EXPLORING CONNECTIONS BETWEEN PRISON FOOD AND FOOD DESERTS: AN ANALYSIS OF FORMERLY INCARCERATED PEOPLE'S EXPERIENCES

by

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ABSTRACT

Exploring Connections between Prison Food and Food Deserts:
An Analysis of Formerly Incarcerated People's Experiences

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Research on prison food has recently exploded, but the literature has yet to make an explicit connection between food deserts and prisons, two well-studied and complex subjects. This research therefore fills a gap in the literature, which can spark further research that explores prison food through a food justice lens. Relying on existing survey data of 248 formerly incarcerated individuals about their food experience in prison, this research explores whether the average prison food system can be considered a food desert. Both quantitative and qualitative survey data was analyzed, and results are presented according to key food desert themes identified from the literature. A "food desert scale" was also constructed from multiple survey questions to quantify the respondents' food desert experience; scores ranged from 3 (low score) to 15 (high score). Results showed a mean food desert score of 11.68, which indicates that respondents' self-reported prison food experience was similar to food deserts. The results were also analyzed by race and gender. While there was no significant difference between white and non-white participants, a t-test revealed that female respondents' mean food desert score was statistically different than male respondents. On average, females' scores were 1.44 points higher than males, indicating there may be gender disparities within the prison food experience. This preliminary research also showed that the self-reported prison food experience is similar to food deserts in that they both exhibit a lack of access to healthy food options, an abundance of unhealthy, processed food, a general lack of options and an inability to access alternative options, and experiences of negative health impacts. Still, further research is needed both to conclude whether the average prison food system can be characterized as a food desert and to understand the impact of prison food conditions on our incarcerated population.

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In line with recognizing the data that was foundational to my thesis, I would like to acknowledge the individuals that took the time to answer the survey and share their experiences and insight. My hope is that this research was able to give a voice to these formerly incarcerated individuals in an effort to shed light on their experiences and generate deserved awareness and a deeper understanding for these individuals in our society. I also acknowledge the many voices, currently incarcerated and otherwise, who have yet to be heard.

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CHAPTER I. INTRODUCTION

Background

Increasingly, social justice issues surrounding equity and equality are at the forefront of public consciousness. Such issues are often focused on race, gender, age, sexual orientation and identity, religion, nationality, level of education, and mental and physical ability. Yet the many interrelated social and environmental justice issues that adversely affect our nation's incarcerated population receive less attention, despite mass incarceration affecting a growing number of people. According to The Sentencing Project, a research and advocacy center focused on reducing incarceration and addressing racial disparities in the criminal justice system, the United States has the highest rates of incarceration in the world, with 2.2 million people currently in prisons and jails. This represents a 500% increase over the last 40 years (The Sentencing Project, 2017).

Our justice system and incarceration itself are social justice issues because they do not affect all communities equally. Many statistics and figures illustrate racial disparities throughout the justice system; currently we find that people of color make up only 37% of the general United States population while they also make up 67% of the prison population in this country (The Sentencing Project, 2017). Further we see that the criminal justice system is failing these individuals from successfully reentering into society after serving their sentence; the Bureau of Justice Statistics reports that five out of six incarcerated people will reoffend and return to jail within nine years of their release (Alper, et al., 2018).

My own experience working with incarcerated people has allowed me to become aware of some of the issues they face. Among these, issues surrounding food access and

quality have sparked my interest. Unfortunately, the World Health Organization (WHO) reports that many prisoners worldwide do not receive proper nutrition (2014). In some countries, prisoners face malnourishment and lack of food, while prisons in the United States typically provide incarcerated people with low quality meals and highly processed food commissary options, containing excess amounts of salt, sugar, fat, and carbohydrates (Eves & Gesch, 2003; Prison Voice Washington, 2016; World Health Organization, 2014).

Similarly, while the nation experiences inequities surrounding mass incarceration, it also experiences inequities surrounding access to food. Related to social justice, food justice is focused on how the benefits and harms of the food system are distributed throughout society. Elizabeth Henderson, an activist, author, farmer, and co-founder of the Agriculture Justice Project, identifies three main aspects of food justice: 1. access to healthy, locally grown, fresh, culturally appropriate food, 2. living wages and fair working conditions for food system workers (i.e. farmers, farmworkers, restaurant and food service employees, processing plant workers, etc.), and 3. community control (e.g. through cooperatives, faith-based initiatives, community organizations, etc.) (2014).

Food deserts represent an issue in which inequities around food are particularly evident. Food deserts are areas that lack affordable, healthy food options while cheap, processed food abounds. Particularly, white affluent communities benefit from a vast variety of food sources offering highly nutritious, fresh, local, organic food. On the other hand, low-income communities and communities of color often lack affordable, healthy food options, usually due to a lack of grocery stores, supermarkets, or farmers' markets. Instead they are forced to rely on cheap processed food sold in convenience stores, liquor

stores, and fast food restaurants, usually high in salt, fat, and carbohydrates. The United States Department of Agriculture (USDA) Economic Research Service has identified approximately 6,500 areas in the United States that are considered food deserts (Dutko et al., 2012). Data also supports the notion that food deserts are adversely impacting communities of color; for example, there are four times as many supermarkets located in white neighborhoods (Morland et al., 2002).

Why is food then an important area of study, particularly in the prison population? As I will argue, food is a basic human right. According to the National Economic and Social Rights Initiative (NESRI), the human right to food "guarantees freedom from hunger and access to safe and nutritious food" (n.d.). NESRI further breaks down this right to food into four components: availability, accessibility, sustainability, and non-discrimination (National Economic and Social Rights Initiative, n.d.). NESRI defines availability not only as a sufficient quantity of food, but also in terms of its quality; food quality should therefore satisfy dietary needs of individuals, be free from "adverse substances", and be culturally acceptable (National Economic and Social Rights Initiative, n.d.). Food should also be physically and economically accessible, as well as sustainable, meaning that it is accessible for both present and future generations. Lastly, NESRI states that "any discrimination in access to food, as well as to means and entitlements for its procurement, on the grounds of race, color, sex, language, age, religion, political or other opinion, national or social origin, property, birth or other status constitutes a violation of the right to food" (National Economic and Social Rights Initiative, n.d.).

Food can also provide a useful lens to understand and analyze the human experience (Smoyer 2019). Anthropologist Claude Levi-Strauss articulated the importance of food in analyzing culture when he argued that the experience of cooking food is universal to humans (1966). Since then, many anthropologists and sociologists have been interested in this topic and further developed food and foodways theory. Foodways can be defined as the "behaviors related to the acquisition, preparation, and distribution of food" (Smoyer 2019, pg. 1). Food has been analyzed to understand social interactions, culture, social norms, gender, identity, social space and time. As such, "the foodways lens aligns with social scientists' goal of understanding the lives of incarcerated people and the correctional facilities that they inhabit" (Smoyer 2019, pg. 2).

With this understanding that food is a human right and a great lens of analysis, this thesis attempts to answer the following questions: What are the parallels and differences between prison food systems and the phenomenon of food deserts? Are there any associations between formerly incarcerated people's race and gender and the self-reported quality of food they receive in prison? To answer these questions, this thesis will analyze existing survey data of formerly incarcerated people and aim to make connections between food desert literature and prison food literature to explore whether there are similarities between prison food systems and the phenomenon of food deserts. Demographic questions on the survey will allow for a racial and gender analysis to determine if there are disparities in terms of the self-reported quality of food that incarcerated people can access.

Significance of Research

At the most basic level, this research has the potential to advance scholarship in incarceration, racial justice and food justice. While there has been increasing research on the symbolism of prison food (Brisman, 2008; Earle & Phillips, 2012; Graaf & Kilty, 2016; Godderis, 2006; Jimenez Murguía, 2018; Smoyer, 2014, 2015a, 2015b, Smoyer & Blankenship, 2014; Smoyer & Lopes, 2017), the health effects of incarceration (Clarke et al., 2012; Firth et al., 2015; Massie, 2000; Milligan et al., 2012), and the effects of prison gardening programs (Waitkus, 2004; Watkins, 2013), as well as many efforts to connect formerly incarcerated people to food justice at the point of reentry to society, researchers have yet to draw connections between food deserts and prison food systems. My thesis research has the potential to fill that gap in the literature and ultimately spark further research that could examine how prison food systems further perpetuate food injustice.

Practically, this research will inform and shed light on injustices within the prison food system. Since I argue that access to nutritional and culturally appropriate food is a basic human right, the potential findings will be of interest to policy makers and those who are working to improve living conditions for incarcerated people, especially those working in prison food service. In particular, the analyses of both potential gender and racial disparities should inform prison officials concerned with improving living conditions within their prison facilities. More broadly, this research could be of interest to organizations focused on prison reform, prison rehabilitation and successful reentry to society.

Statement of Positionality

I currently work with the Sustainability in Prisons Project (SPP), partnership between Washington State Department of Corrections (DOC) and The Evergreen State College. In this position, I coordinate college-level environmental workshops in three Western Washington prisons. In acknowledging my involvement with the prison system, I want to make clear that my thesis research remains independent from my current position within Washington DOC. Yet my experience working in prison(s) and speaking with incarcerated people has given me the unique opportunity to enter a prison environment and have a greater understanding of incarceration. To be clear, my experience working in prisons has only allowed me to view prison through the perspective of an outsider, as I have never actually experienced incarceration firsthand. I hope to respect the subjects' perception of the prison environment in my portrayal of their experience, and also remain neutral by portraying the array of prison food experiences, both good and bad.

Additionally, since my thesis research aims to examine the experience of a vulnerable population, as well as determine if there are disproportionate impacts by race and gender, I must acknowledge that I do not have the same experience of being marginalized by society in this way. As a white woman with a passion for food and social justice, I do not aim to speak for those populations but let their experiences speak for themselves in my portrayal and analyses of them.

CHAPTER II. LITERATURE REVIEW

Introduction

There has been a recent explosion in research on the topic of prison food, but the scholarship has yet to make an explicit connection between food deserts and prisons, two well-studied and complex subjects. Therefore, this literature review must cover a variety of disciplines to tie together key concepts from the literature on prisons, food justice, food deserts, and prison food.

I begin this review by briefly discussing the prison system itself, specifically focusing on how the "War on Drugs" and the "School-to-Prison-Pipeline" have contributed to mass incarceration and the prison-industrial complex. I also address public perception of prisons before delving into the literature on prison food. This section of the literature review will cover a breadth of literature on prison food from a historical, sociological, and public health perspectives. I break this section into two main categories of literature – pragmatic and symbolic – a distinction borrowed from other authors on the subject (Godderis, 2006; Smoyer, 2019).

In the following section, I begin to tie together food justice and prison by reviewing food justice efforts surrounding the prison system, which are mainly focused on prison gardening or re-entry programs. The next to last section delves into the particular food justice issue of food deserts. In this section of the review, I compare and contrast various definitions and ways of measuring food deserts before settling on some of the key characteristics of food deserts that will guide the analysis of the prison food system. Lastly, I synthesize the previous sections to begin to draw important parallels and

distinctions between food deserts and the average prison food system. It is in this section that I lay out the basis for this thesis research.

The Growing Prison System

Although violent crime has largely declined between 1993 and 2017 (Morgan & Truman, 2018), the prison population continues to grow leading to an overcrowding of our nation's prisons. Using data from the United States Bureau of Justice Statistics, The Sentencing Project reports that the prison population has grown by almost 500% in the last 40 years, while the overall population in the United States grew by only 51% in comparison (2017). This growth is likely due to a combination of factors, but this review will focus on two of those potential factors: the overcriminalization of drug use and the "school-to-prison pipeline," both of which affect people of color more than the general population (Schanzenbach et al., 2016; U.S. Department of Education, 2014). Factors such as these have led to a growing prison system, or what is known as the "prison industrial complex" (Schlosser, 1998).

The war on drugs

Many scholars and activists blame the "war on drugs," a campaign aimed at reducing illegal drug trade in the United States, at least in part, for the rapid growth in incarceration (Gorman, 1993; Moore and Elkavich, 2008; Schoenfeld, 2012; Small, 2001). In a press conference in June of 1971, President Nixon deemed drug abuse to be "public enemy number one" and officially coined the term "war on drugs." The media quickly popularized the term and fueled the public's moral panic about crime (Dyer, 2000). Instead of responding to the nation's drug problem by funneling resources into drug rehabilitation programs, efforts were focused on criminalizing drug use. In

particular, the war on drugs relied on increased law enforcement, mandatory minimum drug sentencing for low-level offenders, and longer and harsher sentences for nonviolent drug offenses (Gorman, 1993; Gray, 2001).

In the early 1980s, President Reagan greatly expanded drug war efforts. During this time the federal drug enforcement budget increased from $806 million to $2.5 billion, and the Comprehensive Crime Control Act of 1984 passed, increasing penalties for the possession of cannabis and enacting mandatory minimum sentences (The Reagan Record on The National Crusade Against Drug Abuse, 1988; Comprehensive Crime Control Act of 1984). Despite the Obama Administration's move away from the war on drugs, one in five people today are imprisoned for a drug offense, and nonviolent drug convictions continue to be a defining characteristic of the federal prison system (Sawyer & Wagner, 2019).

While it is difficult to prove a direct causal relationship between the drug war and the massive increase in rates of incarceration, I argue that there is strong evidence of correlation. The prison population remained stable in the early 1970s, but after the war on drugs began the prison population began to increase, especially around the time of Reagan's drug war policies (The Sentencing Project, 2017; Carroll, 2016). In fact, the prison population continued to sharply increase until roughly 2010, as shown in Figure 1 below. This closely aligns with a report from the Global Commission on Drug Policy that had declared that the war on drugs had failed, as well as the Obama Administration's 2012 National Drug Control Strategy that defined a "third way" approach to drug control, which "emphasizes the value of treatment, prevention and recovery as part of a comprehensive plan to ameliorate the many consequences of drug use" (2011;

Kerlikowske, 2012). Since then, the prison population has begun to slowly decline (The Sentencing Project, 2017).

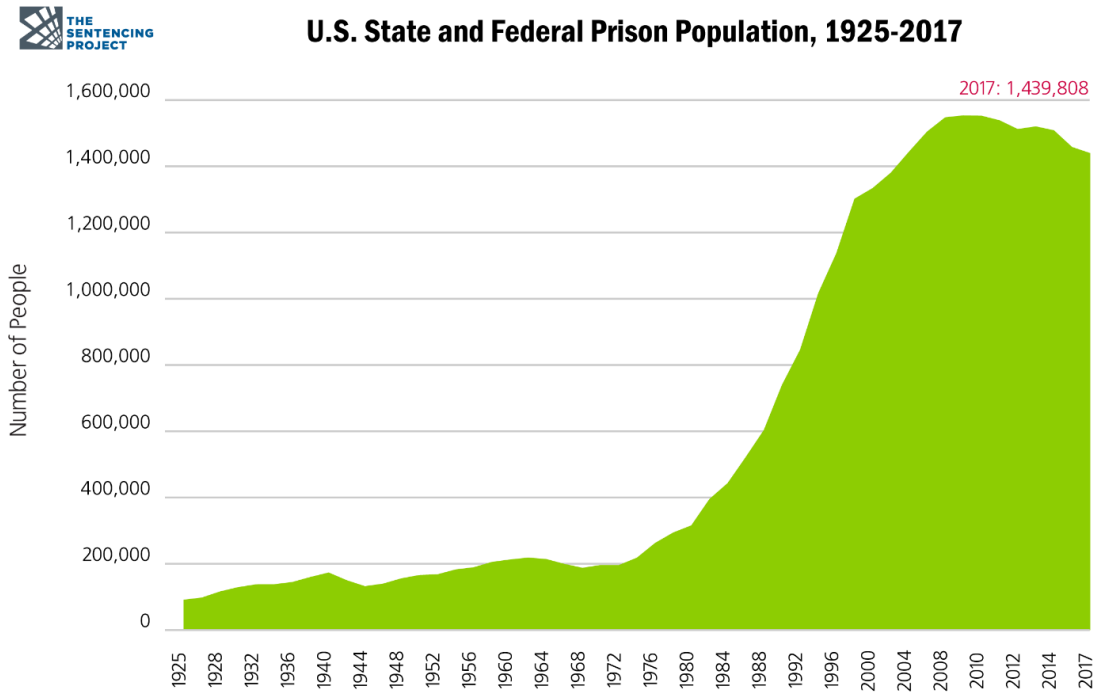

Figure 1. U.S. state and federal prison population between 1925 and 2017. (Source: The Sentencing Project, 2017).

Total rates of incarceration alone, though, do not fully explain what drives incarceration. Therefore, we must examine incarceration by different types of offenses. Figure 2 below illustrates a vast increase of over 1000% percent from 40,900 people incarcerated for drug-related crimes in 1980 to 452,900 people in 2017 (The Sentencing Project, 2017). While this may be telling, researchers from the Prison Policy Initiative point out that this data may be oversimplified (Sawyer & Wagner, 2019). In particular, drug offense data only report the most serious type of offense category for each person, even for people charged with multiple offenses (Sawyer & Wagner, 2019). Therefore, a person with a violent offense and a drug offense would only be reported in the "violent" category. Sawyer and Wagner argue that "this makes it hard to grasp the complexity of

criminal events, such as the role drugs may have played in violent or property offenses" (2019). Steven Duke, a professor at the Yale Law School, also argues that violent crime may be connected to the war on drugs (2010). He provides the example that if drug prices increase due to policy changes, then people may resort to theft and black-market exchange of drugs, which is prone to violent crime, even murder, in cases of drug deals going sour (Duke, 2010).

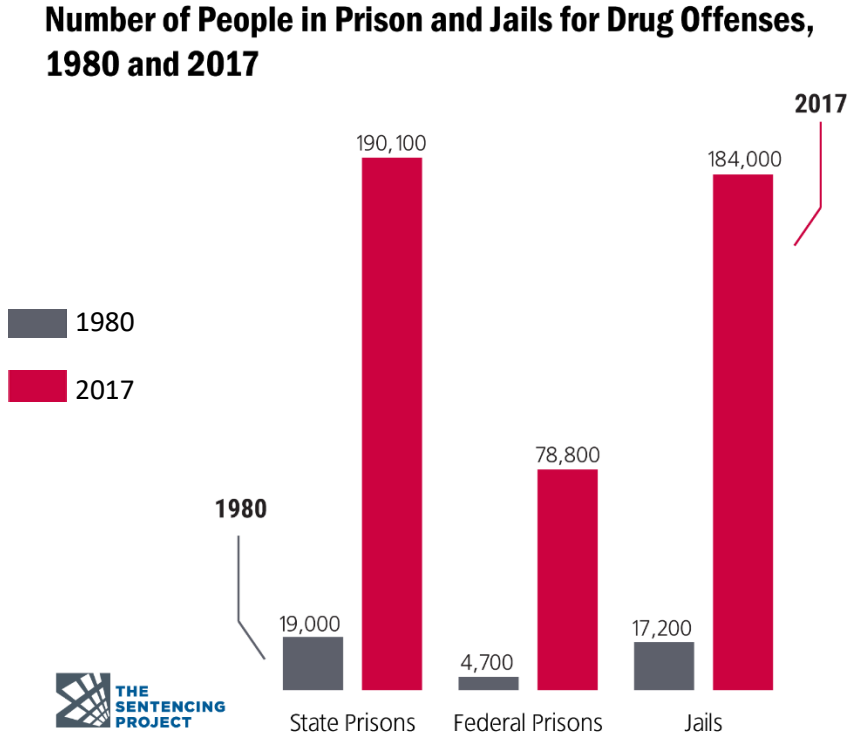

Figure 2. Number of people in prison and jails for drug offenses in 1980 and 2017. (Source: The Sentencing Project, 2017)

People of color, particularly black men, have been disproportionately impacted by the drug war and at all levels of the criminal justice system. While white people comprise the majority of people in the United States, black people and white people both sell and use drugs at similar *rates* (U.S. Census Bureau, 2018; Substance Abuse and Mental Health Services Administration, 2014). Following this logic, more drug users and/or

sellers are white, yet black people are more likely to be imprisoned for their drug-related activity. In particular, black people are 2.7 times more likely to be arrested for drug-related crime, 6.5 times more likely to be incarcerated for drug-related offenses, and receive sentences almost 50% longer than their white counterparts (Schanzenbach et al., 2016).

Research on the war on drugs tends to focus on racial discrimination, but the intersectionality of gender has received less attention. Recently, anthropologist Shaylih Muehlmann reviewed the literature on the war on drugs in North America to provide a needed gender analysis to the discussion (2018). The results of the review indicated that poor women of color are disproportionately impacted by drug policies in the United States and Mexico as their lives are disrupted by subsequent violence and grief (Muehlmann, 2018). Muehlmann also revealed that researchers have struggled with analyzing the war on drugs through a gendered lens due to two interrelated barriers: "(a) how to understand gender and race together and (b) how to theorize gender in relation to power when these two factors are often conflated with each other in both popular discourse and theoretical dispositions about the war on drugs" (2018, pg. 315). Muehlmann concludes that the research "must confront both the double challenge of examining gender as practiced and as socially prescribed and constrained while also untangling stereotypes about the lack of power and agency of people who consume drugs" (2018, pg. 324).

The school-to-prison pipeline

A whole system of factors put people of color more at risk for being imprisoned, reaching as far back to the Thirteenth Amendment. For example, children of color are

being pushed out of schools and into prisons through a system of interrelated factors known as the "school-to-prison pipeline," or STPP. STPP has been defined as "the ways that social institutions…narrow the freedoms, options, and life chances of Youth of Color who are frequently pushed from the highly segregated and underfunded public school system into the "criminal justice" system" (Pellow, 2017, pg. xix).

The American Civil Liberties Union (ACLU) has identified a system of factors and policies that lead students from school down the path to prison. These include: inadequate resources in public schools, zero-tolerance school discipline policies, increased reliance on police in school, school-based arrests, disciplinary alternative schools, and lastly court involvement and juvenile detention (American Civil Liberties Union, n.d.). In particular, zero-tolerance policies, or harsh disciplinary action like expulsion and suspension for minor misbehavior, results from a combination of factors. In particular, the ACLU points to underfunded schools, incentives to "push out low performing students" due to test-score-based accountability systems, as well recent highly publicized school shootings. Suspensions and expulsions can leave children unsupervised and prevent them from keeping up with their schoolwork, which is more likely to result in their dropping out. These disciplinary actions as well as school-based arrests may result in court involvement and/or involvement in the juvenile justice system.

Once students become involved with the juvenile justice system, they often face significant barriers preventing them from escaping the pervasiveness of the STPP. Data shows that recidivism rates are high for youth under the age of 21; in particular, one MIT study found that 40% of the 30,000 juveniles they studied who were involved in the Illinois juvenile justice system reoffended and were incarcerated in adult prisons by the

time they turned 25 (Aizer & Doyle, 2015). This same study also found that juveniles who were incarcerated graduated high school at substantially lower rates, as they often had a low likelihood of returning to school while those who did return were likely to be classified with an emotional/behavioral disorder (Aizer & Doyle, 2015).

Students of color as well as students with learning disabilities are most vulnerable to the STPP. A report by the United States Department of Education Office for Civil Rights showed that black students were three times as likely to be suspended or expelled than white students (U.S. Department of Education, 2014). A student of color who also has a learning disability is even more at risk, when considering the fact that students with disabilities receive out of school suspensions at more than two times the rate of students without those disabilities (U.S. Department of Education, 2014). Lastly, students who face this punishment are almost three times as likely to be involved in the juvenile justice system within a year of their punishment (U.S. Department of Education, 2014).

Recent reporting by The Center for Investigative Reporting showed that youth incarceration reform often overlooks the alarming rates that black girls are experiencing "pushout," or the process being deliberately pushed out of schools through the STPP (Neely, 2019; Morris, 2016). Black girls are suspended more than six times as much as their white counterparts (Neely, 2019). Black girls can be suspended for the way the act in class or simply the way they wear their hair (Neely, 2019).

One reason for the difference in punishment amongst girls may be because of what Dr. Monique Morris calls age compression. In a podcast episode by Reveal, Morris says "what we're doing in this society is taking away the girlhood of black children in adolescence, that we are assigning them a more adult-like identity by expecting them to

be little women as opposed to girls. We then treat them as older." (Neely, 2019). Therefore, while other students may be allowed more leniency in regard to their behavior, the perception of black girls as young women and not girls means they are subject to much higher expectations and find themselves getting in trouble for negligible behavior.

The prison-industrial complex

The factors discussed above—and many others—have contributed to the massive growth in the prison population, which has in turn fueled what journalist Eric Schlosser called the "prison-industrial complex," or PIC, a term adapted from the "military-industrial complex" (1998). As the prison population grew, the prison system had to expand. Schlosser describes the growing prison system as "a set of bureaucratic, political, and economic interests that encourage increased spending on imprisonment, regardless of the actual need…that has given prison construction in the United States a seemingly unstoppable momentum" (1998, pg. 53).

Schlosser frames the PIC as a system of various special interests and institutions whose "raw material…is its inmates: the poor, the homeless, and the mentally ill; drug dealers, drug addicts, alcoholics" (1998, pg. 54). The special interests he identifies include: both liberal and conservative politicians who campaign using the public's fear of crime, poor rural areas where prisons can actually aid in economic development, private companies who have capitalized on prisons as a profitable market, and powerful government officials (Schlosser, 1998). Schlosser also frames the PIC as a state of mind interested in gaining profits and being tough on crime (1998).

The PIC has led to the increasing privatization of prisons, where an expanding industry of private, for-profit companies provides goods and service, such as foodservice,

to correctional facilities (Camplin, 2017). As Schlosser states, “The line between the public interest and private interests has blurred” (1998, pg. 60). This is especially true in the case of publicly funded prisons as more and more services are being outsourced. The public’s tax dollars often help fund those prisons, ultimately providing incarcerated people with basic amenities like food. The National Association of State Budget Officers State Expenditure Report showed that total state spending on Corrections increased by 4.1% in 2019 from the year before, and that Corrections is the most heavily reliant on state general funds than any other major area of government spending (2019).

Privatization tends toward maximizing the bottom line. In this way, it is quite telling to break down prison costs by the type of spending. In a study done by the Vera Institute of Justice of 45 U.S. states, just under 43 billion dollars was spent to fund prisons in 2015 (Mai & Subramanian, 2017). The breakdown of those costs show that more than two thirds (68%) of this spending went towards employee salaries and personnel services, while only 11% was spent on healthcare and another 17% was spent on all “other” costs, not including boarding payments to other facilities (Mai & Subramanian, 2017). These other costs would be any costs associated with running the prison and providing basic amenities to those incarcerated. These statistics may be even worse when examined at the state level. For instance, some states spend as little as 5% of their total budget on healthcare and 0% on those “other” costs while others spend as much as 28% and 27%, respectively (Mai & Subramanian, 2017). In other words, just a small portion of the total budget actually goes to maintaining prisons and caring for incarcerated people while the majority of costs go to prison officials and staff either directly or indirectly.

With the overarching goal of cutting costs, it is no wonder that prison food is often poor in quality, as evidence will show later in this review. But why does this system of mass incarceration and growing prisons continue?

Public investment in the prison system

One way to understand why mass incarceration continues to perpetuate lies within the public's perception of prisons and/or incarcerated people. While the public may not be fully aware of the issues surrounding prisons and mass incarceration, mainstream media coverage, especially in the form of television shows and news coverage, has brought some of these issues to the forefront more recently. In addition, the topic of prisons has sparked the public's interest for its entertainment value, as we see in the growing sensationalism of true crime television shows and podcasts (Cecil, 2017). By exploring the messages that the public receives from media, grassroots activists have identified some of the commonly held assumptions that the public has about prison. These include: the belief in the justice system to achieve justice, the belief that crime deserved to be punished, the perception of safety gained by the war on drugs and locking bad people up, as well as the notion that the prison system provides jobs (Rogers, 2015).

The public's consumption of media about prison may or may not skew public opinion of prisons, but research shows that in many cases people's views of prison are complex and contradictory in nature (Roberts & Hough, 2005). For instance, research shows that in the United States, the public perceives that prison conditions are hard (54.2%), depressing (67.5%), and dangerous (78.8%), but at the same time express the opinion that life in prison is not harsh enough (Wozniak, 2014). This seems to indicate

that the public believes that harsh prison conditions are justified as a punishment for crime.

While evidence suggests that the public operates on the belief that crime needs to be punished, we must consider that many people do not have to face the reality of the prison system and its impacts (Rogers, 2015). Many adhere to the logic of "out of sight, out of mind" and remain ignorant about prison-related issues. Additionally, once imprisoned, people are considered "other" or "second-class citizens" and begin to make up a new social class that falls on the outskirts of general society (Lerman & Weaver, 2014). Lerman and Weaver call this new citizenship status "the custodial citizen" (2014). After incarceration, custodial citizens often lose a variety of rights, such as the right to vote, serve on a jury or be considered for many jobs. This lack of full citizenship in the eyes of the law may therefore make it easier for the public to not fully consider the needs and rights of the incarcerated and formerly incarcerated members of our society. As a result, even after incarceration, people often face the threat of poverty and alienation (Sbicca, 2016).

Prison Food

Erika Camplin, a food studies scholar and author of *Prison Food in America,* estimates that at minimum 13.14 billion meals are served annually to those in federal custody, state custody, and local jails (2017). The preparation of meals has seen a lot change over the years, as explained below.

The prison food system, then and now

It is difficult to find detailed information on the history of American prison food, but the history of our prison system can be linked closely to England's prison history

(Camplin, 2017). For more than 170 years, farming, horticulture, and gardening were an integral part of the prison system in both England and Wales (Devine-Wright et al., 2019). In-prison farming and gardening for food cultivation in the twentieth century was used as a cost-effective way to increase the amount of fresh produce in prisoners' diets (Cross and MacDonald, 2009).

Over time, the idea of a self-sufficient prison that could supply its own food began to disappear. Hillary Lyons' thesis lays out the interrelatedness of the histories of large-scale agribusiness and the prison industrial complex. As small farms failed, prisons with self-sustaining farms suffered the same fate, especially as mass prison construction began (Lyons, 2012). Prisons were left to rely on the growing business of corporate agriculture and foodservice monopolies. Lyons also argues that this left incarcerated people with fewer educational and vocational programs, constrained their access to healthy food, and prohibited them from attaining agency in food choices, while also preventing prisons from being self-reliant and sustainable (Lyons, 2012).

As previously stated, prisons are increasingly outsourcing their goods and services, including contracted foodservice providers. However, due to the strong desire to cut costs and the fact that food service in prison is highly unregulated, prison food service can be subject to corruption (Mckirgan, 2013; Camplin, 2017). As an example, a report by Prison Voice Washington serves almost as an expose on the Washington Department of Corrections food service; the authors argue that the food served in Washington State prisons is not as healthy as it used to be, especially due to the recent cost-saving switch to the "state-run prison-industrial conglomerate" called Correctional Industries, or CI (Prison Voice Washington, 2016).

Incarcerated people can only eat what the Department of Corrections (DOC) makes available, and according to the Prison Voice report, Washington DOC violates healthy nutrition guidelines in a number of ways. The report claims that CI does not provide the minimum requirements for fruits, vegetables, whole grains, lean protein, or milk; instead, they provide more than the recommended amounts of refined starches, added sugars and sodium, the kind of cheap fillers that you often find in highly processed food (Prison Voice Washington, 2016). Other options are available in commissary, which is a store or canteen within the correctional facility where food can be purchased, but more than 90% of those products "are very unhealthy, and are categorized as "Avoid" in the [State's] Healthy Nutrition Guidelines for Vending Machines" (Prison Voice Washington, 2016).

Similarly, the Washington State Office of the Corrections Ombuds (OCO) recently released their annual report based on their own findings, which included seven major recommendations for DOC to reform and improve conditions. In addition to improvements in healthcare, the OCO's fourth recommendation states that "DOC should create better access to healthy food, including prioritizing fresh produce, less processed products, and quality protein, through greater utilization of incarcerated workers who can then gain skills for reentry success" (Office of Corrections Ombuds, 2019a). Like the Prison Voice Washington report, the OCO also points to the switch to CI and its impacts, which include concerns over quality and quantity, recent food strikes, as well as substantial amounts of food waste (2019a). The OCO provides a variety of specific recommendations for DOC, which include raising the average cost per meal to increase

the food quality, fully evaluating CI, and reviewing food preparation practices by the facilities that did not switch to CI (2019a).

Overview of literature on prison food

The situation in Washington State is not uncommon across the country. In the remainder of this section of the literature review, I will review some of the many facets of prison food literature. Amy Smoyer, a Professor of Social Work at Southern Connecticut State University and well-published researcher on prison food, recently published a "scoping review" of the literature on prison food. Her initial search of one research database yielded a total of 411 articles, both quantitative and qualitative, that covered a variety of topics related to prison food since 1995 (Smoyer, 2019). Among the articles deemed eligible for the study, Smoyer summarized the main findings into various key categories: nutrition, consumer satisfaction, logistics, relationships, power and control, resistance and agency, and identity, including gender (2019). I examine many of the same themes in the subsequent sections.

Smoyer also organized her review based on an important distinction in the types of prison food literature: pragmatic versus symbolic, which was originally laid out by Godderis (2006). While a symbolic analysis focuses on participant narratives about prison food in order to gain insight into prison life, a pragmatic analysis operates more like a report of measurable findings without a psychological or social interpretation. The pragmatic research mainly reports measurable nutritional and health outcomes associated with prison food. I found the distinction between symbolic and pragmatic analyses of food useful and have therefore chosen to organize the following review of prison food literature in the same fashion.

Pragmatic analysis of prison food

The prison food system is often highly mechanized and standardized. In particular, the food served in an average prison meal is prepared at an off-site facility, shipped frozen to the correctional facilities, and then reheated at mealtime. This highly mechanized system relates to the theory of "McDonaldization," a term developed by sociologist George Ritzer, which refers to society adopting the characteristics of a fast-food restaurant. The four primary components of McDonaldization are efficiency, calculability, predictability, and control, all of which serve as core components of daily life in a prison system. Recently, a researcher applied this concept to the criminal justice system, relating the theory to the operation of criminal justice and sentencing (2006). I argue that this theory could also be applied to the typical mechanism of standardized diets in prison, which rely on predictability in form of strict schedules, calculability in the form of advance menus, efficiency of time and resources, and control over food choices, portions, and feeding times, which are often used to funnel the incarcerated to where they need to be, when, and for how long.

A study by Johns et al. reveals how the prison food system is incredibly mechanized and efficient at feeding people, even better than the typical hospital setting. For this study, the researchers compared field notes of nutritional studies to compare and contrast prison food service to hospital food service. They found that the transport of hospital food caused delays which in turn meant that the meals reached hospital patients in a "poorer, less appetizing condition" than the prison meals (Johns et al., 2013). They

also found that the hospital patients were more at risk of being undernourished than the prison population (Johns et al., 2013).

While it may be impressive that prison food service is able to operate so efficiently, it is even more striking that prisons are able to feed their clientele for such low costs. To understand how cheaply prison meals are made, Camplin compares the fact that an average school lunch is produced for around $2.30, while prisons are able to produce three full meals per day for around the same price (between as low as $1.75 or up to $4.00 particularly for special diets) (Camplin, 2017). Prison food menus are often set months in advance and rotate on a six-week basis, similar to school food systems (Camplin, 2017). Often prisons will provide some options that can accommodate special dietary restrictions (kosher, vegan/vegetarian, and due to medical conditions), though it's up for debate whether special diet and food needs are accommodated (Camplin, 2017).

In such a mechanized system, you might also expect that it adheres to strict nutritional standards, but there are no standard nutritional or caloric guidelines for all correctional facilities in the United States (Camplin, 2017). In particular, the Bureau of Prisons creates the manual of nutrition guidelines for federal prisons, but other than a daily (pre-preparation) food weight requirement (3.9-6.31 pounds of food served per person per day), the standards are vague (Camplin, 2017). As long as efforts are taken to avoid violating the Eighth Amendment (prohibiting cruel and unusual punishments), these guidelines can be interpreted differently across the board from the state- or county-level all the way down to the individual facility-level (Camplin, 2017).

In an expose, The Marshall Project recreated menus and meals, broken down by nutritional content and price per meal, from four correctional facilities (Gordon County Jail in Georgia, Butte-Silver Bow County Jail in Montana, Maricopa County Jail in Arizona, and Morgan County Jail in Alabama) that have been subject to recent lawsuits and complaints from incarcerated people (Santo & Iaboni, 2015). One of those recreations is depicted below in Figure 3.

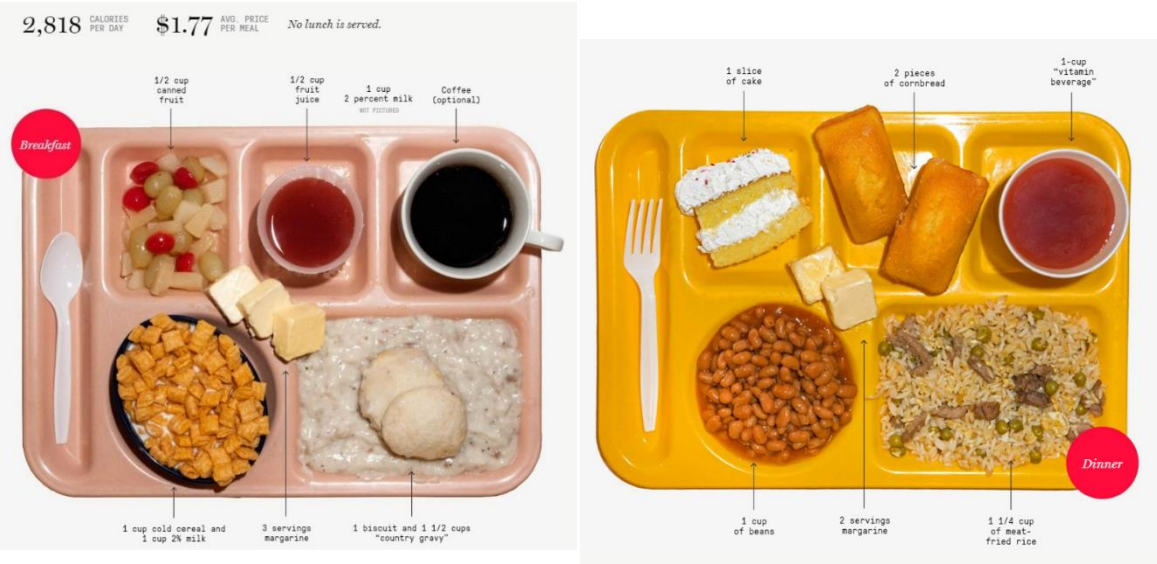

Figure 3. Photos of recreated meals served in jail. This Gordon County, Georgia jail feeds the incarcerated only twice a day (breakfast and dinner), about 10 to 14 hours apart. (Source: The Marshall Project)

Due to the lack of clear nutritional standards and prevalence of cheaply processed food, it makes sense that researchers have examined the health impacts of prison food. In particular, these examinations indicate that there are clear gender disparities with regards to rates of diet-related conditions & weight gain. Diet-related issues may be exacerbated in the female prison population because specific nutrition standards, such as daily caloric intake, may not be reflected in the menus served to them in a prison food system. An earlier study of women prisoners at a Federal Bureau of Prisons complex showed statistically significant weight gain and body mass index (BMI) increase over a three-year period (Massie, 2000). Clarke et al. found that 70% of the women they studied gained

weight at an average of 1.1 lbs. per week (2012). Lastly, studies show that women are in fact more at risk for conditions such as obesity and diabetes during their incarceration; the prevalence of diabetes among the Oregon prison population has increased by 50% in the last five years (Firth et al., 2015). Firth et al. also implemented an intervention to 24 of the 63 females with diabetes. The intervention reduced the menu from 3,000 to 2,200 calories per day and provided nutrition education to women at a minimum-security facility in Oregon incarceration, which resulted in a modest improvement in hemoglobin levels and prevented those individuals from purchasing more calories from the commissary (Firth et al., 2015).

Symbolic analysis of prison food

As mentioned previously, research that emphasizes a symbolic analysis relies mainly on narratives, attitudes, beliefs, and perceptions. One such analysis explores incarcerated people's attitudes towards prison food. For instance, Vanhouche probed attitudes of "ready-made meals" in a Dutch prison, by conducting interviews with incarcerated people and staff and making observations in a prison (2015). The study participants had moved from Belgian prisons where food was made from scratch to prisons with pre-prepared food. Results show that the food system had a considerable impact on experiences in prison, and that most incarcerated people had negative attitudes towards the ready-made meals (Vanhouche, 2015). This case study's analysis provides a useful parallel to the more recent industrialization or privatization of prison food in the United States and its negative perception.

Returning to the example of Washington State Corrections, the Washington State Office of Corrections Ombuds recently released a report based on a food preferences

survey taken by the incarcerated men at Washington State Penitentiary (WSP). According to the Ombuds' office, the project aimed to "facilitate improvement of both Washington Correctional Industries food offerings and stakeholder relationships in the wake of the Washington prison food strikes in 2018 and 2019, and in response to prison food complaints" (2019). Their findings indicated that the three main concerns for incarcerated people at WSP were: (1) meal portion sizes, (2) food reheating protocols that causes food to be "hard, dry, and inedible," and (3) the desire for more protein in meals (Office of Corrections Ombuds, 2019b). Other areas of concern included the quality of ingredients (including their freshness); increased provision of healthier, less processed foods; more variety in meals and meal components; improved recipes and flavor; and more effective monitoring of prison kitchen staff to ensure that proper food safety and sanitation protocols are followed (Office of Corrections Ombuds, 2019b).

Another facet of symbolic analysis includes studies that explore the relationship between behavior and prison food. For instance, the study by Milligan et al. examined disordered eating behaviors in female prisoners in a medium sized prison in the United Kingdom to determine the levels of disordered eating in that population and whether those behaviors were associated with anger (2002). Using an interview-based disordered eating screening tool, the researchers found that 25% of the 91 women were at risk for an eating disorder, which was twice the rate observed in a non-eating-disordered community sample (Milligan et al., 2002). The results also supported the authors' hypothesis that anger is associated with disordered eating; in particular, they found that both a loss of control over one's eating and drastic weight loss was associated with a standardized measure of anger (Milligan et al., 2002). On the other side of the coin, authors

Ramsbotham and Gesch have asked whether diet is a causal factor for criminal and antisocial behavior (2009). The authors argue that dietary standards should consider the impact that diet and nutrition can have on brain function and behavioral outcomes, which may be especially relevant to reducing criminal behavior in the prison population (Ramsbotham & Gesch, 2009).

Many researchers are also interested in how food in prison symbolizes power or enacts punishment. Related to this topic is Michel Foucault's concept of biopower, which is about control of large groups of people, or more literally having power over human bodies (Foucault, 1976). This directly relates to the prison industrial system at play, as prisons themselves represent a biopolitical control over populations. Prison authorities exercise great power over the bodies of people within the system. Corrections officers tell incarcerated people when to eat, shower, sleep, exercise, etc.; the incarcerated lack power over these choices, especially their diet. This may be due in part to the impersonal nature of the prison system, or what Max Weber refers to as impersonality of bureaucracy (Weber, 1992). The prison system relies on an impersonal approach that dehumanizes the incarcerated individuals; the system diminishes people to an identification number, houses them in one of many cells, and gives them standardized schedules and diets. There is little room for individual choice.

One sociologist, Rebecca Godderis, analyzed incarcerated people's stories about how food and food-related rituals are used by prison authorities to control the lives of incarcerated people (2006). Godderis argues that the loss of control over eating practices is key to transforming an individual into an "inmate" by creating "a sense of estrangement between one's self and one's body" (Godderis, 2006, pg. 61). Avi Brisman,

a doctoral student in the Department of Anthropology at Emory University explored food in prison as a way to investigate and examine power relations (2008). The author details how the State exercises power over incarcerated people with respect to food practices, including mealtimes, where meals are served, with whom incarcerated people can eat, and types and quantity of food available (Brisman, 2008). Ultimately, this food-related control deprives the incarcerated of the power of choice; while most people in our society enjoy the ability to make endless choices regarding our food, the incarcerated are left with almost none (Brisman, 2008). In his book *Food as a mechanism of control and resistance in jails and prisons: Diets of disrepute*, Salvador Jimenez Murguía argues the food experience in prison may actually add "an extra form of punishment to one's sentence not measured in time, but rather in terms of cruelty" (2018, pg. 5).

Yet incarcerated people still find ways to resist the lack of complete control over their food choices. Brisman characterizes five types of "food-based inmate resistance," which include 1. individual adaptations and adjustments, 2. individual displays of opposition, 3. legitimate group adaptations and displays of opposition, 4. illegitimate group activities and displays of opposition, and 5. combined individual and group displays of opposition: hunger strikes (2008). Table l summarizes examples of these actions, most of which, if caught, would result in some sort of disciplinary response, such as infractions or solitary confinement. Additionally, Graaf and Kilty also examined how incarcerated women engage with food differently than men (2016). The authors found that women resist mealtime and negotiate their power by storing, sharing, and trading food (Graaf & Kilty, 2016). They found that this limited use of individual agency actually

fostered “togetherness and solidarity, making prison time temporarily more comfortable and manageable” (Graaf & Kilty, 2016, pg. 27).

Table 1. Summary of examples of the five types of food-based resistance that incarcerated people employ (Sources: Brisman, 2008; Jimenez Murguía, 2018)

Food-based Resistance Type	Examples
1. Individual adaptations and adjustments	Cognitive tricks, like avoiding cues (e.g. television commercials) that would remind them of food unavailable to them, or eating food from commissary that holds autobiographical meaning; cooking in one’s cell; modification of food to enhance flavor; obtaining extra food through other means; creating art with food dyes as the medium
2. Individual displays of opposition	Defiant behavior towards authorities; making weapons from food trays; physical force; throwing food waste at guards;
3. Legitimate group adaptations and displays of opposition	Ethnic-based food groups; complaints and written grievances and food-related lawsuits
4. Illegitimate group activities and displays of opposition	Using food as currency in the underground prison market; food-related riots
5. Combined individual and group displays of opposition: hunger strikes	Strikes related to frustration; strikes intended to gain attention for a particular cause; strikes used as a bargaining tool; strikes with suicidal aims

To analyze formerly incarcerated women’s narratives about prison food, Smoyer and Lopes applied Sexton’s theory of penal consciousness, which provides an understanding of punishment that is dependent on two variables: severity (the intensity of punishment) and salience (the prominence of punishment in a prisoner’s life) (2017). Through interviews with 30 formerly incarcerated women, the researchers found that prison food systems left the women feeling “uncared for, ignored, frustrated, and humiliated” (Smoyer & Lopes, 2017, pg. 244). Other themes that were identified in the interviews were experiences of hunger, feelings of being rushed and watched, loss of

autonomy and freedom, feelings of alienation, and a perception of nonsensical food policies (Smoyer & Lopes, 2017).

Smoyer and Lopes concluded by recommending specific food policy changes based on their findings:

> "1. *Create prison food systems that demonstrate concern, empathy, and respect.* For example, allow inmates to serve themselves and eat at a reasonable pace.
>
> 2. *Communicate* the rationale behind food policy. Create a prison food council that promotes dialogue between inmates and staff about food and allows incarcerated people to have a voice in the institution's food policies.
>
> 3. *Examine the manifestations of food-related humiliations* in prison operations. Choose food catering systems that seek to transform prisoners, not degrade them…
>
> 4. *Build understanding of prison punishment* that focuses on the deprival of freedom and does not use food to construct additional layers of punishment." (2017, pg. 251).

Lastly, food can be understood and analyzed as a representation of identity and culture. Much of Smoyer's research on prison food is focused on this topic. In an earlier article, Smoyer and Blankenship interviewed 30 formerly incarcerated women about prison food and found that "prison food systems contributed to the construction of boundaries that distinguished the prison place from places and life outside the institution's walls" (2014, pg. 564). The authors also found that the prison food system reinforced the women's identities as rule breakers because they would construct a complicated system of trade that involved moving food between places with disparate food resources (Smoyer & Blankenship, 2014). Smoyer also found that in their food narratives, incarcerated women attempted to construct themselves as "good," and their stories "showcased their capacity for friendship, empathy, self-care, and recovery" (2014, pg. 537). Yet these positive narratives were further complicated by prison food policies that deems these "good" activities, like sharing their food and cooking for others, as illicit

(Smoyer, 2014). Smoyer's research has also illustrated that that food is central to incarcerated people's relationships and their everyday interactions with people inside and outside of prison (Smoyer, 2015a). Lastly, Smoyer also examined the data for knowledge about cultural beliefs and racial food narratives. She found that the participants construct prison as a "non-white space," in which African American and Latina women were better matched for prison cooking, eating, and accessing commissary than white women (Smoyer, 2015b, pg. 281). Smoyer argues these constructions ultimately reinforce and enact larger cultural notions about incarceration (Smoyer, 2015b, pg. 273).

On the other side of the spectrum, Earle and Phillips' ethnographic study of an English prison explored the way that incarcerated men make food for themselves and each other (2012). The particular medium-security prison studied was unique in that it had communal "self-cook" areas in each of the five wings (Earle & Phillips, 2012). The incarcerated men took pride in the fact that the self-cook areas were independently managed and that they were able to achieve "mutual tolerance" when negotiating the area's use amongst ethnically and religiously diverse groups of men (Earle & Phillips, 2012, pg. 147). The authors also argued that the self-cook areas created an ambiguous space that differed from the typical highly masculine and competitive spaces in prison, which allowed men to foster social interaction and collective collaboration (Earle & Phillips, 2012).

Food Justice & Prison

A vast variety of social and environmental justice issues that can harm incarcerated people and prison staff plague our prisons. As the previous section has shown, prison food issues may represent one way in which incarcerated people's rights

are violated. Therefore, the concept of food justice is important to this thesis. Food justice advocates are interested in how the benefits and harms of the food system are distributed. Ron Finley, an urban gardener and activist, characterizes food injustice as a structural problem socially engineered to weaken those at the bottom (2014).

Sociologist Joshua Sbicca emphasizes the ability of the food justice movement to bring together activists across a broad range of social justice issues, including prisons and mass incarceration (2018). For instance, scholars have come together to produce a book aimed at expanding the discussion of the school-to-prison pipeline (STPP) to include women's rights, environmental justice, food justice, and mass incarceration (Nocella et al., 2017). The authors identify disadvantages that youth of color face before they even enter school, such as lack of access to clean water, a pollution free-environment, and/or healthy meals (Nocella et al., 2017). For example, if students are not well fed before school, they may find it difficult to focus or perform well and misbehave, which may further feed into the STPP (Bellisle, 2004; Brown et al., 2008). In this way, food justice becomes a criminal justice issue.

Unfortunately, as Lyons states in her senior thesis at Vassar College, "In today's social context, where the denial of the prisoners' basic rights and needs is triumphed as deserved punishment, food justice in the prison setting is often overlooked" (2012). In most cases, examination of food justice in connection to prison focuses at the point of re-entry into society or on rehabilitative vocational training like gardening. Little attention gets paid to justice as it pertains to the food served in the prison.

Prison gardens

Some efforts have endeavored to increase the use of local food in prison food systems and implement prison gardens, both key aspects of the Farm to Institution movement. These efforts could be referred to as "Farm to Prison" (Bulger, 2015). The prison gardening programs reviewed below demonstrate one way in which food justice efforts are focused inside prisons.

Overall, gardening in prisons gives incarcerated people a chance to participate in horticultural therapy, and in some cases increases access to fresh fruits and vegetables (Watkins, 2013). In her senior thesis, Caitlin Watkins compares the food justice movements' use of urban gardening to prison gardening in that they both utilize limited land space and exist in densely populated areas (2013). Watkins also speaks of the benefits of horticulture programs and landscaping classes that provide educational and vocational opportunities to the incarcerated and may result in certification that can be used after re-entering society (2013).

San Quentin State Prison in California has more recently been known for its progressive efforts to rehabilitate incarcerated people. One of these early efforts included a rehabilitative gardening program in their prison yard. Kathryn Waitkus studied this gardening program to determine the impact on both the physical environment and social climate of a prison yard, from the perspectives of incarcerated participants in addition to prison staff (2004). By interviewing program participants, a control group of incarcerated people, and prison staff both before and after implantation of the prison garden, she found that garden programs met or exceeded expectations (Waitkus, 2004). In particular, the results showed that "(a) gardens invited attention, use, and refuge; (b) being in or near a

garden could reduce stress; (c) gardens might provide "neutral" territory in a segregated prison yard; (d) inmate participants gain benefits from directly working with nature; (e) gardens create the possibility for hope and further change; and (f) prison staff are generally more concerned about the impact of change than are the inmates themselves" (Waitkus, 2004, pg. iii).

Lyons studied alternative prison programs that she felt captured the rehabilitative potential of sustainable prison farms and gardens. These included both the GreenHouse at Rikers Island in New York City and the Sustainable Prison Project, or SPP (now known as the Sustainability in Prisons Project) in Washington State (Lyons, 2012). Through interviews with formerly incarcerated participants as well as key players within the organizations, she found that these programs succeeded because of the agency they granted to their participants (Lyons, 2012). She stated that in these programs, "educators empower inmates through knowledge so that inmates can take ownership of their projects, be it designing a garden or operating an apiary, and take pride in putting this work toward the betterment of their local communities" (Lyons, 2012, pg. 83).

Lastly, a recent article in the Journal of Appetite explored a contemporary case study of a therapeutic gardening program called Greener on the Outside for Prisons or GOOP (Devine-Wright et al., 2019). This particular program often also allows the produce to be used for educational purposes, such as teaching cooking skills and learning about the origins of different types of food. These skills can be useful in guiding healthy eating and finding employment opportunities after prison as well (Devine-Wright et al., 2019. The researchers also found that GOOP succeeds when it relies on a whole system

approach in which a broad range of prison programs are actively engaged (Devine-Wright et al., 2019).

Re-entry programs

As just described, food justice advocates most often connect their work with the goals of successful release and reentry for formerly incarcerated people. One example of an organization focused on these efforts is Crossroads. Watkins' thesis explores this three-pronged case study at Crossroads, Inc., a non-profit organization in Claremont, California that aims to help formerly incarcerated women re-enter society after long-term prison sentences. The three parts of the Crossroads Food Justice program included: organic gardening on Saturday mornings, participating in Meatless Mondays, and a social enterprise project which involved preserving donated produce from fruit trees and selling value-added products to the local community (Watkins, 2013). Each of these approaches utilized food as tool to build community, provide valuable skills, and educate about the food system (Watkins, 2013).

Planting Justice is another example. Planting Justice focuses on food sovereignty, economic justice, and community healing. In particular, Planting Justice reports that since 2009, they have "built over 450 edible permaculture gardens in the San Francisco Bay Area, worked with five high-schools to develop food justice curricula and created 40 green jobs in the food justice movement for folks transitioning from prison" (plantingjustice.org). Sociologist Joshua Sbicca who has connections with Planting Justice investigated how these activists in Oakland, California link food justice to reentry work, prison reform, living wage campaigns, and fair housing statutes (2016). He argues that our understanding of food justice should be expanded by exploring all of the

potential connections between food politics, carceral politics, and social justice initiatives (Sbicca, 2016). Sbicca also reports that 250 participants benefited from an 18-month program in San Quentin State Prison, of which 21 participants graduated as permaculture designers in their re-entry program. This allowed many of them to go on and earn living wages or start their own businesses, and lastly, none of the 17 formerly incarcerated people who have worked for Planting Justice have been re-incarcerated (2016).

Food Deserts

One food justice issue facing the general population in the United States is the phenomenon of food deserts. Food deserts often coincide with communities of color, signifying an important racial justice issue as well. Studies show that there are four times as many supermarkets located in white neighborhoods than in predominately black neighborhoods, and that grocery stores that are in communities of color are usually smaller, such as convenience stores with a limited food selection (Morland et al., 2002). In a study that examined the impact of food deserts on public health in Chicago, Gallagher found that people of color and low-income populations living in food deserts suffer from disproportionately higher rates of obesity, type 2 diabetes, cardiovascular disease, and other diet-related conditions than the general population (Gallagher, 2006).

Defining and measuring food deserts

The United States Department of Agriculture (USDA) had previously defined food deserts as "parts of the country vapid of fresh fruit, vegetables, and other healthful whole foods, usually found in impoverished areas…largely due to a lack of grocery stores, farmers' markets, and healthy food providers." While this particular definition was

useful for previous research I have done, it can no longer be found on government websites, as it was removed shortly following the transition to the Trump administration

Instead, the USDA now utilizes a technical definition to characterize food deserts. The USDA defines a food desert as a "census tract that meets both low-income and low-access criteria including: 1. poverty rate is greater than or equal to 20 percent OR median family income does not exceed 80 percent statewide (rural/urban) or metro-area (urban) median family income; 2. at least 500 people or 33 percent of the population located more than 1 mile (urban) or 10 miles (rural) from the nearest supermarket or large grocery store." (Dutko, et al., 2012). Using the above definition and data from the 2000 Census of the Population, the USDA identified 6,529 census tracts that meet their definition of food deserts (Dutko, et al., 2012).

While the USDA's data identified a large number of food deserts, the narrow definition used by the USDA may actually result in an underrepresentation of the prevalence of food deserts. A report by the Food Empowerment Project (FEP) shows that when relying on government data, some communities located in food deserts may not be classified as such. In particular, the North American Industry Classification System (NAICS), the standard used by federal agencies to categorize retail outlets that sell food, lumps together small corner grocery stores with supermarkets. The FEP says "In other words, a community with no supermarket and two corner grocery stores that offer liquor and food would be counted as having two retail food outlets even though the food offered may be extremely limited and consist mainly of junk food" (Food Empowerment Project, 2010). Additionally, the USDA removes census tracts where more than 50% of the population resides in what they refer to as "group quarters." Group quarters include

institutions like universities or prisons. This effectively eliminates 710 tracts (116 rural and 594 urban) from the USDA's analysis of food deserts (Dutko et al., 2012).

In reality, more areas of the United States could be considered food deserts, if the technical definition and measurement methods used were more robust. In addition to census data, other methods used to assess food access have included: business directories and lists, focus groups, food store assessments, food use inventory, Geographic Information System (GIS) mapping technology, interviews, inventory for measuring perceptions of food access, questionnaires and surveys (Walker et al., 2010). The USDA definition also fails to consider more nuanced factors that represent the experience of living in food deserts. The FEP critiques how the USDA's lens on food deserts is focused only on proximity to food providers, "rather than considering other factors such as racism, cost of living, people being time poor and cash poor, cultural appropriateness of available foods, the ability of people to grow their owns foods, etc." (Food Empowerment Project).

Mixed methods approaches will likely prove most useful to understanding whether or not a community can be characterized as a food desert. In a food desert study of Seattle-King County, Washington, the researchers studied five low-income groups to determine both their physical and economic access to supermarkets (Jiao et. al., 2012). The researchers concluded that the specific criteria chosen to define food access have a great impact on the resulting estimates of populations living in food deserts. They argue that when measuring access to food, criteria such as a travel mode and duration as well as food costs at available supermarkets should be considered (Jiao et. al., 2012).

Key characteristics of food deserts

In a review of major food desert literature, researchers divided food desert literature into eleven distinct categories: access to stores, income/socioeconomic status, race/ethnicity, food store density, cost, location, store type availability, perception of quality of foods available, and impact (Walker et al., 2010). In addition, the authors also identified four major findings from the studies they reviewed. I summarized the findings in Table 2.

Table 2. Major findings and their related factors from a review of 31 empirical studies that focus on food deserts in the United States (Source: Walker et al., 2010)

Major Finding	**Related Factors**	**# of Articles**
Limited access to supermarkets	Transportation, walkable neighborhoods, lack of time	10
Racial/ethnic disparities in food deserts	Social and racial history of segregation, consumer purchasing power	11
Income/socioeconomic status in food deserts	Crime, lack of transportation	11
Differences in chain versus non-chain stores	Cost, availability of food items, store type	14

After reviewing the literature, I have identified four key characteristics of food deserts and will use them as the basis of this thesis research. These are summarized in Table 3. Although the first characteristic: "lack of access to affordable, healthy food" may seem similar to the second characteristic: "abundance of highly processed food," I argue that it's important to include both of these characteristics and differentiate between these concepts. While food deserts lack healthy and affordable food options, it is important to note that a food desert does not denote a lack of food overall. Instead food deserts are characterized by an abundance of cheap, processed food, often found in fast food restaurants, convenience food stores, and liquor stores, which results in residents' reliance on food corporations to feed them. Lastly, while socioeconomic and racial

disparities are important to the analysis of food deserts, I have differentiated these as particular trends that go hand in hand with the occurrence on food deserts, rather than specific factors that define an area as a food desert. Instead I am focused on the availability and quality of food choices, the ability to access those choices, and the resulting health impacts.

Table 3. Key food desert characteristics identified from the literature

1. Lack of access to affordable, healthy food (e.g. grocery stores, supermarkets, and farmers' markets)
2. Abundance of highly processed food (e.g. convenience food stores and fast food restaurants) and a subsequent dependence on large food corporations
3. Lack of choices (e.g. culturally appropriate, special dietary options) and/or an inability to access other options (e.g. transportation, ability to grow own food)
4. Negative health impacts (e.g. diet-related conditions, emotional and mental well-being)

The Intersection: Food Deserts & the Prison Food Environment

As the issue of food deserts receives increasing attention, I have also learned anecdotally through my work with incarcerated people in Washington State that there are many issues surrounding prison food. For example, there seems to be a lack of available choices in a prison's mainline food service program, as well as an abundance of convenience food offered in commissary as an alternative to mainline food service. If special diets are available, people find them difficult to access. In addition, I've heard stories that food packaging has had the words "not fit for human consumption." Food is also wasted at alarming rates, which may be due to the perceived inedibility. Most interestingly, numerous gardens exist in the Washington State prisons, yet the food grown in these gardens is difficult to access. In most cases, the only people allowed to access the garden and its produce are a select few prison garden workers. Otherwise, possessing

food from the garden would be considered contraband. In addition, community programs that help maintain these gardens often stipulate that half of the produce must be donated back into the community through food banks. While useful, this often means that not enough of the garden's harvest remains to supply the kitchen for meals in prison. These are just some of the reasons that have caused me to consider how the prison food experience seems to be similar, in some ways, to that of someone living in a food desert.

Yet many food justice efforts involving incarcerated people focus on re-entry and/or gardening, and it is much harder to identify food justice movements aimed at working within the prison food system itself. Additionally, literature connecting prisons to food deserts is limited. Therefore, the goal of this thesis research is to determine if there are similarities, or differences, between prison food systems and the phenomenon of food deserts, by applying the key characteristics of food deserts to the prison food experience.

Although the literature has yet to ask whether a prison can be considered a food desert, these concepts have been conversely linked. Ron Finley, an urban gardener and advocate for the transformative power of community gardens, applies the concept of prison to a food desert community. He calls his community of South-Central Los Angeles a "food prison," a term he coined to more accurately describe the experience of living in a food dessert. He says "Living in a food prison means you do not choose what you put in your body. You are dependent on corporations to feed you" (Finley, 2014). Similarly, living in an actual prison means you are subject to strict prison food policies and dependent on prison food service (usually a corporation) that provides limited options.

After reviewing the literature on both food deserts and prison food, I have begun to make some preliminary connections between the two topics of study. These are summarized in Table 4.

Table 4. Preliminary findings from prison food literature relative to key food desert characteristics

Food Desert Characteristics	Prison Food Findings
Lack of access to affordable, healthy food	Few options in mainline or commissary; cost of commissary as a barrier
Abundance of highly processed food	Unhealthy commissary options and mainline food menus
Lack of choices and/or an inability to access other options	Difficulty accessing special diets; lack of options in general; lack of agency or access to info; policies around food that result in disciplinary action
Negative health impacts	Weight gain; rates of diet-related conditions

Both food desert areas and prisons lack healthy food options. While food deserts lack avenues to purchase healthy food, such as supermarkets and farmers' markets, incarcerated people also lack these avenues. They must rely on limited menus from their prison food service or commissary options. Cost of food can also be a barrier in both food deserts and prison. In particular, rising costs of prison commissary options may mean that people who do not have the means to access money (e.g. family members that can afford to send money, or higher paying prison jobs) may not be able to access alternative food options like commissary. Unfortunately, both incarcerated people and people living in food deserts are forced to rely on unhealthy, processed food. Outside of prison, this means people eat fast food or food from their local convenience or liquor stores. Often

these options are high in salt, fat, and carbohydrates (Gallagher, 2006). As the literature shows, prisons also largely provide these high calorie, low-nutrient type foods both in their mainline food service and in commissary (e.g. junk food) (Prison Voice Washington, 2016).

The diversity of options is also an issue in both food deserts and prison food systems. Similar to the lack of access to diverse options in food deserts, incarcerated people often find it difficult to access special diets (e.g. vegan/vegetarian, religious diets, or medically necessary diets), let alone culturally appropriate options. The food desert literature also shows that people often have an inability to access other options in or outside of their communities, often due to a lack of transportation, work hours, etc. In prison, this inability presents itself in different ways. As the literature indicates, incarcerated people clearly lack agency, which limits their ability to access information about their food or advocate for better options. In addition, people in prison must grapple with power dynamics that prevent them from accessing other food sources or improving their food quality (e.g. disciplinary food policies) (Brisman, 2008; Jimenez Murguía, 2018). Similarly, people in urban food deserts often lack the ability to provide their own food sources, i.e. growing their own food. This can be impossible in prison as well. As we've seen, even when gardens are present, policies prevent people from being able to access the gardens or its produce. Doing so can even result in disciplinary action. Lastly, both the prison population and food desert communities are experiencing higher rates of diet-related conditions (Gallagher, 2006; Massie, 2000; Clarke & Waring, 2012; Firth et al., 2015). I also expect that the experience of eating food in prison will result in negative

impacts to incarcerated people's mental and emotional well-being, likely due to the complete lack of control of their own body.

Additionally, the prison food experience relates to the food desert experience in that both issues are plagued by racial and socio-economic issues. Food deserts are more often to be located in communities of color, or low-income communities (Morland et al., 2002). Similarly, we find that the criminal justice system more often targets those same communities, meaning the prison population is made up of both more people of color and/or people that are low-income. Data has yet to show whether people of color fare worse food conditions in prison like they do in food desert communities, though an argument could be made that the sheer number of people of color in prison would indicate that they fare worse than the general population in this respect. On the other hand, the literature clearly points to disparate impacts on women in the prison food experience. There is an increased prevalence of diet-related conditions in prison for women, which may or may not be unique to the prison food experience (Massie, 2000; Clarke & Waring, 2012; Firth et al., 2015). For these reasons, this thesis research will also analyze survey findings by both race and gender to identify disparities, if any, throughout the prison food experience.

CHAPTER III. METHODS

The goal of this research is to determine if there are similarities and/or differences between the typical prison food system and the phenomenon of food deserts, by applying selected key characteristics of food deserts to formerly incarcerated survey participants' reports of their prison food experience. The first section of this chapter describes the survey data that will be used in this research. Next, I outline the analytical strategy for selecting specific survey questions relevant to my analysis. Then I lay out the quantitative analysis of the data, including the construction of a summated rating scale to measure each survey participants' 'food desert score,' in addition to the analysis of these scores by race and gender to identify structural disparities, if any, throughout the prison food experience. Next, I describe the analysis of qualitative survey responses. Lastly, I discuss the ethical implications of doing research on the formerly incarcerated population.

Survey Data and Sampling

This study uses secondary survey data collected by Impact Justice's Food in Prison Project (FPP). For this project, Impact Justice conducted the first-ever comprehensive study of food in prison, with the following goals: "to document the short and long-term effects of eating in confinement, analyze the structures that created our current system, and identify opportunities for change" (The Food in Prison Project: A Fact Sheet, n.d.). To achieve said goals, the FPP's research included interviews and surveys of formerly incarcerated individuals, their families, and community leaders, as well as site visits and interviews with leaders of correctional facilities and key decision-makers at the state level.

In particular, the research at present will utilize FPP's surveys, which were targeted to a study population of formerly incarcerated individuals in the United States. The survey instrument did not include an official consent form, though it included an introduction paragraph that defined the purpose of the survey, explained that respondents were free to stop taking the survey and/or skip questions, and ensured that survey responses would remain anonymous and confidential (see Appendix A for the survey instrument). According to the survey, the purpose was to "understand the impact of food in prisons on people who have been incarcerated, as well as to learn about ways to improve that experience for those impacted by incarceration" (Impact Justice, 2019).

The data from these surveys is both quantitative and qualitative in nature. The survey instrument asked for sensitive demographic information from each respondent, such as race, gender, age, where they currently live, how long they were incarcerated, how many facilities they were incarcerated in, and when they were last released. Additionally, survey respondents identified up to three facilities that had the most impact on them, in terms of the questions asked. According to the survey, impact could have meant that the individuals had "the most memories of that facility, …stayed there the longest, or anything else" (Impact Justice, 2019). The questions aimed to capture their experience of eating while incarcerated and consisted of a variety of response options. The survey also contained a handful of optional sections that respondents could answer if they were applicable, such as their experience accessing "special diets," eating food in solitary confinement, accessing and eating commissary food, and working in prison kitchens.

The Food in Prison (FIP) survey was available to take online for approximately six months, from April 29, 2019 to October 1, 2019. While most of the surveys (192 out of 248) were filled out online, Impact Justice also provided a link to a printable PDF version of the survey so respondents had the option of filling out a paper version, which included instructions to mail the completed survey back to the researchers' office.

The researchers' participant recruitment process relied on convenience sampling methods, in which they shared the survey primarily through email to known partners and networks, in addition to cold outreach to community-based reentry organizations across the country. Anyone who received the email was encouraged to forward it in an effort to have the widest reach possible (See Appendix B for a sample of Impact Justice's email outreach). The researchers also shared the survey on Impact Justice's website and on Facebook, both through personal accounts among friends in the returning citizen community and Facebook groups for friends and families of incarcerated people.

Analytical Strategy

The survey data described was used to compare the survey respondents' self-reported experience of eating in confinement to the previously identified food desert characteristics (Chapter 2). To operationalize these themes, I selected both quantitative and qualitative survey questions from the survey instrument that are most relevant to measuring those key food desert constructs. These are represented in Table 5.

Table 5. Key

Food Desert Constructs
Lack of access to affordable, healthy food
Abundance of highly processed food
Lack of choices and/or an inability to access alternative options
Negative health effects

In the Prison Setting	Corresponding Likert Scales	Corresponding Qualitative Survey Questions
Few options in mainline or commissary; cost of commissary as a barrier	I had access to fresh fruits; I had access to fresh vegetables; The meals seemed nutritious; Commissary provided healthy food options; I could afford commissary purchases	If you could change one thing to improve the eating experience in prisons, what would it be?
Unhealthy commissary options and mainline food menus		If you could change one thing to improve the eating experience in prisons, what would it be?
Difficulty accessing special diets; lack of options in general; lack of agency or access to info; policies around food that result in disciplinary action	I had choices regarding what I was served; I could prepare my own food without risk of getting in trouble; I had to do things that were against policy or rules to get access to more food; I had to break policy or rules to get access to higher quality foods; I preferred eating food from commissary to eating meals provided by the prison; If I requested food items. the commissary would often stock them	Was your access to special diet(s) ever revoked or denied? If so, what was the rationale for revoking or denying the diet?; If you could change one thing to improve the eating experience in prisons, what would it be?
Weight gain; rates of diet-related conditions	I experienced negative changes to my physical health while inside as a result of the food served; I experienced no changes to my mental or emotional health while inside as a result of the food served	Since returning home, have you noticed and differences in your health, whether physical, mental, or emotional, that may be attributable to what or how you ate while incarcerated? If so, please describe them here.; Since returning home, have you noticed and differences in your attitudes toward food, either the way you think about, feel about, or actually eat food, that may be attributable to what or how you ate while incarcerated. If so, please describe them here.

Quantitative Data Analysis

First, descriptive statistics were calculated for the demographic questions (race/ethnicity, gender/gender identity, age) on the survey. Various extraneous variables

were also available for exploration, e.g. number of facilities they were incarcerated in, total length of incarceration, most recent release date, as well as information regarding up to three self-identified specific prison facilities (i.e. name, location, type, and length of time incarcerated there). Other food-specific extraneous variables included: where the participants ate most often, whether they ate the provided breakfast, lunch and dinner, and whether they were ever disciplined because of food-related policy that prohibits behaviors (e.g. obtaining extra food items, cooking in one's cell, using food as currency to trade, etc.).

In addition, I identified the stand-alone yes/no and Likert scale survey questions relevant to my analysis of prison food systems in relation to food deserts but not necessarily directly related to the four food desert themes. These are listed in Table 6. I calculated measures of central tendency, and frequency distributions for categorical variables, of those responses to provide an overview of the survey respondents' prison food experience.

Table 6. Additional quantitative survey questions of interest

Question Type	Survey Question Wording
Likert scale	I had access to current information about the ingredients of the food I was served.
Likert scale	I had enough food to feel full.
Likert scale	I felt hungry between meals.
Likert scale	The meals looked unappetizing.
Likert scale	There were times when I had concerns about the safety of the food served to me.
Yes/No/Unsure	Were you ever served rotten or spoiled food?
Likert scale	Commissary provided a large variety in food options.
Yes/No	Was your access to the special diet(s) ever revoked or denied?

Food Desert Scale

In addition to calculating descriptive statistics for stand-alone quantitative survey questions, I also used three Likert scale survey questions to construct a summated rating

scale aimed at measuring the latent construct of the food desert experience. I refer to this scale as the "food desert scale," and the sum of these survey responses will be known as the participants' "food desert score." To test the validity of the scale, I conducted a Cronbach's alpha test using the statistical program JMP.

The survey questions used to construct the food desert scale are summarized in Table 7. For these questions, survey respondents were asked "How often did you do the following:" and could indicate one of five potential answers to each of the phrases. These ranged from "always," "often," "sometimes," "rarely," and "never." The answers to these questions were coded from 1 to 5, meaning that answering always would result in a score of 1 while answering never would result in a score of 5. The sum of all three questions was calculated to determine a total food desert score. The lowest possible score is 3, while the highest possible score is 15. A higher total food desert score therefore indicates that the survey participant's experience of eating in prison was similar to that of the experience of living and eating in a food desert.

Table 7. Food Desert Scale survey questions

1. I had access to fresh fruits.
2. I had access to fresh vegetables.
3. I had choices regarding what I was served.

Racial and Gender Analysis

Using JMP, I conducted a T-test for gender categories to determine if there are disparities in the self-reported prison food experience and the self-reported quality of food that incarcerated people can access, etc. For the gender analysis, the response (dependent) variable was the food desert score, and the explanatory (dependent) variables were female and male. Although the survey offered seven gender options, only the

gender binary options (male and female) yielded enough respondents to conduct the appropriate analysis.

For the racial analysis, I conducted a T-test. The response (dependent) variable was the food desert score, and the explanatory (dependent) variables were the race categories. The survey offered eight options for race/ethnicity, including an “other” option, but due to the uneven numbers in each category, I had to collapse the race categories into white and non-white. Therefore, anyone who self-identified as white was included in the white category, while anyone who self-identified as anything other than white (e.g. black, Latino, Native American, Asian, multiracial, etc.) was included in the non-white category.

Qualitative Data Analysis

The survey consisted of five main open-ended survey questions, as well an additional six optional questions regarding respondents’ experience with accessing special diets and working in the prison kitchens, in which survey respondents could write about their prison food experience. A researcher from Impact Justice coded the qualitative open-ended responses into “parent” and “child nodes.” A parent node refers to the overall attitude of the response, i.e. a positive response is coded as "good," negative as "bad,” and neutral as “neutral.” The child node then refers to categorical themes of the responses. Therefore, responses might be coded as “bad taste,” “good portion,” “neutral quality, ” etc. Tables 8 and 9 provide an overview of the parent and child nodes (as well as short description of the child nodes) for the six main open-ended survey questions.

Lastly, to supplement the coding done by Impact Justice, I compiled quotes that represent the four food desert themes, namely access to healthy food, abundance of

processed food, lack of choices/inability to access alternative options, and negative health impacts. To do this, I read through all of the open-ended survey responses once and then read through them an additional time, during which I color-coded responses in Excel based on the key food desert themes.

Table 8. Qualitative survey question and its corresponding parent and child nodes for coding*

Survey Question Wording	Parent Node	Description of Parent Node	Child Node	Description of Child Node
Describe your eating experience in three words or phrases.	Good	Positive	Taste	How food tasted (i.e. tasteless, overcooked)
	Bad	Negative	Texture	How food felt (i.e. hard)
	Neutral	Neither positive nor negative	Temperature	How food felt (i.e. cold)
			Health	How food affected health
			Portion	How much food was available
			Flexible	How food served was accommodating
			Quality	Quality of food (i.e. rotten)
			Appeal	How food looked
			NFHC	Food described like "Not for human consumption"
			Overall	Food described overall (i.e. bad, disgusting)
			Conditions	Settings of where/how food is served

*The coding schema was developed and conducted by Impact Justice

Table 9. Qualitative survey questions and their corresponding parent and child nodes for coding*

Survey Questions Wording	Parent Node	Description of Parent Node	Child Node	Description of Child Node
If you could change one thing to improve the eating experience in prisons, what would it be? Since returning home, have you noticed any differences in your health, whether physical, mental, or emotional, that may be attributable to what or how you ate while incarcerated? If so, please describe them here. Since returning home, have you noticed differences in your attitudes toward food, whether the way you think about, feel about, or actually eat food, that may be attributable to what or how you ate while incarcerated? If so, please describe them here.	Increase	Increase over time	Weight	How their weight changed over time
	Same	Stayed the same over time	Portion	How much they ate over time
	Decrease	Decrease over time	Variety	How they ate various types of food over time
			Quality	How quality of food changed over time
			From cafeteria	Whether they were getting food from cafeteria over time
			Overall	Applicable to same
			Time	How quickly they ate food
			Attitude	How they were interested in food
			Health	How healthy the food is
			Conditions	Conditions of how food is being served

*The coding schema was developed and conducted by Impact Justice.

Ethical Considerations

Although this thesis uses existing survey data, it is important to protect the confidentiality survey respondents and consider justice and beneficence. This means that in my research I aim to maximize potential benefits, minimize potential risks, and distribute those risks and benefits equally. These considerations are especially important when doing research on vulnerable populations, such as incarcerated people who lack agency and certain rights. The historical context of unethical medical research using incarcerated people has raised concerns about future research on this vulnerable population. Although FPP surveyed formerly incarcerated individuals rather than currently incarcerated individuals, this research requires caution and consideration as to avoid potentially exploiting the subjects or causing them further harm. Recounting particularly difficult experiences in prison can be harmful to the mental health of the researched. This must be acknowledged, and the rich qualitative data that can be gathered from this experience must be respected. Maintaining confidentiality will also be especially important in protecting this population from any backlash that they may receive for being involved in the justice system or being open about their potentially harmful experiences in correctional institutions. Additionally, analysis of the data must be careful to consider potential volunteer bias as survey respondents may be more willing to share or overemphasize bad experiences in hopes of speaking out against the prison system. Ultimately though, the outcomes of this research (evidence of potential food justice issues in prison) should benefit those most affected by the prison food system – the incarcerated – as well as potentially those groups most marginalized within the prison system, such as people of color and women.

CHAPTER IV. RESULTS

This chapter first presents a socio-demographic profile of the survey respondents. Next, the chapter is organized into two sections, one of which is focused on the analysis of quantitative survey data, while the other focuses on qualitative analysis of open-ended survey responses. Quantitative analysis of survey respondents' self-reported experience with prison food is organized by key themes that represent the survey respondents' self-reported experience of eating in confinement. In addition, this section presents the summated food desert scores of survey respondents. Lastly, I present results of a qualitative analysis completed by Impact Justice, as well as my own analysis of the open-ended survey questions based on the previously identified key food desert themes (Chapter 2).

Socio-demographic Profile of Respondents

A total of 248 FIP Surveys were completed by formerly incarcerated people across the United States. The respondents represent a convenience sample, not a random sample. Overall, the study sample was spread across the country, but was not representative of the nation's formerly incarcerated population as a whole; survey respondents indicated they were either currently living in or were once incarcerated in every U.S. state except Delaware, Kansas, Mississippi, New Hampshire, North Dakota, Rhode Island, South Dakota, Utah, and Wisconsin. The three states with the most survey respondents currently living there were Arkansas (51 respondents), California (34 respondents), and Oregon (24 respondents).

Descriptive statistics of demographic variables are reported in Table 10. Of the 248 respondents, 117 were female, 120 were male, and seven individuals indicated a non-

binary gender identity (i.e. transgender, cisgender, genderqueer/non-conforming, or agender). On average, respondents were between 35 and 44 years of age. Participants were asked to identify their race and were able to select all categories which applied. In total, the majority of survey respondents (~62%) self-identified as white, while ~20% self-identified as African American/Black, 9% as Latino(a)/Chicano(a), 5.9% as Native American, 1.6% as Asian, and less than 1% for each of the three remaining categories: Middle Eastern, Pacific Islander, and multiracial.

The average total length of incarceration for survey respondents was between three and five years, though the majority of respondents (~22%) were incarcerated for 15 years or more. Moreover, the majority of respondents (~40%) spent their incarceration in at least four or more facilities. On average, it had been roughly four years since the survey respondents' most recent release date at the time of taking the survey, though some respondents were released as little as a month prior to taking the survey while others had been released almost 50 years ago.

Table 10. Summary of descriptive statistics for independent variables

Independent Variables	N	Percentage
Gender (n=248)		
Female	120	48.0%
Male	118	47.6%
Other	7	2.8%
Age (n=241)		
Under 18	0	0%
18-24	10	4.1%
25-34	43	17.8%
35-44	68	28.2%
45-54	75	31.1%
55-64	30	12.4%
65+	13	5.4%
Race (n=247)		
White	159	62.1%
African American/Black	51	19.9%
Latino(a)/Chicano(a)	23	9.0%
Native American	15	5.9%
Asian	4	1.6%
Multiracial	2	0.8%
Middle Eastern	1	0.4%
Pacific Islander	1	0.4%
Total Incarceration Length (n=244)		
Less than 1 year	30	12.3%
1-3 years	51	20.9%
3-5 years	39	16.0%
5-10 years	45	18.0%
10-15 years	25	10.2%
15+ years	54	22.5%
Total # of Facilities Incarcerated In (n=247)		
1	53	21.5%
2	60	24.3%
3	35	13.8%
4+	99	40.5%

Survey respondents were also asked to identify up to three facilities that had the most impact on them in relation to the questions asked. In addition to identifying the facilities' names and locations, survey respondents were also asked to identify the facility type (county, state, federal, or other) and their length of stay at each facility. Summary data on the facility-specific variables are reported in Table 11 on the next page. In total,

554 facilities were identified by the respondents, though only 356 facilities were unique. Again, the three states with the most (non-unique) facilities identified in the responses to this survey question were Arkansas (120 facilities), California (78 facilities), and Oregon (48 facilities). The major facility type represented in survey respondents' answers were state prisons (68.4%). On average, respondents spent between one to three years at each facility, indicating it was common to be at each facility short-term before being moved to another facility.

Table 11. Summary of descriptive statistics for facility-specific variables

Independent Variables	N	Percentage
Facility Type (n=554)		
County	118	20.8%
State	379	68.4%
Federal	46	8.8%
Other	11	2.0%
Length of Stay		
Less than 1 year	177	34.4%
1-3 years	182	36.4%
3-5 years	79	15.6%
5-10 years	43	8.5%
10-15 years	13	2.8%
15+ years	12	2.4%

Lastly, I present data on the survey respondents' eating habits while in prison to provide necessary context for survey respondents' level of engagement in their prison food system. Table 12 on the next page presents where the respondents ate most often, whether that was in the cafeteria, their cell, common areas, or other. The majority of survey respondents (58.92%) indicated that while incarcerated, they ate most often in the cafeteria. Additionally, Table 13 presents the Likert scale responses to questions about how often the respondents ate the provided meals (breakfast, lunch and dinner). The modes of this data indicate that survey respondents rarely ate the provided breakfast (mode = 4), and sometimes ate the provided lunch (mode = 3) and dinner (mode = 3).

Table 12. Summary of survey respondents' most common eating location

Independent Variables	N	Percentage
Eating Location (n=241)		
Cafeteria	142	58.9%
Cell	64	26.6%
Common Area	35	14.5%
Other	0	0.0%

Table 13. Summary of Likert scale responses to statements about how often survey respondents ate the provided meals

Independent Variables	Always (1)		Often (2)		Sometimes (3)		Rarely (4)		Never (5)		
	N	%	N	%	N	%	N	%	N	%	Mean
I ate the breakfast provided.	56	23.1	53	21.9	60	24.8	64	26.4	9	3.7	2.66
I ate the lunch provided.	55	23.1	66	27.7	69	29.0	42	17.6	6	2.5	2.49
I ate the dinner provided.	48	20.3	66	27.8	79	33.3	39	16.5	5	2.1	2.52

Quantitative Analysis of Prison Food Experience

Hunger

One potential facet of the prison food experience is hunger. Table 14 presents summary data of survey respondents' self-reported experience with hunger while incarcerated. Overall, results show that almost 82% of survey respondents either disagreed or strongly disagreed that they had enough food to feel full while incarcerated, while only 18% agreed or strongly agreed with this statement. This is consistent with the results of the next survey question that asks respondents how much they agreed that they felt hungry between meals. Although this question is worded reversely, 89% of respondents indicated they felt hungry between meals, and less than 11% of respondents indicated they didn't feel hungry between meals.

Table 14. Summary of Likert scale responses to statements about hunger

Independent Variables	Strongly Agree (1)		Agree (2)		Disagree (3)		Strongly Disagree (4)		
	N	%	N	%	N	%	N	%	Mean
I had enough food to feel full.	6	2.5	37	15.6	97	40.9	97	40.9	3.20
I felt hungry between meals.	113	47.3	100	41.8	19	7.9	7	2.9	1.67

Food access

Important to the food desert-specific analysis of this paper is access to food. The survey instrument provided multiple questions that were aimed at understanding food access while incarcerated. First, Table 15 presents survey respondents' answers to Likert scale survey questions asking how often they had access to fresh fruits and fresh vegetables. These results indicate that the majority of survey respondents felt they rarely had access to fresh fruits or vegetables, as the median scores for these responses were 3.52 and 3.63, respectively. The modes for these responses also indicate that the majority of survey respondents felt they rarely had access to fresh fruits or vegetables. Adding both the survey responses indicating either 4 or 5, 54.9% and 62.2% of survey respondents felt they rarely or never had access to fresh fruits or vegetables, respectively.

Table 15. Summary of Likert scale responses to statements about how often survey respondents had access to fresh fruits and vegetables

Independent Variables	Always (1)		Often (2)		Sometimes (3)		Rarely (4)		Never (5)		
	N	%	N	%	N	%	N	%	N	%	Mean
I had access to fresh fruit.	10	4.2	28	11.7	70	29.3	90	37.7	41	17.2	3.52
I had access to fresh vegetables.	12	5.0	15	6.3	63	26.5	83	34.9	65	27.3	3.63

Access to commissary food options, i.e. food that can be purchased in a store or canteen within the correctional facility, is another important facet to understanding food access in prison, as commissary often acts as an alternative to the food provided in the mainline cafeteria. Table 16 provides summary data for survey respondents' experience accessing food in commissary. Overall, survey respondents tended to disagree with all 3 of the following statements: commissary provided a large variety in food options; commissary provided healthy food options; I could afford commissary purchases. For all 3 statements, more than half of respondents (70.8%, 86.1%, and 57.5% respectively) either disagreed or strongly disagreed.

Table 16. Summary of Likert scale responses to statements about access to commissary food options

Independent Variables	Strongly Agree (1)		Agree (2)		Disagree (3)		Strongly Disagree (4)		
	N	%	N	%	N	%	N	%	Mean
Commissary provided a large variety in food options.	4	2.3	46	26.9	81	47.4	40	23.4	3.31
Commissary provided healthy food options.	2	1.2	22	12.8	72	41.9	76	44.2	3.29
I could afford commissary purchases.	14	8.1	59	34.3	63	36.6	36	20.9	2.70

Lastly, the survey prompted participants to indicate whether they ever requested or received a special diet, whether for religious, medical, or other reasons. The majority of respondents did not request or receive a special diet, but 80 respondents, or roughly 34%, did. These respondents were then also asked whether their access to the special diet was ever revoked or denied. Figure 4 portrays the percentage of respondents whose access to special diets were revoked or denied. Of the 76 respondents answering this question, 57% indicated that their access to special diets was revoked or denied, while

43% indicated that it wasn't. Survey respondents were also asked to provide the rationale for revoking or denying the diet; among these reasons were availability of the special diet, staff discounting their reasons (allergy, religious belief, etc.) for needing a special diet, missing their meals, being accused of eating other food options not included in the provided special diet, or the request simply being ignored.

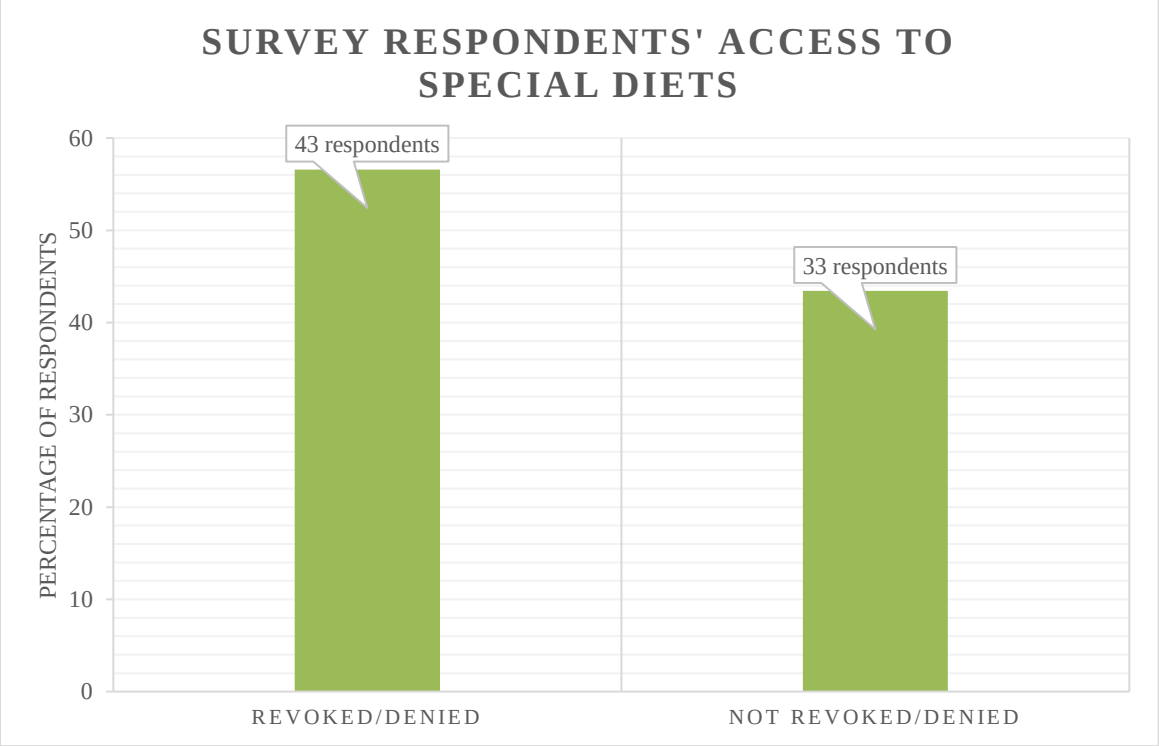

Figure 4. Survey respondents who indicated their access to special diets was either revoked or denied while incarcerated

Food quality and safety

Food access alone does not describe the prison food experience; food quality and safety must also be assessed. To understand survey respondents' perception of food quality and safety, the survey instrument asked them to respond to statements about the meals' taste, smell, nutritional value, perceived edibility (i.e. whether the meals look appetizing), and food safety concerns. A summary of the responses to these questions are reported in Table 17.

Table 17. Summary of Likert scale responses to statements about the perceived nutritional value and edibility of prison food

Independent Variables	Strongly Agree (1)		Agree (2)		Disagree (3)		Strongly Disagree (4)		
	N	%	N	%	N	%	N	%	Mean
The meals looked unappetizing.	159	66.3	59	24.6	8	3.3	14	5.8	1.49
The meals smelled good.	2	0.8	26	10.9	92	38.5	119	49.8	3.37
The meals seemed nutritious.	4	1.7	21	8.8	80	33.6	133	55.9	3.44
The meals did not taste good.	124	52.1	87	36.6	17	7.1	10	4.2	1.63
There were times when I had concerns about the safety of the food served to me.	26	14.7	55	31.1	70	39.5	26	14.7	2.54

The majority of survey respondents (almost 91% and 89% respectively) indicated they agreed or strongly agreed that the meals both looked unappetizing and did not taste good. The means for these two questions (1.49 and 1.63) indicate that the average survey respondent strongly agreed or agreed with those statements. In addition, 88% and 89.5% of survey respondents disagreed or strongly disagreed with statements that the meals smell good or seemed nutritious. The means for these two questions (3.37 and 3.44) indicate that the average survey respondent disagreed with those statements.

Additionally, respondents were asked how much they agreed with the statement "There were times when I had concerns about the safety of the food served to me." The average survey respondent disagreed with this statement (mean = 2.54, mode = 3). A little less than half of survey respondents (45.8%) indicated they either agreed or strongly agreed with this statement. Lastly, Figure 5 on the next page indicates how many survey respondents said they were served rotten or spoiled food. More than three quarters of

survey respondents (76.9%) indicated they were served rotten or spoiled food while incarcerated.

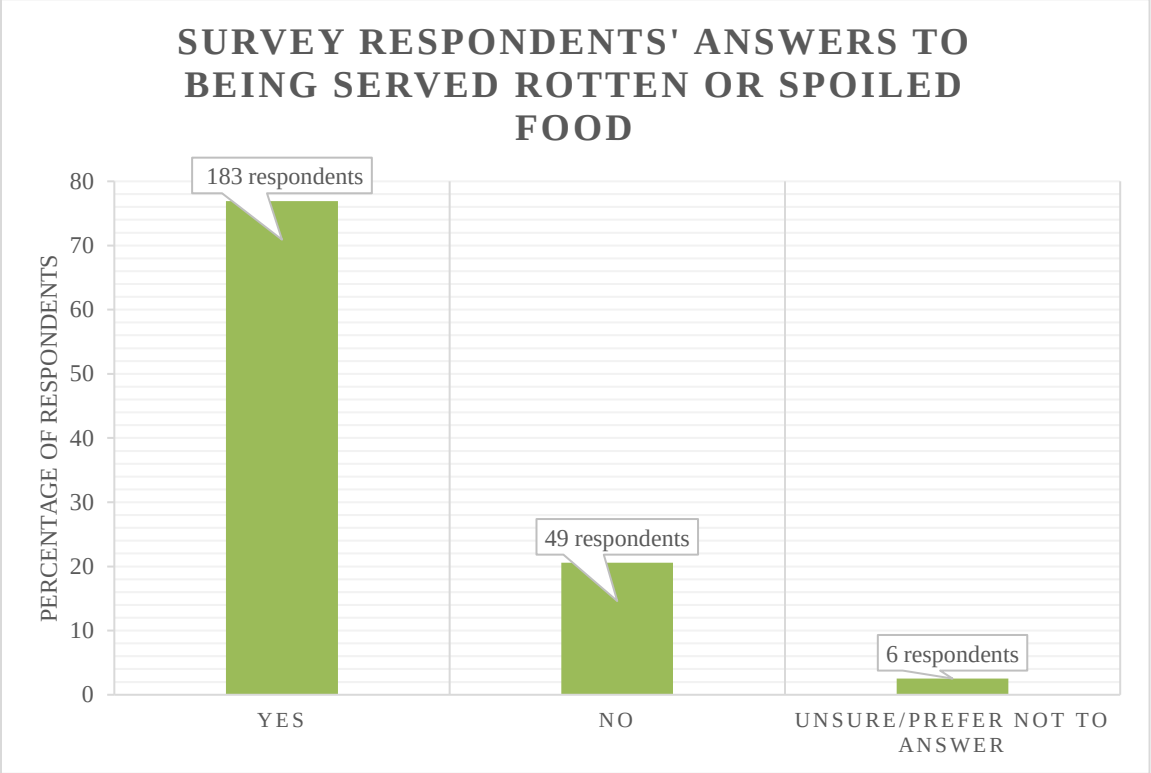

Figure 5. Survey respondents who indicated they were served rotten or spoiled food while incarcerated.

Agency

Considering the power relations inherent in prison, it is also important to consider the degree of agency that the study sample had regarding their food choices while incarcerated. Various structural issues can limit an individual's agency, including a lack of ability to make choices, a lack of access to information, inability to express preferences and opinions, and fear of breaking policy or being disciplined.

The survey instrument asks the respondents to describe their experience with those factors mentioned. Table 18 summarizes Likert Scale responses to statements about respondents' ability to make choices and access information regarding what food they were being served. For both of the statements in Table 18, the mean responses were 4.41

and 4.51, signifying that the average survey respondent felt they rarely had choices or access to information about the food they were served. In fact, 87% of respondents either rarely or never had choices regarding what was served, and 91.2% either rarely or never had access to current information about the ingredients of the food served. In addition, Table 19 summarizes Likert Scale responses to statements about their ability to request food items and give opinions about meals. Again, the means for both statements were 3.40 and 3.62 indicating that the average survey respondent disagreed that their commissary food item requests were fulfilled and that their opinions about meals were taken seriously. A total of 85.2% of respondents either disagreed or strongly disagreed that the commissary would stock their requested food items. Almost 92% of respondents either disagreed or strongly disagreed that giving their opinions about a meal would result in the cooks or food manager taking them seriously.

Table 18. Summary of Likert scale responses to statements about how often respondents had choices and access to information regarding what food they were served

Independent Variables	Always (1)		Often (2)		Sometimes (3)		Rarely (4)		Never (5)		Mean
	N	%	N	%	N	%	N	%	N	%	
I had choices regarding what was served.	5	2.1	9	3.8	17	7.1	61	25.5	147	61.5	4.41
I had access to current information about the ingredients of the food I was served.	5	2.1	2	0.8	14	5.9	63	26.5	154	64.7	4.51

Table 19. Summary of Likert scale responses to statements about providing feedback with regards to food choices

Independent Variables	Strongly Agree (1)		Agree (2)		Disagree (3)		Strongly Disagree (4)		
	N	%	N	%	N	%	N	%	Mean
If I requested food items, the commissary would often stock them.	3	1.8	21	12.9	47	28.8	92	56.4	3.40
If I gave an opinion about a meal, it was taken seriously by the cooks or food manager.	8	3.5	11	4.8	42	18.3	169	73.5	3.62

As mentioned, food-related policies and fear of resulting disciplinary action can limit an individual's agency. Table 20 provides a summary of survey respondent's answers to Likert scale questions regarding taking risks to prepare their own food or breaking policy to get access to more, high-quality food. Answers to the first statement in Table 20 were mixed; a little less than half (45.7%) felt they could prepare their own food without risk of getting in trouble, while 54.3% did not. A mean score of 2.66 indicates that on average, respondents agreed that they could prepare their own food without risk of getting in trouble. Overall, respondents agreed that they had to do things that were against policy or rules to get access to both more food (mean = 2) and strongly agreed that they had to do things that were against policy or rules to get access to higher quality foods (mean = 1.97). A total of 75.3% of respondents either agreed or strongly agreed that they had to break policy or rules to get access to more food, while 74% either agreed or strongly agreed that they had to break policy or rules to get access to higher quality foods. Lastly, Figure 6 illustrates that 53% of the survey respondents were disciplined due to a food-related policy, such as taking food from the eating area to your cell.

Table 20. Summary of Likert scale responses to statements about breaking food-related policies

Independent Variables	Strongly Agree (1)		Agree (2)		Disagree (3)		Strongly Disagree (4)		
	N	%	N	%	N	%	N	%	Mean
I could prepare my own food without risk of getting in trouble.	28	12.1	78	33.6	70	30.2	56	24.1	2.66
I had to do things that were against policy or rules to get access to more food.	75	31.9	102	43.4	40	17.0	18	7.7	2.00
I had to break policy or rules to get access to higher quality foods.	85	38.1	80	35.9	37	16.6	21	9.4	1.97

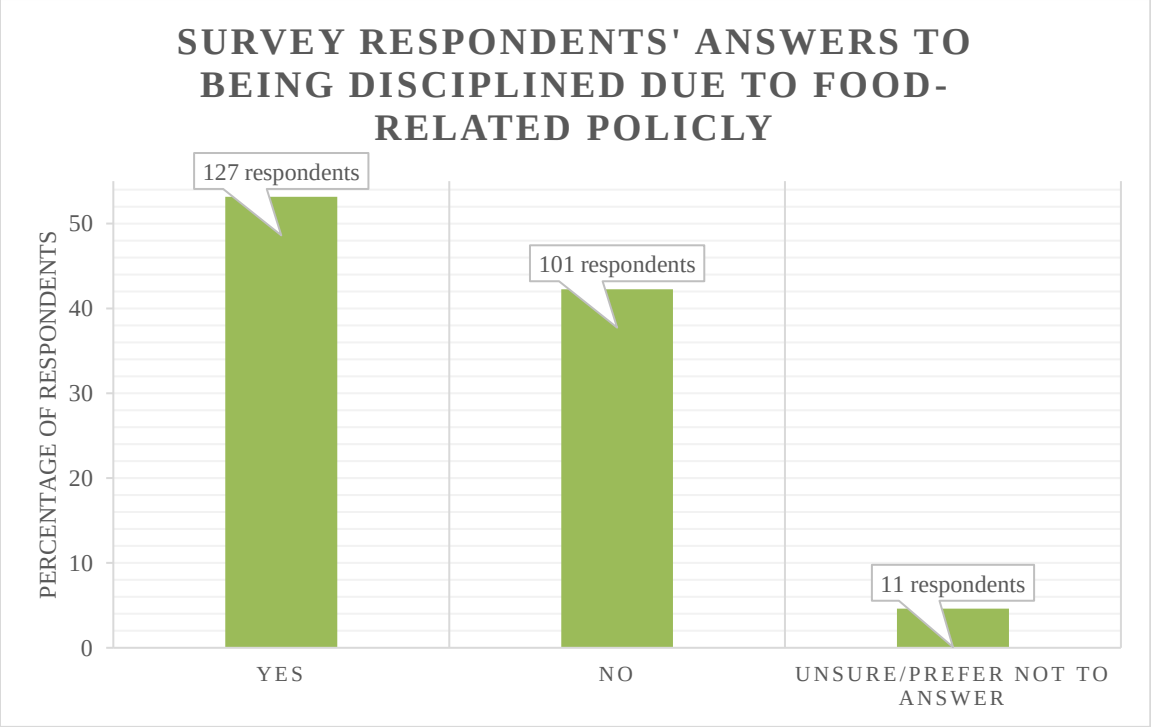

Figure 6. Survey respondents who indicated they were disciplined because of a food-related policy (i.e. taking food from the eating area to your cell, etc.).

Food impacts

The survey instrument also asked respondents to indicate whether they experienced changes to their health or mental/emotional health while inside as a result of the food served. Table 21 provides a summary of the results for these two Likert scale

questions. Almost half of survey respondents (49.1%) strongly agreed that they experienced negative changes to their health while inside as a result of food served, and an additional 35.8% agreed. Additionally, a little more than two thirds (68.7%) of survey respondents disagreed or strongly disagreed with the statement that they experienced no changes to their mental or emotional health while inside as a result of the food served, signifying they experienced changes to their mental or emotional health due to eating in confinement.

Table 21. Summary of Likert scale responses to statements about changes to health as a result of the food served

Independent Variables	Strongly Agree (1)		Agree (2)		Disagree (3)		Strongly Disagree (4)		
	N	%	N	%	N	%	N	%	Mean
I experienced negative changes to my health while inside as a result of food served.	114	49.1	83	35.8	32	13.8	3	1.3	1.67
I experienced no changes to my mental or emotional health while inside as a result of the food served.	16	7.0	55	24.2	84	37.0	72	31.7	2.93

Food Desert Scale

To quantify food desert experience, a summated rating scale was created by combining the responses to three key Likert scale items (Chapter 3, Table 7). The food desert scale is therefore intended to measure a survey respondent's *food desert score*. The range of food desert scores is 12; the lowest possible score is 3, while the highest possible score is 15. The higher the total food desert score, the more similar the participants' experience of eating and living in prison is to that eating and living in a food desert. The

overall frequency distributions to the individual Likert scale items are summarized in Tables 15 and 18 in the appropriate themed sections of this chapter.

First, to test the internal reliability of this scale, a Cronbach's alpha test was conducted. The Cronbach's alpha for the three items in the scale was 0.76, which provides reasonable assurance that the food desert scale reliably measures what it is intended to measure: participants' food desert scores. Factor analysis was also conducted to determine that the scale is unidimensional, meaning that it is only measuring one dimension or factor.

Descriptive statistics for participants' food desert scores are summarized in Table 22. In addition, t-tests were conducted with the statistical software JMP to analyze whether there are differences in the mean food desert scores between both race (white and non-white) and gender (female and male) categories. The results of the T-test between white and non-white survey participants revealed no statistically significant difference (p-value = 0.9683) between the average food desert scores. On the other hand, the t-test for comparing food desert scores between gender categories indicated that there is a statistically significant difference in the average food desert scores between male and female formerly incarcerated survey participants ($p<.0001$). Overall, the mean food desert score of female survey participants was 1.44 points higher than that of male survey participants.

Table 22. Summary of descriptive statistics for food desert scores

Descriptive Statistic	All Participants	White	Non-White	Female*	Male
N	235	140	92	114	113
Mean	11.68	11.65	11.66	12.36	10.92
Standard Deviation	2.49	2.59	2.34	2.21	2.59

*Results from T-test showed a statistically significant difference in mean food desert scores between female and male survey participants (p-value <.0001).

Qualitative Analysis

In this section, I first present qualitative survey results based on coding conducted by Impact Justice to establish a more nuanced picture of formerly incarcerated survey respondents' overall prison eating experience than can be conveyed through the quantitative data. Next, I provide representative quotes from survey respondents separated into four sections based on the food desert themes identified in the methods chapter. Lastly, I summarize my own coding effort of responses from formerly incarcerated individuals asked what they would have liked to see improve in their prison eating experience, in hopes of offering suggestions for improvement.

Overall prison eating experience

The first qualitative question on the survey instrument allowed respondents to describe their overall prison eating experience in three words or phrases. Figure 7 on the next page depicts a word cloud of all the responses collected from this question. As displayed in the figure, words and phrases like "unhealthy," "not enough," "bland," "disgusting," "gross," "horrible," and "nasty" were some of the most common responses for this survey question. For all three potential response blanks, the most common word was "unhealthy."

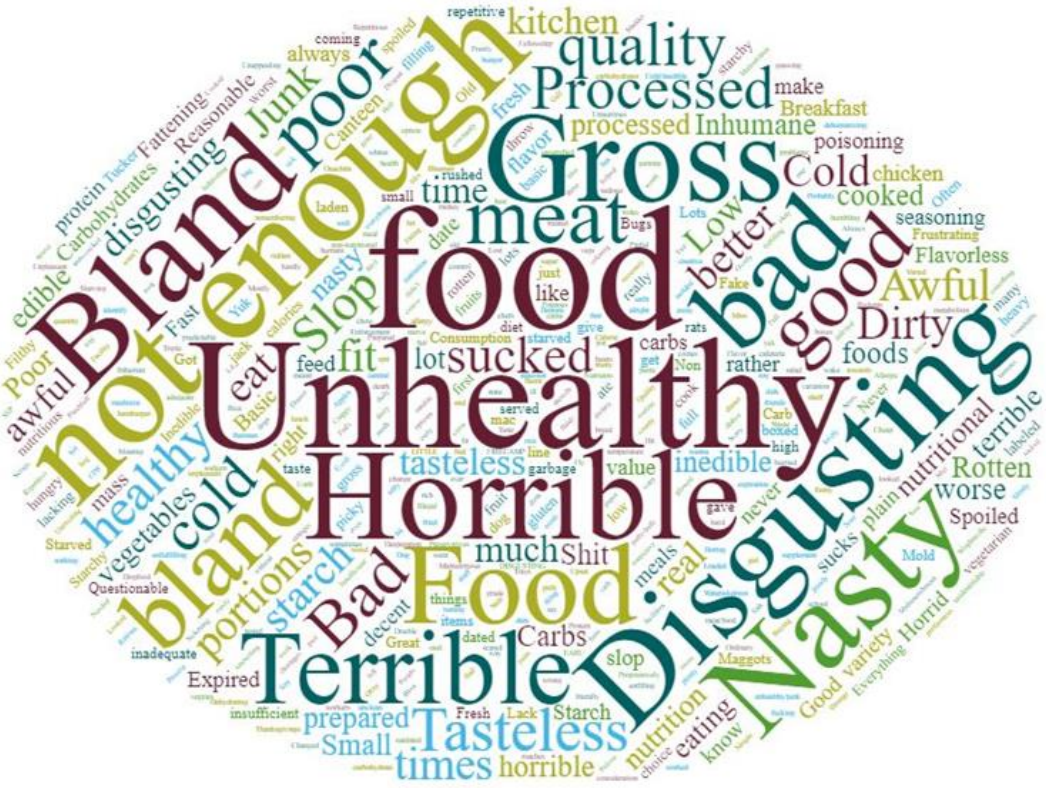

Figure 7. Word Cloud of survey responses to survey question "Describe your eating experience in three words or phrases."

Impact Justice conducted preliminary coding for open-ended qualitative survey questions (see Tables 8 and 9 in Chapter 3 for an overview of their coding schema). Responses to each question were first coded into parent nodes (good, bad or neutral), then into more detailed child nodes, grouped by topic.

Figure 8 displays the frequency distribution of the coded responses to the question about prison eating experience. As Figure 8 indicates, 91.9% (621 out of 676 total responses) of respondents provided negative portrayals of their prison eating experience.

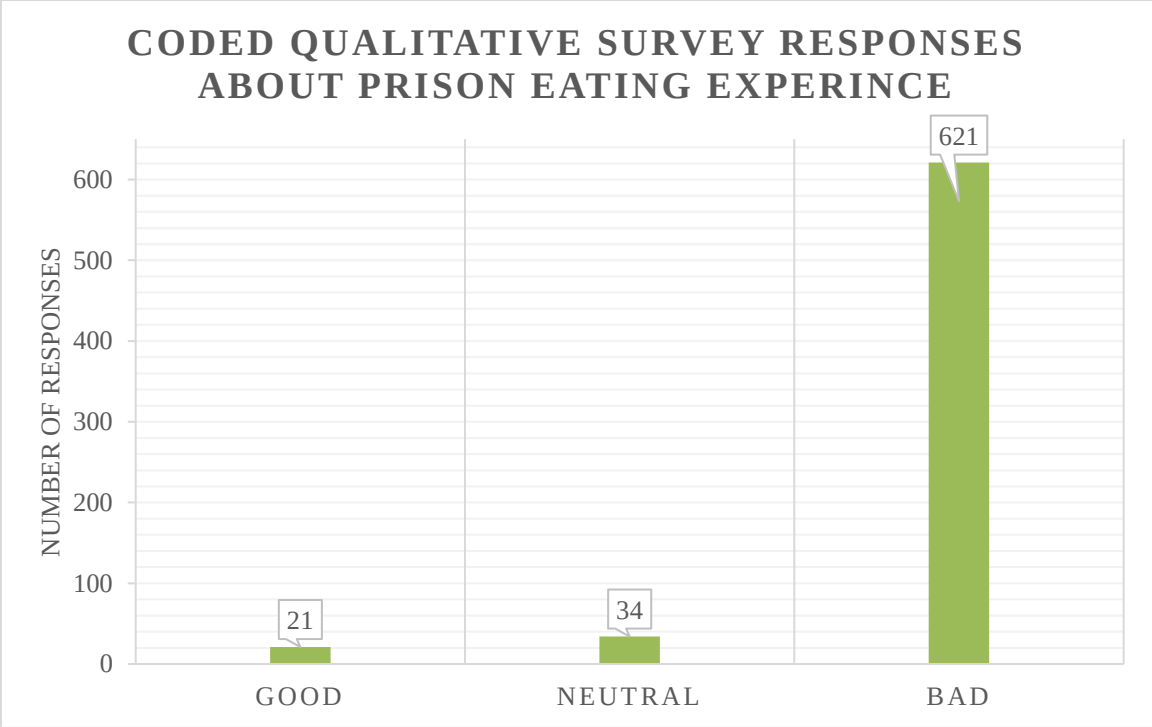

Figure 8. Frequency of parent nodes (good, neutral, bad) for responses to survey question "Describe your eating experience in three words or phrases."

On the following page, Figures 9 and 10 present the frequency distribution of categorical codes, or child nodes, for responses to the survey question about eating experience. Due to the smaller number of responses coded as good or neutral parent nodes, these responses were combined into one category for easier interpretation (especially since there is an argument to be made that neutral responses can be considered good). Figure 9 presents the child nodes for responses with parent nodes coded as either "good" or "neutral," while Figure 10 presents the child nodes for responses with parent nodes coded as "bad."

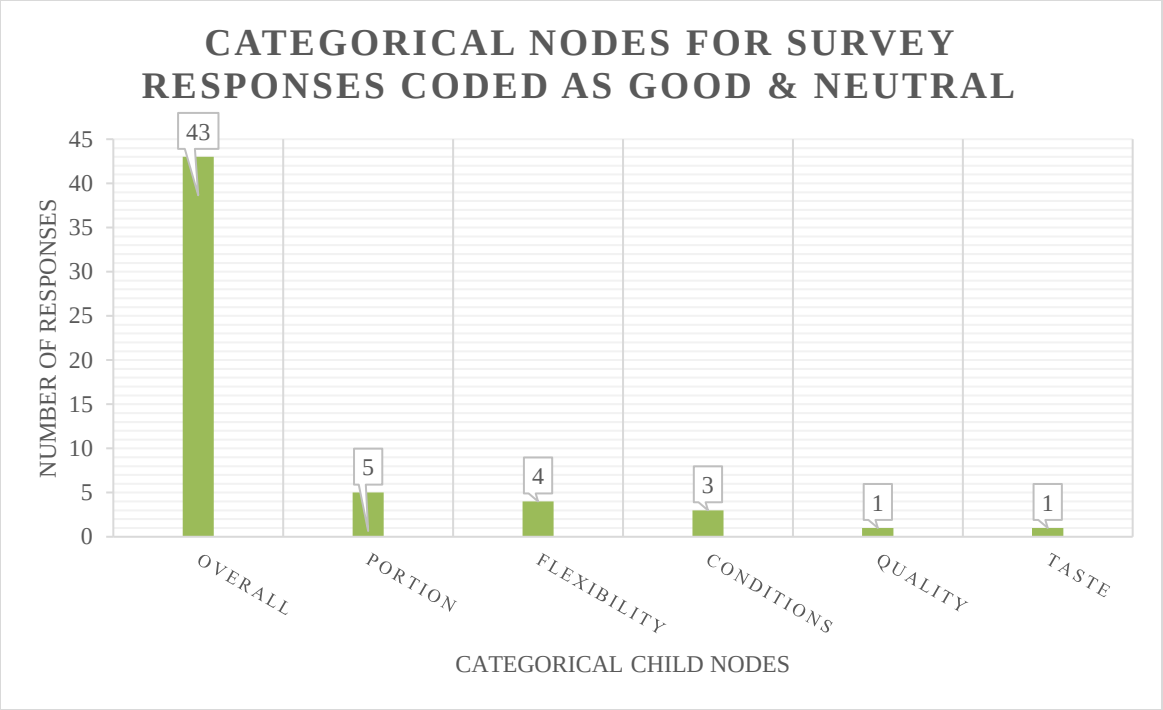

Figure 9. Frequency of child nodes for survey responses coded as "good" or "neutral" to survey question "Describe your eating experience in three words or phrases."

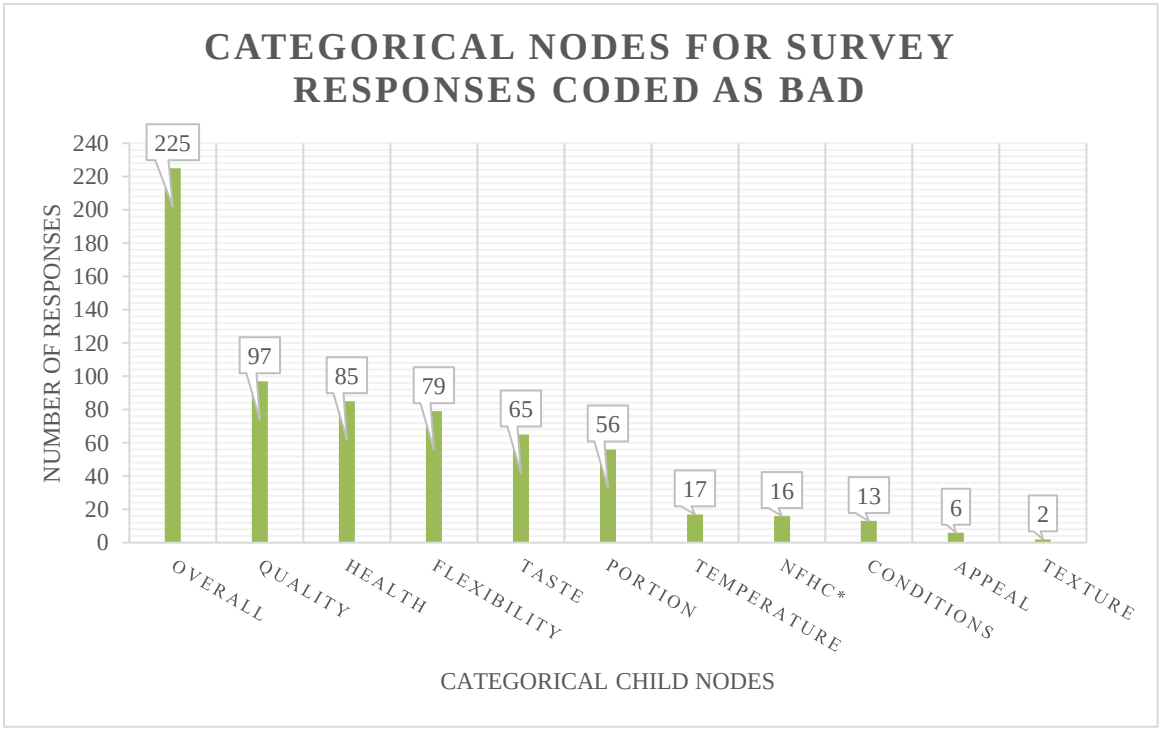

Figure 10. Frequency of child nodes for survey responses coded as "bad" to survey question "Describe your eating experience in three words or phrases."
*NFHC = Not Fit for Human Consumption

Most of both the neutral/good and bad responses represented the categorical child node of "overall," which refers to food described overall (i.e. bad, disgusting). In addition to these overall descriptions, the bad responses were also focused on the bad quality of food, how food negatively affected their health, how food service was not accommodating (flexibility), the bad taste of food, and inadequate portions of food. One respondent summarized their experience in the following three words: "unhealthy, dehumanizing, rushed." Others spoke of the degree of enforcement inherent in the system, and the lack of power and choice. Many spoke of the monotony of repetitive menus and meals that were bland in taste. Another respondent spoke of the difference in quality of food they received on days that prison officials came to the facility: "The state came in all the time to make sure they feed us right, but we knew when they was coming. We would get good food, and everyone would say "Here comes the feds.""

Some of the poorer examples included respondents who spoke of food that was not fit for human consumption, spoiled, rotten, or moldy, in addition to instances of bugs, maggots, and rats. Furthermore, respondents spoke of food-borne illnesses, like food poisoning and E. coli. Lastly, one respondent stated that "If you didn't cook or have money, you starved." Another echoed this sentiment: "Probably would have starved if it wasn't for friends who helped feed me from commissary."

Qualitative Quotes from Respondents

In the next four sections, I present representative quotes from qualitative survey responses. These quotes are organized into four sections based on the food desert themes: access to healthy food, abundance of processed food, lack of choices/inability to access alternative options, and negative health impacts.

Access to healthy food

In their answers to various open-ended survey questions, respondents indicated the lack of access to healthy food in the prison food system. Overall, respondents mentioned a lack of access to fresh fruits and vegetables, as well as high quality protein sources. When asked "Since returning home, have you noticed and differences in your health, whether physical, mental, or emotional, that may be attributable to what or how you ate while incarcerated?," one respondent stated, "I definitely eat healthier now that I am home. I have access to fresh fruits and vegetables, and fresh and raw meats." Another respondent reflected on the greater appreciation they have for the ability to consume healthy meals now that they're returned home again, when they said "I developed a great appreciation for what it takes to make a healthy meal. Time, cost and someone willing to create it." Additionally, respondents expressed the need for prison commissary to offer healthier food options. One respondent stated, "The commissary systems needs to be completely revamped, and allow for healthier items to be stocked and ordered."

Abundance of processed food

On the other hand, many qualitative survey responses' spoke of the prison systems' reliance on processed food. Overall, survey respondents described an abundance of processed food that was heavy in carbohydrates, and high in either salt or sugar. Many respondents mentioned losing weight they gained while in prison due to unhealthy eating after their release. One survey participant who mentioned this weight loss blamed their "unhealthy eating habits since vending type (high sodium, high sugar) items were pretty much all that were available."

Other survey participants spoke of the difficulty that formerly incarcerated people may have when trying to alter their diet and eat healthier after developing unhealthy eating habits while incarcerated. In particular, one respondent stated, “I noticed that I have difficulty eating healthily because my diet while in prison was unhealthy (cookies, chips, honey buns, etc.). I feel like I became addicted to sugary and salty foods in prison, and it has been hard to change my diet.” Another respondent echoed that when asked “Since returning home, have you noticed any differences in your attitudes toward food, either the way you think about, feel about, or actually eat food, that may be attributable to what or how you ate while incarcerated?” They stated, “I'm stuck on fast food. I'm always trying to eat more healthy. But I'm used to processed food.” Again, one respondent stated, “I still eat junk food. I can't [eat] real food without feeling upset.”

Lack of choices/inability to access alternative options

As mentioned previously, many formerly incarcerated survey participants indicated they experienced lack of choices with regard to what food they were served while incarcerated. Qualitative survey responses further supported this sentiment. In general, respondents reflected a need for greater options for vegetarians in prison, as well as greater access to special diets that are not limited to only those who have religious reasons. Many respondents also spoke of the repetitiveness of menus in prison, and their continued distaste for the foods they were served most often in prison even after incarceration. For these reasons, many respondents were appreciative of newfound freedom over their food choices and the ability to prepare their food the way they like it. For instance, one survey participant stated that after incarceration, “I have more options to eat healthier food and how much I eat. The most important thing is that I'm not

restricted on what and when I can eat." Another participant stated they now have "a greater appreciation for what I eat and I enjoy the freedom of deciding what I want to eat."

For some, the prison eating experience has translated into a need to control their food, such as the quality and source of food, how the food is prepared and by whom, after incarceration. One survey participant offered a particularly compelling narrative:

> "For weeks after I was home, I would literally try to eat everything in sight, like a starving child. I made myself sick most every day, because I had missed food so very much!! Now that it has been a few years, I still would rather be the one in the kitchen or doing the grocery shopping. It terrifies me that I may be stuck at home, with food I hate, allergic to, etc... I HAVE to be in control of the food in my home."

Additionally, access to a greater variety of food choices seemed to be limited by financial resources and outside support. One participant said, "There is a vast difference in the prison eating experience depending on whether someone has outside support or not. There are some people who never eat prison food. They receive packages and money from family so are able to eat better and work around the restrictions." In some cases, participants described this lack of resources as potentially damaging to health. For instance, one respondent stated, "There was two types of women in prison: the ones who gained unhealthy amounts of weight from eating commissary junk food, then unhealthy skinny from not eating prison food and not being able to afford commissary."

Lastly, when asked about their differences in attitudes toward food since returning home, one respondent spoke to the lack of connection to their culture and family as a

missing element of the food experience while in prison when they described the difference as, “The preparation of cooking fresh produce and meats, I felt more connected to my family and Asian culture.”

Negative health impacts

Overwhelmingly, formerly incarcerated survey respondents spoke of negative health impacts, both physical as well as emotional and mental, from eating in incarceration. When asked if they noticed differences in their health since returning home, respondents spoke of a variety of issues including: weight gain and loss, diet-related conditions, digestive problems, hormonal issues, problems with their skin and hair, sleep problems, headaches, mental health issues, as well as unhealthy or disordered eating.

As mentioned previously, many respondents explained that they experienced losing the weight they had gained from unhealthy eating in prison after they were released from prison. Some participants reported losing between 70-90 pounds in their first year post-incarceration. There were also a significant number of respondents who reported the opposite experience. These respondents spoke of gaining weight after release from prison, which they attributed the ability to eat sufficient portions of food again, something they reported lacking while in prison. One respondent described this as gaining “positive weight.” In addition, respondents mentioned struggling with a variety of diet-related and digestive conditions (which may or may not be diagnosed, due the self-reported nature of the survey), such as diabetes, high cholesterol, high blood pressure, hypothyroidism, irritable bowel syndrome, gastroesophageal reflux disease (GERD), ulcers, and hernias. Other problems that respondents experienced were

hormonal issues, skin and hair problems, sleep issues, and frequent headaches or migraines.

Many of the issues mentioned above have the potential to resolve themselves, but formerly incarcerated participants' responses point to the importance of understanding the effects of eating in confinement on those who are more vulnerable, such as pregnant women, as well those with long-term or life sentences. One participant spoke of health concerns for pregnant women while incarcerated: "The food provided was not enough nor healthy for incarcerated pregnant women. I was incarcerated during a time that it was a lot of pregnant women…I couldn't imagine what it felt like for a pregnant woman to receive such poor nutrition and the health effects to her unborn child." One participant identified themselves as someone who was incarcerated long-term and spoke to the long-term health effects of this experience: "I am a 64-year-old woman struggling to get my weight back to normal for my stature. Emotionally in turmoil having to take prescribed medicine to combat my bone loss due to not enough calcium. Prison diet gave me high blood pressure and diabetes as well. Us 'lifers' suffer the most from ailments due to LONG TERM [emphasis in original] poor diet."

Also important to this analysis are the mental and emotional problems that might have resulted due to survey respondents' experience eating during incarceration. Formerly incarcerated respondents spoke of experiencing anxiety, depression, post-traumatic stress disorder (PTSD), stress, a fear of being watched, need for control over food-related practices, and trauma associated bad food memories while incarcerated. Relevant quotes that stand out include:

"Mentally I'm not the same. I'm emotionally detached. My mental and emotional health are damaged."

"I'm overall traumatized from all of it, including my eating habits."

"There are some foods I can't even look at anymore. Some foods evoke unpleasant memories of the prison experience I had. I cannot eat lukewarm food or anything that is not presented appropriately."

"I sometimes enjoy my food now, but I haven't lost the mentality of eating to stay alive"

Lastly, survey respondents also reported a variety of unhealthy or disordered eating behaviors that are worthy of mentioning. Many of these eating behaviors also continued to affect individuals even after incarceration. For example, some respondents reported hoarding food and overeating because they were accustomed to not knowing when they would have good food again. One participant described this experience as such: "Being deprived of good food makes it hard to say no to that food when the opportunity presents itself. So sometimes it's not healthy to overindulge." Another said, "I usually eat all of whatever I have because I have an ingrained fear of not knowing what I will be eating next." Respondents also reported a habit of eating fast, which may be caused by the same fear as well as the lack of time to eat in prison. One respondent said, "I have been told by numerous people that I eat very fast and aggressively when I'm home because in prison you are forced to eat quickly due to the population issues." As mentioned previously, respondents often reported being unable to eat items that were served to them most in prison. For instance, one respondent stated "I'll never eat another Granny Smith apple again. I hate bologna. I hate Fritos. I hate literally everything that

was served to me there on a regular basis and no amount of $ would get me to eat any of it again." One participant mentioned the habit of emotional eating during incarceration: "I dropped at least 7 pounds within the first month I was out. Also lost the carb bloated look in my face. Mental health improved, and I wasn't emotional eating anymore."

Respondents did also mention improvements to their mental and physical health as a result of no longer being incarcerated. One respondent stated, "I'm healthier because I determine my diet which improved my mental health." Another responded, "Mentally, physically, emotionally, and appetite are so much better since being out!"

Respondents' Suggestions for Improvement

Survey respondents were asked "If you could change one thing to improve the eating experience in prisons, what would it be?" Responses to this question could provide insight for suggestions on how to improve the eating experience in prison. Coding conducted by Impact Justice revealed that participants focused on increasing or decreasing (parent nodes) certain aspects of the eating experience, such as portion, variety, quality, etc. (child nodes). The coded results are presented in Figure 11. Overall, the vast majority of responses represented suggestions for increasing certain aspects, while only 3 respondents mentioned decreasing the speed at which they were expected to eat.

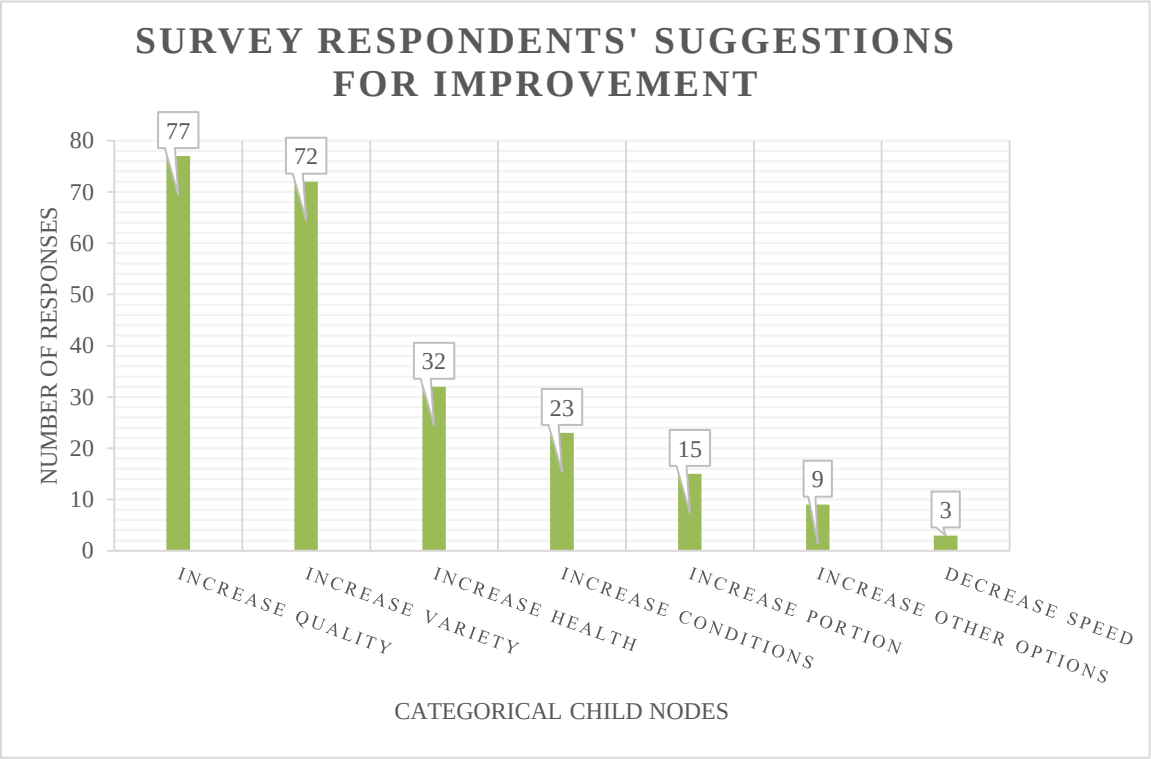

Figure 11. Frequency of categorical child nodes for respondents' answers to survey question "If you could change one thing to improve the eating experience in prisons, what would it be?"

Most survey respondents suggested increasing the quality and variety of food. Some of the quality improvements included: add seasoning, use higher quality proteins, use better recipes, cook food properly, and use fresh, whole foods instead of canned and processed food. One survey respondent said the one thing they would like to see improved is "that the food would be cooked freshly every day, instead of cooked elsewhere, frozen, then shipped to each prison to be stored in order to be heated before being served." Respondents also offered suggestions for increasing food variety, such as serving more fruits and vegetables, serving less carbohydrates and starches, and allowing the incarcerated population to both provide input on menu planning and occasionally prepare their own meals. Thirty-two individuals also asked for healthier diets with higher nutritional value. One respondent specifically asked for "access to healthier food for free, not with a cost." Responses coded for increased conditions focused on changes to food

service companies, staff, and the food budget, in addition to improving food preparation practices. A few respondents also focused on improving kitchen jobs, such as one who said “Instill more care in those preparing the food by training, paying better wages, not making the kitchen a job that people don't like and creating opportunities for greater levels of creativity/ certification.” Respondents also asked for greater portions and increased access to other options, such as commissary and allowing family members to send food packages. Lastly a small number of respondents specifically mentioned allowing for more time to eat (decrease speed).

Summary of Results

A total of 248 formerly incarcerated individuals in the United States responded to a survey about their food experience in prison. Survey responses overall represented a negative portrayal of the prison food experience, including reports of hunger, lack of access to healthy food options, poor quality meals, food safety concerns, lack of choices, as well as negative changes to both physical and mental/emotional health resulting from their experience with food while incarcerated.

In particular, 91.9% of respondents described their overall prison eating experience in a negative light, most often using the word “unhealthy.” The vast majority of respondents thought the meals looked unappetizing, didn’t taste or smell good, or seem nutritious. Many respondents (45.8%) also had food safety concerns, and 76.9% of respondents reported that they were served rotten or spoiled food while in prison. Most respondents felt they rarely had access to fresh fruits and vegetables, and qualitative survey responses also supported this sentiment. Instead, qualitative responses often pointed to an abundance of processed food dense in carbohydrates and high in salt or

sugar. Additionally, respondents felt they rarely had choices or access to information about the food being served. Respondents also felt that commissary did not provide a variety of affordable or healthy food options. Qualitative responses also reflected the sentiment that food access was limited by their financial resources or outside support. The majority of respondents didn't feel like their opinions were taken seriously or that they could request food items. Additionally, 57% of respondents who requested access to special diets were either denied and/or revoked the special diet. Respondents also reported that they felt they had to do things that were against policy to get access to both more food and higher quality foods; this type of response may have been driven by the overall lack of access to quality food that respondents also reportedly experienced.

Overall, 84.9% of respondents reported experiencing negative changes to their health as a result of the food they were served in prison. Often the changes reported were either weight gain or loss, as well as struggles with a variety of diet-related conditions. In addition, 68.7% of respondents reported experiences changes to their mental or emotional health. For instance, respondents reported experiencing anxiety, depression, PTSD, stress, a fear of being watched, as well as a variety of disordered eating behaviors.

Lastly and most important to the research question at hand, the respondents' mean food desert score was 11.68 (standard deviation of 2.49), indicating that the survey population's prison food experience was relatively similar to that of living in a food desert. Furthermore, a t-test revealed that there is a statistically significant difference in the average food desert scores between male and female survey participants ($p<.0001$). The mean food desert score of female survey participants (12.36) was 1.44 points higher

than that of male survey participants (10.92). This suggests that the female incarcerated population may experience disparities in food access.

CHAPTER V. DISCUSSION

This chapter begins with a discussion and interpretation of the results of this research. In particular, I relate the results back to the research question at hand: What are the parallels and differences between prison food systems and the phenomenon of food deserts? I also discuss the limitations of the data and findings of this research. Then, I suggest ideas for future research and next steps, in addition to suggestions for improving the prison food experience before finally offering concluding remarks.

Discussion

The results of this research point to some potential common trends in the prison food experience, including experiences of hunger, lack of access to healthy food options, food access being limited by financial resources and outside support, abundance of highly processed food, overall dissatisfaction with food quality, food safety concerns, overall lack of choice and access to information, as well as negative changes to both physical and mental/emotional health. It should also be noted that while the majority of survey participants' responses focused on negative aspects of the prison food experience, not all of the survey responses reflected negative experiences.

Multiple factors may have contributed to a better prison food experience, including facility-specific practices and individual privileges like access to greater resources. For example, some survey participants who reported more positive prison food experiences stated that they worked in the prison kitchen, which increased their access to higher quality food. One of the female participants describing their experience said, "We ate lovely. My girls were the chefs." Others reported enjoying the ability to prepare some food on their own in prison facilities classified as a lower security status: "[In] medium

security I ordered my own food and cooked it. That was a very good experience for me." Interestingly, multiple participants were less critical of prison food due to their underlying belief that prison should be designed to punish individuals that do not deserve higher quality living conditions. For instance, one participant said, "I would leave it the same. I don't think that people in prison deserve good food. If the food was good, more people would stay there longer." And another stated, "I feel like [our state] does a good job providing adequate meals for their inmates. If it was any better people might not want to leave! It's not the best, but it's enough to keep them sustained while they serve their time. Prison is not meant to be a 5 star hotel. They did great given the circumstances!" This relates back to the cultural belief that the prison population deserved to be punished, previously discussed in Chapter 2.

Overall, though, the data points to an overwhelmingly negative portrayal of the prison food experience. In addition to these insights, the research was undertaken with the goal of identifying parallels and differences between the prison food experience and the experience of living in a food desert. The food desert scale constructed from three Likert scale survey questions was aimed at quantifying the survey participants' food desert experience. The survey data resulted in a mean food desert score of 11.68 out of a total possible score of 15. It should be noted that only 18.7% of the survey participants had food desert scores of less than 10, while 81.3% had food desert scores of 10 or greater. This measure indicates that the vast majority of survey participants reported that their prison food experience was similar to that of living in a food desert in that they often lacked access to fresh fruits or vegetables and did not have choices regarding what food they ate.

Survey responses also demonstrate that the respondents' prison food experience was similar to the food desert experience in a variety of ways. The overall lack of healthy food options, especially fresh fruits or vegetables is common to both experiences. In food desert communities, access to healthy food options is further limited by their affordability; many residents of these communities are low-income and cannot afford these options. In the prison system, it seems that access to healthy food options is most limited by what is available, either through prison food service companies or through commissary. In some ways, affordability of food options does affect the incarcerated, as they must rely on their own limited financial resources and outside support to access other food options, like commissary, though the actual prevalence of healthy food options in commissary is likely limited as well. Instead, formerly incarcerated respondents' spoke to an abundance of unhealthy, processed food available in prison. While unhealthy options mainly consist of fast food and junk food in food desert communities, formerly incarcerated respondents reported supplementing highly processed food served in the prison food service's mainline with more appealing junk food from prison commissary.

Both the prison food experience and the food desert experience seem to be limited by the overall lack of food choices. Grocery stores, supermarkets, and farmers' markets are often non-existent or limited in number in food desert areas. In addition, the food stores that do exist are often limited in their size and selection. Furthermore, residents of food desert communities may experience an inability to access food stores outside of walking distance due to a lack of transportation. Yet, the prison food system is likely even more limited in food options than many food deserts. Incarcerated individuals are fully reliant on the prison to feed them through the prison's mainline food service, which

often consists of limited and repetitive menus. Often, the only alternative to mainline food service is prison commissary, which may be limited in options or unwilling to stock requested items. Access to commissary can also be limited by affordability, especially as prices continue to go up at a rate similar to that of the free world, while prison job wages stagnate at mere cents per hour (Raher, 2018). Also, a limited number of incarcerated people may request special dietary accommodations if they meet the requirements of either medical needs or religious reasons. But as the present data suggests, many of these requests are denied, and access to special diets is often revoked either without rationale or due to very strict policies that make it difficult to continue accessing a special diet. These policies may be designed to limit the number of special diets due to the greater costs of these meals for the facility. Furthermore, food-related policies prohibit individuals from behaviors related to the procurement of more and better-quality foods; doing such can result in harsh discipline.

Another point of similarity is that both formerly incarcerated individuals and residents of food desert communities suffer from negative health impacts. The survey responses resulted in an extensive list of physical and mental health issues. Although due to the self-reported nature of this survey, it is not possible to infer that all of these impacts were directly attributed to the food they ate while incarcerated. Negative health impacts are likely attributable to the combined impacts of a variety of factors, such as power dynamics, poor health care, harsh punishments, etc., that result in an overall traumatic prison experience. Though, based on the reported quality of the food, it is not hard to imagine that the prison food experience would impact incarcerated individuals, especially for incarcerated individuals with long-term or life sentences.

As demonstrated, the average prison food system is similar to food deserts in a lot of ways but differs in important ways due to the nature of the prison industrial complex itself. The results suggest that one major difference between the food desert experience and the prison food experience may lie in who is disproportionately impacted. The literature on food deserts suggests that people of color are impacted most by the lack of access of healthy food. The results from the FIP survey did not support this finding in the prison population, as the t-test revealed no significant difference in food desert scores between white participants and non-white participants. This finding may relate back to Max Weber's theory of impersonal bureaucracy (Weber, 1992). As mentioned before, the prison system is quite impersonal in nature as it identifies people by their number and feeds them standardized diets on strict schedules. With this in mind, it's not likely that a person's food access within one individual facility would be greatly impacted by their race.

Interestingly, the results do suggest that there may be a disproportionate impact for incarcerated women versus incarcerated men. On average, the female survey participants' food desert scores were 1.44 points higher than the male participants. This may indicate that the prison food experience for the female incarcerated population is more similar to the food desert experience than the male incarcerated population. In particular, only 12 of the 114 female participants had food desert scores lower than 10, meaning that almost 90% of the women had a prison food experience that was similar to living in a food desert. In this way, it's possible that food access differs between facilities, i.e. female versus male prison facilities.

An equal number of women answered the FIP survey despite having an overall lower rate of incarceration relative to men. Therefore, it could be inferred that women in the prison system are more motivated to voice their concerns about the negative impacts of their incarceration. This could potentially indicate that women overall are more negatively by the prison food experience. For instance, one female survey participant reflected on the impact that prison food can have on women saying, “In female facilities in general I think that the food they offer both on commissary and in the serving is so unhealthy and effects women's emotional and physical health.” Another spoke of food shortages and poor food quality at one women’s facility (the name of which has been redacted to maintain confidentiality): “[Our facility] was a lifer facility with many elderly women. The food was often rotten. I watched an elderly woman pick maggots out of her food before eating it. She had no access to financial support and had no choice but to eat rotten food.… [The facility] houses 1,100 women but only receives enough food to feed 925. Shortages were a constant issue.”

Overall, the data supports that there may be connections between food deserts and prison food systems, though limitations of the data and the nature of this preliminary research limit the conclusions that can be drawn. Still, this research should spark more consideration of the subject of prison food and its impacts, as well as further research that is aimed at determining if prison food systems are considered food deserts and identifying solutions.

Limitations

Limitations of this research must be acknowledged. First, the data used was a convenience sample and therefore is not a representative sample of the United States’

formerly incarcerated population. A handful of states were not represented at all in the study sample, and it is likely that thousands of correctional facilities exist that were not identified in the survey responses. Therefore, the findings cannot be applied to United States prisons in general. There are likely prisons that do embody the trends identified, while others may provide examples of a better prison food experience.

Additionally, the nature of secondary data also meant that I did not have the ability to ask more targeted questions designed specifically to address the research question at hand or to ask similar questions to non-incarcerated individuals who have the experience of living in a food desert. One missing factor from this analysis was socioeconomic status. Although this is a classic factor in the food desert literature, the FIP survey did not include demographic questions aimed at capturing an individual's class. This is likely because of the difficulty in determining a formerly incarcerated individual's socioeconomic status during their incarceration. It's possible their financial situation changed throughout their incarceration or since their release. This measure is also more complicated when considering that they usually rely on remarkably low wages from prison jobs or outside resources from family while incarcerated. Without knowing an incarcerated individual's financial situation, it is difficult to understand and analyze how it may have impacted their food desert experience.

In addition, both my own biases and volunteer bias likely affected the results. It is possible that synthesizing so many participants' negative accounts of their experience, which were often difficult to read, gave me an overall sense that the prison food experience is negative, which may have skewed my interpretation of the results. In addition, it is likely that the individuals who were willing to take a survey about their

prison food experience were those who felt more strongly about their experience. It is possible that formerly incarcerated individuals who were enraged with their experience while in prison used the survey as an outlet to voice those concerns. This may mean that the data is skewed to reflect more negative prison food experiences.

Relying on formerly incarcerated individuals means that many incarcerated voices are left out from the discussion, such as those who will spend the rest of their life in prison. The impacts of prison food will likely be felt the greatest by these individuals in particular. Additionally, the accuracy of prison food conditions and experiences may be limited by the memory of the formerly incarcerated survey participants. While some participants have more recent memories of their prison food experience, others who have been out of prison for many years may have described prison food conditions that have since changed. Being able to hear directly from those who are currently incarcerated might have allowed for both more accurate data and rich storytelling.

Future Research

This research has begun to fill a gap in the literature on the subject of prison food, specifically drawing connections between prison food and food deserts. But more research is needed on the subject to draw conclusions about whether the prison food experience is similar to the food desert experience. Ideally, future research should be done to understand and analyze the food experience of those currently incarcerated in our nation's prisons. This data should also be supplemented with data from other sources, e.g. measures of physical and mental health over time, nutritional content of prison food menus, prison food service companies' practices, interviews with key food service actors, etc. to conduct more robust studies of prison food systems and the impacts on the

incarcerated population. Additionally, the food desert scale used in this research could also be applied to communities outside of prison to provide a control to compare with these findings. As more research is completed to understand the prison food experience, more robust parameters should be developed that can determine if individual prison facilities are considered food deserts. Instead of excluding prisons, prisons classified as food deserts could be included the USDA's food desert data to provide a more accurate analysis of how many Americans are impacted by the food desert experience.

Based on present findings, it is clear that there is a need for more research into the disproportionate impacts of prison food on the female incarcerated population. This will be important considering the rate of growth for female imprisonment has been twice that for men since 1980 (The Sentencing Project, 2017). Furthermore, understanding the health impacts of prison food will prove especially important for incarcerated women who are pregnant and/or nursing and require greater nutrition to keep both themselves and their children healthy.

Lastly, I suggest that future research also place a greater emphasis on analyzing other factors that might affect incarcerated individuals' access to healthy food in prisons. Mentioned previously as a limitation of this research, the factor of class should be assessed to understand if it affects access to healthy food in prison. It would also be interesting to include an analysis of access to culturally appropriate food in the prison system and the impacts that may result from a lack of access of such food.

Suggestions to Improve the Prison Food Experience

Based on the results of this study, in addition to recommendations from the literature, I will now offer suggestions to improve the prison food experience for

incarcerated individuals. I summarize these suggestions in Table 23, which is organized by four broad themes that were adapted from the National Economic and Social Rights Initiative (NESRI)'s framework of the human right to food: availability, accessibility, sustainability, and non-discrimination (National Economic and Social Rights Initiative, n.d.).

Table 23. Suggestions to improve the prison food experience

NESRI Component	Suggestions	Potential Actions
Availability	1. Increase food access	Increase food portions and/or reevaluate frequency of mealtimes
	2. Increase food quality	Utilize more fresh fruits and vegetables and higher quality proteins
		Diversify recipes and prison menus
		Train kitchen workers for proper food handling and preparation
		Reduce reliance on highly processed heat-and-serve type meals
		Use more whole ingredients
		Increase length of mealtimes
Accessibility	1. Increase agency for incarcerated individuals	Create opportunities for incarcerated individuals to provide input and request food items and/or recipes
	2. Increase affordability of food options	Create prison food councils where incarcerated individuals can serve and provide input
		Allow the incarcerated to serve themselves
		Allow the incarcerated more opportunities to prepare their own meals
		Increase access to information by posting food menus and nutritional content and communicating rationale behind food policies
		Allow families to send food packages
		Reduce costs of commissary items and/or increase wages for prison jobs
Sustainability	1. Increase sustainability of prison food system	Increase preparation of whole food on-site
		Implement prison gardening programs
		Utilize local produce or garden harvest in prison meals
		Create certificated job training for kitchen workers
		Pay kitchen workers better wages
Non-discrimination	1. Reduce potential discrimination or disproportionate impacts	Evaluate the distribution of resources and nutritional standards for women prison facilities
		Re-evaluate policies that determine eligibility and criteria for accessing special diets
	2. Eliminate food-based punishment	Eliminate policies that utilize food as punishment
		Reevaluate policies that punish food-related behavior

Similar to NESRI, the availability component is focused on increasing both food access *and* food quality. Many of the potential actions provided to achieve these suggestions are based on respondents' suggestions on the FIP survey, as well as the previously cited Washington State Office of Corrections Ombuds report of results from a food preferences survey taken by incarcerated men at one Washington State facility (Office of Corrections Ombuds, 2019b).

To improve accessibility, I offer two suggestions: increase agency for incarcerated individuals and increase affordability of food options. Many of the specific actions that could be undertaken to achieve those goals were inspired by the literature, specifically Smoyer and Lopes' recommended food policy changes (Smoyer & Lopes, 2017). Their recommendation to "create prison food systems that demonstrate concern, empathy, and respect" was at the heart of many of the suggestions I layout in Table 23.

Related to the prison food literature, which included an analysis of the self-sustainability of prison food systems of the past, I suggest that prisons work to increase the sustainability of their food system. One way to do this is increase prison gardening programs, like those reviewed in Chapter 2. Other actions are more focused on the ability of the prison food system to be self-sustaining, i.e. utilize local produce or garden harvest in prison meals and increase the preparation of whole food on-site. Social sustainability could also be achieved by creating certificated job training for kitchen workers and paying prison kitchen workers better wages.

Lastly, to achieve non-discrimination, I recommend efforts to reduce potential discrimination or disproportionate impacts. Two potential actions include: evaluate the distribution of resources and nutritional standards for women prison facilities and re-

evaluate policies that determine eligibility and criteria for accessing special diets. to eliminate food-based punishment. Finally, I strongly recommended eliminating food-based punishment.

Conclusion

This research was conducted in an attempt to fill a major gap in the literature by connecting two complex subjects of interest, namely prison food and food deserts, and to answer two main research questions. The first research question asked, what are the parallels and differences between prison food systems and the phenomenon of food deserts? The results of this research indicate that there are some important similarities amongst the prison food experience and the food desert experience. Both prison food systems and food deserts can be characterized by a lack of access to healthy food options as well as an abundance of unhealthy, processed food. A general lack of options in addition to an inability to access alternative options also exists in both experiences, though this aspect manifests differently in the prison setting. Due to the mechanized and controlling nature of the prison industrial complex and its reliance on biopower (Schlosser, 1998; Foucault, 1976), options are likely to be even more limited, causing a greater strain in prison than in the outside world. Lastly, both experiences seem to result in negative health impacts, though further research is needed to determine the extent of health impacts that can be attributed to the prison food experience specifically.

The second research question asked are there any associations between formerly incarcerated people's race and gender and the self-reported quality of food they receive in prison? The results of t-tests comparing survey participants' mean food desert scores indicated that there was no difference in the prison food experience between white and

non-white formerly incarcerated participants. Instead, the results did point to potential gender disparities. Women survey participants had a higher mean food desert score, indicating that they may be disproportionately impacted by the prison food system. Further research is needed to explore this potential gender issue, as it would continue to impact a growing number of incarcerated women in the United States.

Overall, further research efforts are needed to draw broad conclusions on whether the average prison food system can be characterized as a food desert, though the preliminary findings of this research seem to support this notion. Knowing more about the prison food system and its impacts would give us a much greater understanding of how many Americans are actually affected by the experience of living and eating in a food desert environment.

Unfortunately, the experience of our nation's incarcerated population is largely invisible to society at large due to the perception that they are second-class citizens (Lerman & Weaver, 2014). Still, it is important to shed light on prison conditions because they impact millions of incarcerated people and formerly incarcerated people. Furthermore, much of the incarcerated population are either low-income and/or people of color who are already marginalized and disproportionately affected by the justice system, as they are also vulnerable to circumstances such as the school-to-prison pipeline (Pellow, 2017). Once incarcerated, these individuals may experience further injustice during their incarceration; as this research suggests, one such injustice may lie in the prison food system.

The results of this research are therefore significant in that they reveal potential food justice and social justice issues within the prison food system. In line with the

argument that food is a basic human right, the experience of hunger in prison, the lack of quality food, the concerns about food safety, and inequitable access to food options may signify human right violations within the United States prison food system. This is especially apparent considering that many people felt they were left with little option but to break rules and get punished for trying to access both more and higher quality food while incarcerated. The prison food experience should not feel like or be used as punishment; one formerly incarcerated survey participant summed it up well when they said, “Just because we are incarcerated does not mean we do not deserve basic human rights.” We should therefore consider that prison food conditions like those found from this research have the potential to negatively impact the nearly 2.2 million currently incarcerated individuals in this country, and can also have lasting impacts on the formerly incarcerated people who have since re-entered into society.

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APPENDIX

Appendix A. Food in Prison Survey

IMPACT/JUSTICE
A National Innovation and Research Center

Food in Prison Survey

We would like you to fill out the following survey for a research project being conducted by Impact Justice.

The purpose of the survey is to understand the impact of food in prisons on people who have been incarcerated, as well as to learn about ways to improve that experience for those impacted by incarceration.

If you choose to participate, you are free to change your mind at any time and not continue the survey. You are free to skip any questions you do not wish to answer. There are no negative impacts to skipping questions or not participating in the project. We expect the survey to take between 20-30 minutes.

All of the information remains anonymous and confidential.

If you have questions about this research, please contact Impact Justice at foodinprison@impactjustice.org or (510) 899-5010.

When you have finished the survey, please mail it to:

Impact Justice
ATTN: Kathryn Stroud
2633 Telegraph Ave.
Suite 104
Oakland, CA 94610

Please tell us about yourself:

Race/Ethnicity *check all that apply*	☐ Latino/a ☐ African American/Black ☐ Native American	☐ White ☐ Pacific Islander ☐ East Asian	☐ South Asian ☐ Other: _____
Gender/Gender Identity *check all that apply*	☐ Female ☐ Male ☐ Transgender	☐ Cisgender ☐ Genderqueer/ Non-Conforming	☐ Agender ☐ Other: _____

Age ☐ Under 18 ☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+

Where do you currently live? _____
City State

How long were you incarcerated? *What is the total amount of time you were incarcerated, including multiple facilities and sentences?*

☐ Less than 1 year

☐ 1 - 3 years

☐ 3 - 5 years

☐ 5 - 10 years

☐ 10 - 15 years

☐ 15+ years

When were you last released? _____/_____/_____
Month Day Year

How many facilities were you incarcerated in? *(circle one)* 1 2 3 4+

*As you answer the questions in the survey, please think about **up to three facilities** that had the most impact on your experience for the questions asked. Impact could mean you have the most memories of that facility, you stayed there the longest, or anything else.*

	Location	**Type** (check one)	**Length of Stay** (check one)
_____ Facility Name (1)	_____ City _____ State	☐ County ☐ State ☐ Federal ☐ Other: _____	☐ Less than 1 year ☐ 1 - 3 years ☐ 3 - 5 years ☐ 5 - 10 years ☐ 10 - 15 years ☐ 15+ years
_____ Facility Name (2)	_____ City _____ State	☐ County ☐ State ☐ Federal ☐ Other: _____	☐ Less than 1 year ☐ 1 - 3 years ☐ 3 - 5 years ☐ 5 - 10 years ☐ 10 - 15 years ☐ 15+ years
_____ Facility Name (3)	_____ City _____ State	☐ County ☐ State ☐ Federal ☐ Other: _____	☐ Less than 1 year ☐ 1 - 3 years ☐ 3 - 5 years ☐ 5 - 10 years ☐ 10 - 15 years ☐ 15+ years

*The following questions are about your **eating experience while incarcerated**. If you were incarcerated in multiple facilities, please reflect on the 1-3 facilities listed on the previous page.*

Describe your eating experience in three words or phrases:

1) _____

2) _____

3) _____

Where did you eat most often?

☐ Cafeteria

☐ Cell

☐ Common area

☐ Other: _____

How often did you do the following:

	Always	Often	Rarely	Never
I ate the breakfast provided.	○	○	○	○
I ate the lunch provided.	○	○	○	○
I ate the dinner provided.	○	○	○	○
I had access to fresh fruits.	○	○	○	○
I had access to fresh vegetables.	○	○	○	○
I had choices regarding what I was served.	○	○	○	○
I had access to current information about the ingredients of the food I was served.	○	○	○	○

How much do you agree or disagree with the following statements:

	Strongly Agree	Agree	Disagree	Strongly Disagree
I had enough food to feel full.	○	○	○	○
I felt hungry between meals.	○	○	○	○
The meals looked unappetizing.	○	○	○	○
The meals smelled good.	○	○	○	○
The meals seemed nutritious.	○	○	○	○
The meals did not taste good.	○	○	○	○
I could prepare my own food without risk of getting in trouble.	○	○	○	○
I used food as currency for things I wanted or needed.	○	○	○	○
I had to do things that were against policy or rules to get access to more food.	○	○	○	○
I had to break policy or rules to get access to higher quality foods.	○	○	○	○
When possible, I avoided eating the provided meals.	○	○	○	○
There were times when I had concerns about the safety of the food served to me.	○	○	○	○
Foods that were supposed to be hot or cold were served at the appropriate temperature.	○	○	○	○
There were enough hot meals provided.	○	○	○	○
I experienced negative changes to my physical health while inside as a result of the food served.	○	○	○	○
I experienced no changes to my mental or emotional health while inside as a result of the food served.	○	○	○	○
If I gave an opinion about a meal, it was taken seriously by the cooks or food manager.	○	○	○	○

Were you ever served rotten or spoiled food? (*circle one*)	YES	NO	UNSURE/PREFER NOT TO ANSWER
Were you ever disciplined because of food-related policies? (*circle one*)	YES	NO	UNSURE/PREFER NOT TO ANSWER

How much do you agree or disagree with the following statements:

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
I had enough time to eat my food during my meals.	○	○	○	○
I chose who I ate with.	○	○	○	○
The place where I ate most meals was welcoming and social.	○	○	○	○
The meals were served at times of day that seemed appropriate.	○	○	○	○
I was concerned about my safety while eating.	○	○	○	○

*The following questions are about the **prison commissary.***

How much do you agree or disagree with the following statements:

	Strongly Agree	Agree	Disagree	Strongly Disagree
Commissary provided a large variety in food options.	○	○	○	○
Commissary provided healthy food options.	○	○	○	○
I could afford commissary purchases.	○	○	○	○
I preferred eating food from commissary to eating meals provided by the prison.	○	○	○	○
If I requested food items, the commissary would often stock them.	○	○	○	○
The quality of food I had access to was limited by my or my family's finances.	○	○	○	○
When my family or loved ones visited me, they could easily afford the prices charged by vending machines.	○	○	○	○
It was a financial burden for my family or loved ones to send care packages to me.	○	○	○	○
The food provided during visitations was much better than the food in commissary.	○	○	○	○

*The following questions are for **special diets.** If you ever received or requested a special diet, please answer the following questions. If not, skip to the next page.*

What type of diet(s) did you request or receive? *(check all that apply)*

☐ Religious diet *(e.g. diets for kosher, halal, etc.)*

☐ Medical diet *(e.g. diets for pregnancy, diabetes, allergies, etc.)*

☐ Unsure/Don't Know

☐ Other: _____

Describe the special diet(s):

Was your access to the special diet(s) ever revoked or denied? *(circle one)* YES NO

If so, what was the rationale for revoking or denying the diet?

How did you get access to the diet(s)? *(e.g. did you request it? How did you request it? Was it recommended by a doctor?)*

*The following questions are for **food in solitary confinement.** If you were ever placed in solitary confinement, please answer the following questions. If not, skip to the next page.*

When comparing food provided in solitary confinement to food provided to the general population, was there a difference in the:

	More or better in solitary	Same or no difference	Less or worse in solitary
Amount of food provided?	○	○	○
Amount of healthy options?	○	○	○
Appeal of the food?	○	○	○
Taste of the food?	○	○	○
Access to commissary food?	○	○	○

How much do you agree or disagree with the following statements:

	Always	Often	Sometimes	Rarely	Never
I skipped meals in solitary because the food provided was poor quality.	○	○	○	○	○
I rarely skipped meals because the food provided appeared tasty.	○	○	○	○	○
I was served nutraloaf.	○	○	○	○	○
I didn't have health concerns regarding what I was eating in solitary confinement.	○	○	○	○	○

*The following questions are about experiences **working in prison kitchens**. If you have ever worked in a prison kitchen, please answer the following questions. If not, skip to the next page.*

What was your experience working in the prison kitchen like?

How much were you paid as an employee? *This can be an approximate or an average or a range. We know it depends on job/position, facility, length of employment, and other factors.*

Please tell us about the effects of your experience with food while incarcerated.

How, if at all, did your eating experience change over time during incarceration?

If you could change one thing to improve the eating experience in prisons, what would it be?

Since returning home, have you noticed any differences in your health (physical, mental, emotional) that may be attributed to what and how you ate while incarcerated? If so, please describe:

Since returning home, have you noticed any differences in your attitudes toward food (how you think or feel about food or how you eat) that may be attributed to what and how you ate while incarcerated? If so, please describe:

Is there anything else you would like to capture about your experience eating in prison that was not measured in this survey?

Food in Prison Survey

Please continue ➤➤➤

*We are interested in **interviewing people about their experience eating while incarcerated.** If you are interested, please answer the following questions. If not, please skip this page.*

The interviews will last approximately one hour and can be conducted in person or over video chat. The questions will be focused on your eating experience within the criminal justice system. Interviewees will be compensated for their time.

There are no anticipated risks to you in this study; however, you may feel uncomfortable when asked about your experiences within the criminal justice system. You may end the interview at any time or skip any question. If you would like to talk with a counselor after the interview, contact information can be provided for you.

No one will link your answers to your name. Your name will not be used in any report. All necessary measures will be taken to ensure that your information remains confidential. With your permission, we would like to record the interview for our research team. Again, all necessary measures will be taken to ensure that your information remains confidential.

If you would like to be considered for an interview, please answer the following questions.

Name: _____ _____
First Last

Email: _____

Phone Number: _____

What is the best way to contact you? *(Check all that apply)*

☐ Phone ☐ Email ☐ Other: _____

Do you have access to a webcam? YES NO

Why do you want to be interviewed? *(for example, did you have any experiences around food that were unique or different compared to most people?)*

Thank you for participating in our survey!

If you have questions about the survey or the research project, please contact Impact Justice at foodinprison@impactjustice.org or (510)899-5010.

In Fall 2019 (projected), we will be releasing a report that incorporates the data collected from this survey. If you would like to receive a copy of this report, please list an email address where we can send the report.

Email: _____

Would you like to receive updates from Impact Justice?
Impact Justice is a national innovation and research center advancing new ideas and solutions for justice reform. If you would like to receive regular updates on our programs, please indicate below.

☐ Yes - please sign me up for the Impact Justice newsletter.

☐ No - only send me a copy of the Food in Prison report.

Appendix B. Sample outreach email from Impact Justice to participate in the Food in Prison Survey

FORMERLY INCARCERATED INDIVIDUALS

Food is a fundamental part of the human experience. What and how we eat has a profound effect on our physical health, mental and emotional well-being, and sense of dignity. We believe that people who are incarcerated - like all people - deserve to eat in a way that promotes long-term wellness, strengthens connection to others, and recognizes their humanity.

Impact Justice's Food in Prison Project is documenting the short- and long-term effects of eating in confinement, analyzing the structures that created our current system, and identifying opportunities for change. In order to do this, we need your assistance.

Please help us collect data and stories about the impact of the prison food experience on people across the United States through our Food in Prison survey. The primary audience of the survey is people who have been incarcerated and experienced eating in confinement firsthand. We also welcome friends, family, and community members who have been affected by this issue, as well as the general public, to share their thoughts on food in prisons through the survey.

To fill out the survey, visit https://www.surveymonkey.com/r/foodinprison. Please forward this link widely - we hope to hear from as many people as possible! The Food in Prison Project survey closes on October 11, 2019.

Learn more about the Food in Prison Project, and download our fact sheet here.
Click here to sign up to receive a copy of our report (projected Fall 2019).

Questions about the Food in Prison Project? Contact Impact Justice at foodinprison@impactjustice.org or by phone at (510) 899-5010.