/ desire to be healthy | ***S7:*** Need for more UA (community farmers markets, farm delivery, community gardens, backyard gardening program | ***S11:*** Some community gardens no longer operating | ***S15:*** Interest in farm delivery services/ View that farm delivery services may be too expensive | ***S19:*** **:** Influx of corners stores compared to fresh foods available in direct community/Issues with corners stores |
| ***VC 1(Values Code):*** Responsibility for community members to be more sustainable | ***VC 2(Values Code):*** Enthusiasm/Passion about UA; supporting local | | | |

**Subcategories/ Second Level Coding/ Axial Coding**

(1) Perception that most UA is healthy & affordable
(2) Need for more UA options/programs that are easily accessible & keep food cost low
(3) UA benefits the community through sustainability & overall environment.
(4) Desire to support local community through participation in various forms of UA; community gardens, backyard gardens, farmers markets, and UA food delivery services; when cost is low and more affordable than grocery stores.




**Final Coding and Overarching Themes**

According to the raw interview data; subthemes, subcategories/ second level codes, and overarching themes emerged that are recorded in Table 7. Research data continued to support the first three subcategories that were noted in the beginning of the Results section: (1) *Perception that most UA is healthy & affordable*, (2) *Need for more UA options/programs that are easily accessible & keep food cost low*, and (3) *UA benefits the community through sustainability & overall environment.* An additional subtheme emerged, (4) *Desire to support self and local community through participation in various forms of UA including; community gardens, backyard gardening programs, farmers markets and/or UA food delivery services.* According to the data, one participant

noted using a UA initiative to contribute towards consistent food needs. Participant 2 utilizes the advantage of Fresh Access Bucks (FAB) to receive half off of Florida produce. Research supports that more UA incentives of this nature will impact food security in a positive way, and also contribute toward healthy food choices for community members. There is an overall community desire to support local food initiatives and keep resources in the community. Therefore, the final Overarching Themes are (1) Overall positive perception of UA and its potential contribution towards food security for oneself, family, and community and (2) UA can contribute to food security by providing fresh, healthy food when there is more available, it is affordable and close by; contributing to overall food sustainability. There is a need for more UA programs in Jacksonville, Florida to help contribute to food security.

# Chapter 5: Conclusion

## Introduction

In summary, the purpose of this study was to understand the perceptions and experiences of UA from food insecure individuals in Jacksonville, FL. From the qualitative perspective, the study examined the meaning of participant's perspectives and experiences with UA in the Jacksonville, Florida community and gives insight to how UA is currently working in Jacksonville, and how it can work further in contributing towards food security in the community. There was direct focus placed on being unbiased, or naturalistic, when evaluating the participants experience using the constructivist outlook; the research philosophy that says knowledge comes from human experience (Kalke, 2014). This study was conducted to better understand how UA can become an integral component towards food security for urban areas, especially Jacksonville, Florida.

## Key Findings

Data were collected through purposive sampling of five individuals experiencing food insecurity. Experiences with UA ranged from participation in community gardens, farmers markets, a garden club, and a backyard garden. Participants' experiences also ranged in their degree of participation with UA. The most significant form of UA that contributed towards food security was with Participant 2, who uses a UA program on a weekly basis, the FAB (Fresh Access Bucks) program at a local Saturday farmers market (RAM). Participant 4 has a backyard garden that is starting to yield plants, but currently does not yield enough to contribute towards food security. Participant 5 has recently

become involved with an urban gardening club, and has a few plants growing, but not enough to contribute to food security. He has experience with the local farmers market and expressed disappointment when learning that the local community gardens in his community had recently closed. Participant 3 works at a local food bank, however, does not have experience with UA programs in Jacksonville while expressing some interest in community gardens and overall support of local, fresh food intiatives.

The key findings of the support the following themes: *(1) Perception that most UA is healthy & affordable; (2) Need for more UA options/programs that are easily accessible & keep food cost low; (3) UA benefits the community through sustainability & overall environment; and (4) Desire to support local community through participation in various forms of UA; community gardens, backyard gardens, farmers markets, and UA food delivery services; when cost is low and more affordable than grocery stores.* The raw data displayed in the study shows this group of Jacksonville community members experiencing food insecurity have interest in UA when it is extremely affordable, especially with incentives that dramatically decrease the cost of fresh, local food. Food insecure individuals in this study have the desire to support local food initiatives that keep resources flowing through the community are easy to access, convenient, and affordable. The overarching themes of the study emerged (1) *There is an overall positive perception of UA and its potential contribution towards food security for oneself, family, and community from food security community members;* and (2) *UA can contribute to food security by providing fresh, healthy food when there is more available, it is affordable, and easily assessable; contributing to overall food sustainability. There is a*

*need for more UA programs in Jacksonville, Florida to help contribute to community food security.*

## Interpretation of the Findings

Overall, the data shows parallel findings to current data on UA and food insecurity. In addition, it extends the current knowledge on UA. In the mission towards food security, peer-reviewed literature displays current successful UA initiatives in major cities impacting not only food insecurity but providing other community benefits such as positive community development and increased overall well-being of participants. (Pearsall, 2017). Participants in this study had similar views on the concept of UA and its potential to contribute towards food security and other positive contributions to the community. Participants in this Jacksonville study expressed the desire to support the local economy through local food initiatives. Like the Food Policy Council (FPC)'s in Philadelphia and Ghent (Belgium), local governments are making it a priority to create food initiatives that provide alternative methods to industrialized global food systems (Prove, 2019).

Although one downside to UA is not providing enough sustainable foods, it is evident that UA programs would be more successful when constructed on a larger, more widespread scale (Hunold, 2017). Participants in this study had some degree of uncertainty if UA could provide enough fresh foods on a large scale to impact food security. Therefore, a few community gardens here and there throughout Jacksonville may not have the impact on food insecurity that is needed. Therefore, initiatives in comparison to Philadelphia's Park and Recreation FarmPhilly, which created 18

community gardens, nine orchards, and one food forest and trained youth gardeners, may be a good blueprint for a large metropolitan area such as Jacksonville, Florida (Stanko & Naylor, 2018).

**Sustainability and Food Justice**

Regarding the conceptual frameworks of sustainability and food justice, participants highlighted the desire to support local UA initiatives. According to Samfartova (2017), there are three pillars of sustainable development: economic, social, and environmental. Participants in this study discussed the ability of UA to address all these concerns to some degree. In addition, this study confirms the major barrier to food insecurity is lack of income, the major economic barrier (Breuning, 2017). Participants noted job security, and not making enough money as major factors contributing to food insecurity. Other barriers included transportation, accessibility, and convenience. Therefore, future UA programs would benefit by taking these issues into consideration, especially making UA programs convenient, affordable and even free. Local governments and non-profit organizations may also focus on employment initiatives for sustainability of the community.

Participants had strong feelings about the positive impact that supporting local has on their health and community. Perceptions about the local food system mirrored the literature on food justice, by the fact that consumers have little choice when it comes to finding local, fresh groceries and by default many times must result to big box retailers. In comparison to supermarkets, there was a lack of UA programs, such as community gardens and farmers markets in their urban neighborhoods. The concept of sustainability

points to two areas that impact food security: quantity and quality (Bazgă, 2015). Participants noted an influx of convenience stores that were undesirable and the need for more healthy and local food alternatives. Bazgă (2015) suggested there are multiple contributing factors to sustainability such as a movement towards agricultural productivity. With sustainability and food justice as a guide, it is evident that UA can contribute towards these goals.

## Limitations of the Study

The overall nature of a qualitative generic design has its limitations as noted in Chapter 1. However, the lack of theoretical assumptions was addressed by creating the strong conceptual framework of food justice and sustainability. Furthermore, I used the concept of reflexivity throughout the study. This process of checking one's own preconceived notions about the topic helped to remain unbiased and report the data without any partialities.

Various methods were used to address the potential limitation of the lower sample size of five interview participants. Several factors point to being achieved. Participants for this study ranged in age, gender, and family size. Participants also ranged in degree of participation in UA, which provided well-rounded perspectives on UA in the Jacksonville community. It is also important to accentuate this study focused on one particular place and population, food insecure individuals living in Jacksonville, Florida. The in-depth nature of study, with the use of purposeful sampling and in-depth semi structured interviews, gives further justification that this limitation is used as a strength in this study (See Appendix).

The purpose of the study was to understand the experiences and perspectives of individuals experiencing food insecurity in Jacksonville, Florida and this was achieved. Special care was taken in the participant selection process, using purposive sampling, a key element of qualitative inquiry (Staller, 2021). As spoken about in Chapter 1, the constructivist perspective points toward no mandatory number of participants, rather importance is placed on selecting participants that share in-depth, relevant perspectives regarding the topic (Staller, 2021). The utmost care was taken into constructing questions that gave the interviewees confidence and ease to disclose important, personal, and detailed perspectives and experiences in relation to UA. The participants gave in-depth answers to the questions, discussed the topics candidly and were not inhibited. Therefore, the quality of the data also points to saturation. Upon conclusion of the interviews, during re-readings of the transcripts, and in-depth analysis, coherent themes emerged that showed enough data was collected to clarify the relationships between --- food security and UA--- evaluated through this conceptual framework of food justice and sustainability (Charmaz, 2006; Morse, 1994 in Dworkin, 2012). The data analysis process used multiple levels of coding to decipher categories, sub-categories, and major themes.

Overall, the study met the IRB approved criteria of five to seven participants. Although five was on the lower end of the target number, other factors contributed to this including; the limitation of time and resources for a dissertation study, change in recruitment strategy due to COVID-19, and lower participant responses due to working with a vulnerable population. It was evident when the interview transcripts were read and re-read multiple times for initial, second, and third level coding, that data showed to be

detailed and portrayed relevant information from each participant. This relevant information was the goal and the goal was achieved, staying true to the qualitative framework. The limitation of sample size was meticulously examined by this dissertation committee throughout the data collection and analysis process. At every effort I turned this limitation into strength, by placing crucial emphasis on quality of data and data analysis process.

Overall, the implications of a lower sample size are that studies can build from the foundation laid by this human services dissertation study on UA and food security to conduct further in-depth research, using more participants when needed, to determine the best ways to combat food insecurity through UA programs. This limitation also allowed for the researcher to place a continual, crucial focus, on the in-depth processes of data analysis. Extra care and ample time were taken to understand and implement, layer after layer of coding techniques to decipher unbiased meaning from the data. Although a minor negative implication is that not all UA programs could be highlighted through this study, it gives future research organizations and local government agencies a gap to conduct further studies that extensively examine implementation strategies and barriers for current UA programs in Jacksonville, Florida and other major cities in the United States and in other countries around the world.

## Recommendations

Recommendations on further research in the future point to further understanding specific UA programs and how they function for food insecure individuals in certain cities or regions. The implications of a smaller sample size in this study equate to the

need for extensive future research on this topic, especially as it relates to the contribution towards food security. This study could not encompass every UA program in Jacksonville, and therefore it would be beneficial to have follow up case studies conducted on specific UA programs in Jacksonville, Florida. For example, case studies could be conducted on the Clara White Community Garden initiative or FAB program. These studies would focus on barriers and implementation strategies. A quantitative study on the FAB program could focus on the number of SNAP recipients utilizing this UA initiative and how often. Figure 5 (Fresh Access Bucks Duval County Flyer) points out sites where the FAB program is available for SNAP participants. These sites include Berry Good Farms Mobile Market on the Go, White Harvest Farmers Market, Urban Folk Farm Stand & CSA, Dig Local Beaches Green Market, Dig Local Beaches Mid-Market, and Riverside Arts Market, as discussed. A case study to understand market and FAB program utilization would also beneficial. This would give another perspective on how to implement future UA programs. A specific study on backyard gardening, and barriers to implementation, would also help future UA backyard gardening initiatives successfully help participants start and maintain sustainable gardens at their homes.

This study exemplifies an overall positive outlook from food insecure individuals on UA and its ability to contribute to food security and participation depended on various factors such as transportation, convenience, and affordability. Participants in this study had little awareness of farm delivery services, but all seemed to show interest in the local aspect of having fresh food delivered if it were affordable. Therefore, when cities look towards pilot studies on innovative UA programs, they can consider affordable ways to

provide fresh food delivery services to community members, especially for the elderly and vulnerable populations where transportation is a major issue.

In addition, a study on the perspectives and experiences of UA directors and UA stakeholders on food security and UA's ability to contribute to food security would be very beneficial. It is crucial for research to address the challenges faced in implementing UA programs, so that these barriers can be lessened, and the community can work towards food security needs. Understanding the perspectives of those implementing the programs, would be well-rounded research to support the initiative of this topic of UA and food security. For example, the study by Drake (2019) pointed towards barriers of funding for labor and maintaining consistent volunteers, since many community UA programs are facilitated by garden volunteers.

Furthermore, in Jacksonville, Florida, a follow up case study on the Lewis et al., (2018) study on food deserts and food insecurity would be informative. Following the study, a greenhouse learning laboratory and fresh local market to employ residents was in the planning phase. It would be helpful to understand how this plan worked out, what obstacles were faced, and if the program has expanded or dissolved. In addition, it can be determined how Jacksonville, Florida can best use agroecology to address the blighted land, considering it is the largest city in land mass in the United States. The study conducted by Pearsall (2017) found that choosing crops native to the local environment has many benefits.

Similar studies to this, in different large cities in the U.S., would also be beneficial to the body of knowledge on UA and food security. It is important to

understand the perspectives of food insecure individuals because they are the ones in most need of sustainability, since their monetary resources are limited. With the industrialized growth of factory farms, processed foods, and mega-food retailers, emphasis must be placed on studies that seek to find ways to balance out the food-ocracy, and put the needs of individuals, families, and children of each community in the forefront.

This study was conducted from the framework of sustainability and food justice. Therefore, an in-depth study on the perspectives of food injustice would help identify specific needs of the community to have a more balanced food system. In depth interviews with community stakeholders, and community members would provide important perspectives about ways to address injustice, and what programs are really needed in each community to become more sustainable. Further studies can also reflect on the fact that sustainability is multi-faceted, therefore people need more than UA to truly have a sustainable community. A study on barriers to eating healthy, from the perspective of food insecure individuals, would also bring to light ways to help individuals make better choices when it comes to fresh vs. processed convenient foods. Further studies can also examine other goods and ingredients needed for a sustainable, healthy diet and how obtaining these foods can be part of UA programs in the quest towards food security and food justice.

## Implications for Positive Social Change

The purpose of this study was to understand the perspectives and experiences with UA from food insecure individuals in Jacksonville, Florida. With this objective

accomplished, there were main themes that emerged from the data. There is sincere interest regarding UA programs among food insecure individuals, however there are some challenges that need to be addressed. Overall, participants spoke positively about UA and its potential ability to provide food for the community and contribute towards food security. However, one main issue was if the supply yielded from UA programs would be enough to serve the entire community, or even one's own family. Therefore, local government organizations and non-profits in Jacksonville can use this data to create positive social change, so that when UA programs are considered, they can be implemented on a larger scale. A few more community gardens may not have the impact on food security that community members are in need of. New UA programs need to reflect a widescale approach.

In addition, the experience of one participant can especially be helpful for the community of Jacksonville, Florida. The SNAP Match program, used by one participant at a local farmers market, was the one UA program that contributed towards food security daily. The participants had the opportunity to double their SNAP dollars through the Fresh Access Bucks (FAB) program when purchasing fresh produce at the market. This has implications for positive social change so local stakeholders can inform more food insecure families about this program. Also, additional local farmers markets and produce markets can apply to be part of this Feeding Florida initiative, so that affordable fresh produce is more accessible throughout all areas of Jacksonville, Florida.

Overall, there are multiple stakeholders, including local non-profits, government organizations, farmers market managers, local colleges and universities, etc. that can use

this data to create positive social change. Specifically for the Jacksonville, Florida community, it is evident that food insecure individuals need initiatives that assist them in growing their own food, provide more access to community gardens that are in a walkable or convenient distance, and programs that address the influx of convenience stores in comparison to fresh, healthy foods that are available. Stakeholders can feel confident implementing new UA programs knowing their local community members struggling with food insecurity feel strongly about keeping funds in the community, supporting local, and having better access to local, fresh foods in comparison to big box retailers. It is important that stakeholders recognize this united view and help the community work towards food justice and sustainability.

## Conclusion

Food insecurity is one of the most pressing issues in society, affecting people of all ages, ethnicities, and backgrounds. The changing spectrum of the United States food system has caused this problem to grow exponentially, impacting not only the way individuals and families acquire food, but what foods are most accessible and affordable. The unfortunate situation is food insecurity causes other debilitating conditions such as depression and obesity, just to name a few. The causes of food insecurity stem from lack of employment, quality of employment and overall lack of monetary resources. Despite these factors, this study confirms that convenience and cost of food is a driving factor in food choice. Unfortunately, when it is more convenient to acquire cheaper foods, it puts the consumer in a tough situation. They may desire to eat healthy, but if they can acquire more food conveniently, sacrificing quality occurs. Therefore, it is up to local

communities, governments, non-profit organizations, higher education institutions, and residents alike, to come together and recognize the need for food insecure individuals and families to have convenient access to healthy food at lower prices.

This study on UA and food insecurity is a catalyst for further examination on how food is grown, acquired, and distributed in different urban areas, and begin the process of accessing how the local stakeholders can productively balance out the food disparity crisis. Although UA may not solve every problem of food insecurity, it has the potential to be an integral foundation for the next generation of sustainable farms and gardens in cities suffering from food insecurity. Recent research continues to show the integral benefits of UA for the community as a whole. Therefore, this is a prime opportunity for burgeoning cities like Jacksonville, Florida to be innovators in the sustainable food movement. Not only can UA contribute towards food security, but it can positively affect the morale of the city as a whole. This research shows that participants have the desire to help sustain and support their local community and close any disparities in the food system. This research study exhibits the need for more community gardens, backyard gardening programs and other UA programs that make obtaining fresh, local food easily accessible and affordable for food insecure individuals and families. As stakeholders work together for food justice and sustainability, it is essential to consider the best ways urban agriculture can contribute towards the vital mission of food security.

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Appendix: Semi-Structured Interview Questions

**Semi-Structured Interview Questions**

1) There are many forms of Urban Agriculture (UA) including but not limited to community gardens, urban farms, community farmer's markets, community supported agriculture (CSA's) farm delivery services, farm cooperatives, livestock, bee gardens, school gardens or a backyard garden? What is your experience with UA?
2) How long have you participating in this form of UA?
3) How did you hear about this program/service?
4) Can you tell me more about your experience participating in this initiative?
5) Does this UA initiative contribute to greater food security for yourself and/or your family? If yes, please explain how.
6) How do you think it helps with overall community, food security, if at all?
7) What is your age and family size?
8) Would you be interested in programs that help you start your own backyard garden?
9) Now let's talk about- farm delivery services, which are similar to farm coops… Are you aware of any in this area?
10) What are your views about livestock in the urban areas, such as chickens? That has been a debate in Jacksonville for some time. How about community farmer's markets? Do you know of any or participate in any? Do you think

any of this programs are contribute towards better food access for the community?

11) Are you interested in other UA programs, such as community gardens, backyard gardening, or urban farms to grow your own fruits, vegetables, and herbs to meet your food security needs? Why or why not?
12) How is this program helpful in acquiring healthy, affordable food?
13) Please describe your views on food access in your community. Is there an influx of corner stores? Or are you able to easily access fresh, affordable foods?
14) What are some major obstacles, if any, you experience in providing sustainable and nutritious meals for yourself and/or your family?
15) Describe your views about this UA initiative vs. other ways of acquiring food.
16) Are you interested in learning more about safe gardening practices, such as planting vegetables in raised beds, and/or being a part of a community garden to grow your own fruits and vegetables?
17) Do you have anything to share about programs that would make healthy affordable food more accessible to you?