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We Can Still Feed Ourselves: Food Sovereignty, Aid, Sickness, and Health in Eastern Kentucky

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WE CAN STILL FEED OURSELVES: FOOD SOVEREIGNTY, AID, SICKNESS, AND HEALTH IN EASTERN KENTUCKY

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Arts and Sciences
at the University of Kentucky

By

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ABSTRACT OF DISSERTATION

WE CAN STILL FEED OURSELVES: FOOD SOVEREIGNTY, AID, SICKNESS, AND HEALTH IN EASTERN KENTUCKY

Over forty percent of eastern Kentucky residents are classified as obese. From a biomedical perspective, obesity is linked to a range of chronic diseases, including heart disease, diabetes, and high blood pressure and is caused by particular lifestyle behaviors that lead to an increase in calorie consumption and decrease in calorie expenditure. However, these links – individual behavior leads to obesity which leads to chronic disease - do not take into account a wide range of personal, social, environmental, political, and economic conditions. In addition to the assumptions of what it means to become and be obese, Kentucky is regularly ranked among the unhealthiest states in the country. In other words, assumptions are made about how people live based on their bodies as well as their geographical location. This project explores some basic questions that form the bedrock of these assumptions. I discuss three food aid programs that developed in response to the Covid-19 pandemic in the spring and summer of 2020. Participants received boxes of (mostly processed) foods and expressed both gratitude and frustration. Standardized, shelf stable food, after all, is not the most nutrient dense and often contains one or more allergens. Boxes provided food during a time of fear and uncertainty but undercut the agency of families to determine their own food needs. Next, I dive into the metabolic and anthropometric data collected over three years (2017-2019) from twenty-five participants in a fruit and vegetable walking program. Positive patterns emerged from the data, specifically concerning measures related to diabetes and heart disease. Biology is influenced by cultural products, such as access to medical care and a living wage. To contextualize the walking program and its suggestive but limited findings, I present key concerns from walking program participants and other members of the community. Then I present another factor that contributes to health and disease – disordered eating. Disordered eating is a non-standardized term and phenomenon that affectively moves between bodies. Through a combination of a validated survey (the Eating Attitudes Test) and in-depth interviews, I explore what disordered eating is, how it affects individuals and those around them, and from the various cultural and relational places it emerges. Finally, this project contests the narrative of absence that often overshadows nutritional studies of eastern Kentucky, specifically when it comes to food. Through interviews and farm visits, I paint an alternative portrait of eastern Kentucky as overflowing with gardens and fresh produce

in order to encourage a turn towards food sovereignty in program development and implementation.

KEYWORDS: Appalachia, Anthropology of North America, Food Aid, Metabolic Health, Disordered Eating, Food Sovereignty

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> "In case you're wondering, I am overweight. Boy, but I have to change because the doctors have told me [to lose weight] … even though I'm not on insulin or anything. But they did put me on a pill, and I am taking my blood sugar - it's not going over 130 but I know it could. Yeah blegh. And then I think well, I have been through so much, I've been through [double breast] cancer, I've been through so many deaths in my family, and my husband, he's a Vietnam veteran, he has Agent Orange. And I see him declining health-wise and, you know, look at my aging and look at the world…. I think of all these excuses, so it's okay to go ahead and eat that candy bar."

Seventy-year-old Carol, quoted above, lives in a small, rural town in eastern Kentucky. Over forty percent of eastern Kentucky residents are classified as obese; their Body Mass Index (BMI) (the relationship between their height and weight) is over thirty (Foundation 2018). This is comparable to the obesity prevalence within the United States over the same time period (2017-2019) (Centers for Disease Control and Prevention 2021a). From a biomedical perspective, obesity is linked to a range of chronic diseases, including heart disease, diabetes, and high blood pressure. Heart disease is the leading cause of death in Carol's home county, followed by cancer (Centers for Disease Control and Prevention 2021b). From a biomedical perspective, obesity is caused by lifestyle behaviors that lead to an increase in calorie consumption and decrease in calorie expenditure. These links – individual behavior leads to obesity which leads to chronic disease - cannot account for the complexity of Carol's experiences. Namely, the stresses of being labeled overweight or obese by a healthcare provider, managing the risks of pre-diabetes, recovering from back-to-back bouts of cancer, experiencing multiple close deaths, caring for a sick loved one, and seeking

comfort in widely available, highly palatable foods. Nor do these links explain how people with high BMIs may remain metabolically healthy while people with lower BMIs may experience severe chronic disease.

In addition to the assumptions of what it means to become and be obese, Kentucky is regularly ranked among the unhealthiest states in the country (American Diabetes Association 2016; Anderson 2019; Brookbank 2019). This is often attributed to poor choices made within poorly constructed food environments, a sentiment summed up as "Appalachia tends to be dominated by fast food outlets" (Hoogland, et al. 2019). Weight gain and poor health are also often ascribed to noncompliance – or any behavior that "differ[s] from the script of the dominant group" (Fletcher 2017). Noncompliance has been heavily critiqued as it "mistakenly privileges the patient-doctor dyad and does not consider the range of social experiences that shape patients' decision making…." (Trnka 2017). In short, noncompliance, much like obesity, becomes a problem site, or an issue to be addressed at an individualized level. This individualized framing of health does not address the complexity of finding and affording medical care, prescription medications, or other health-supporting goods or equipment – such as nutritious food or blood sugar monitors.

Such a focus on individual bodies and locations masks the ways they are differentially linked to structures of politics, economy, and society. In other words, what is often considered to come from "outside" – such as food aid, nutrition interventions, and medical advice – is incorporated and embodied into bodies and places in

unanticipated ways. This occurs alongside and within everyday life as people and communities build their identities through bodily practices – for example, gardening and food sharing. Goods and knowledge from "outside" and practices and responses from "inside" come together, are absorbed, and put to use in variable and unexpected ways. This is one of the many things this dissertation will illustrate, through the exchange of food from Covid-19 aid, questions about the peculiarities of what gets funded and what does not, and the circulation of medical and nutrition advice

Two short vignettes from my fieldnotes illustrate the unexpectedness of absorption (or rejection), as they position me as a program manager, registered dietitian, and anthropology student, and introduce some key themes I take up throughout this dissertation.

Two Vignettes

As the August sun began to set behind the trees and peaks of the mountains, I watched the small hill I sat on begin to fill with lawn chairs and picnic blankets. The crowd that slowly formed in front of the stage at the bottom of the hill was generationally diverse. Older adults sat back in their lawn chairs as twenty-somethings sat in the grass or on blankets with their friends and dogs. A group of small children ran around screaming, playing some type of a game to which only they knew the rules. They raced in front of the stage, then behind it, onto a street closed off for the Farmer's Market, set up in the background. In front of me a little girl began rolling down the hill, giggling, to run back up to where her family sat and do it again. People milled about,

getting up to greet someone, a few tentatively listening to the warm-up bluegrass band on stage.

My phone buzzed and I saw a message from Sophia, asking me to come to her booth at the market. “Some man is asking questions,” she texted. This year – 2019 – was the third year I had managed a fruit and vegetable walking program in this eastern Kentucky community. When I found Sophia, she was seated with a middle-aged man, who introduced himself as a journalist – he had heard about the Tanglewood to Table walking program and wanted to know more. I explained the portion I managed – the research component – and that on-the-ground work was managed entirely by community members. After twenty minutes or so of answering his questions, the man thanked me and Sophia and wandered around to the dozen or so other booths.

“Thanks for finding us,” Sophia said – she was my age, in her early thirties, and kept half an eye on her children the entire time. She told me that she panicked when he said he wanted to observe the walking program and the market and joked that the university was starting to send people to spy on them. I laughed and we chatted a bit more before I ran back up the hill to reclaim my spot. Her comment jarred something in me, like a mini electric shock through my veins. We had been working together for three years; had I inadvertently given the impression that we didn’t trust them? Or had it been just a joke?

I turned my attention back to the stage; in the time I had been talking with Sophia the band had finished playing. A white, late middle-aged man in a suit was standing at the microphone, a line of six or so similarly well-dressed people behind him. At the back of the stage, half shrouded in shadow, people I knew – the farmer's market manager and community organizers – stood in t-shirts and shorts, looking mildly uncomfortable and shifting their weight from one foot to the next. As the professionally dressed people spoke – one from an agricultural non-profit, another from the state department of agriculture, someone else from an insurance company – I became increasingly irritated. Each speaker reminded the crowd (who was only half paying attention) how unhealthy the community is. They cited rates of obesity, diabetes, and heart disease, lamenting the lack of healthy options for food and exercise in the area. They then began to praise the farmer's market for providing healthy options, for turning around "places like this" where "it's hard if not impossible" to eat healthily. By the time the last speaker finished my chest was tight with frustration (even writing this two years later, re-reading my field notes, my shoulders tensed and my stomach turned slightly sour). The history of exploitation and stereotypes of central Appalachia ran through my mind – along with all of the people I'd met who tried so hard to lose weight or get off their diabetes medication but also had so much else going on in their lives. I thought of the gardens I'd visited and the deep knowledge of how to preserve fresh produce.

I glanced around and took a deep breath. Most of the crowd was talking quietly to one another. The little girl in front of me was, somehow, still rolling down and

running up the hill. No one seemed to be listening, at least not attentively. This changed as the people who stood in the shadows came forward. One of the community organizers took the microphone and thanked local people for all their work on the market and the concert event. The crowd was a little more interested, clapping for their friends and neighbors. The mood – my mood – lifted. I didn't need to be angry on their behalf, I didn't need to get defensive. This community didn't need me to defend them. They had each other, they had their relationships and their support networks. And they knew who to listen to and who to tune out.

Image 1: Post-Farmer's Market Concert in eastern Kentucky, photo by author

Two months later I was sitting in a dimly lit auditorium at the Food and Nutrition Conference and Expo – the annual professional meeting for the Academy of Nutrition and Dietetics. A white woman in her early sixties sat to my left. I introduced myself and asked her where she worked. She told me that she has been a clinical dietitian for decades in the same large hospital in a Midwestern city, then asked where I worked. I explained my position as a research dietitian, managing programs in eastern Kentucky to

increase fruit and vegetable intake. Before I could explain any more – about my anthropological studies or experiences – she excitedly interrupted. “I read Hillbilly Elegy!” she told me. “That must be the hardest job, I can’t imagine working with those people, it must be so challenging!” I should not have been surprised, but I was dumbstruck. I managed to compose what I hoped was a polite response – that the political and economic realities were the real challenge, not the people – before the lights dimmed more and the lecture began. But I was distracted and that same feeling of physiological and psychological frustration that I felt on that sunny summer hill roiled up inside. Eastern Kentucky doesn’t need a white knight, they don’t need a savior, particularly not me, not someone from someplace else. But surely, I could have responded better, could have said more.

“It was nice to meet you,” I whispered and left the auditorium, walking past hundreds of filled and empty chairs. My notes on the lecture were empty – I had not even written down the title of the talk in my distraction. I checked my agenda – I had two hours before the next lecture I wanted to attend; enough time to visit the Expo and eat lunch.

This was my third time attending FNCE (and, unknown to me at the time, the last in-person conference for at least two years due to Covid-19 shutdowns), but the Expo never ceased to make me feel dizzy. Hundreds of vendors fill the largest available space at the convention center; signs from the largest corporations hanging from the exposed ceiling. The vendors set up in rows, staffed by always smiling sales representatives,

ready to discuss product ingredients and hand out free samples and informational materials. One large brand is known for setting up a cranberry bog; the line to wade through the pool of cranberries stretches down and around multiple rows. Products range from what can be found in any grocery store (nuts, popcorn, milk) to disease-specific items (sugar-free chocolates for diabetes, low salt chips for hypertension) and activity-specific goods (high protein drinks and bars). A running joke (in the sense that there is truth to every joke) is that one can save money by eating lunch from the free foods distributed by vendors.

Image 2: Foods collected after one visit to the FNCE Expo, 2019, photo by author

In both contexts, the market is viewed as the solution to health-related problems. In eastern Kentucky, the farmer's market is seen as the only place to obtain healthy food (an idea I complicate in chapter five). At FNCE, alternative products, available through market channels, offer consumers options to disrupt and transform their diets to achieve biological goals. The market as the location of health is a thinkable policy solution that reinforces hegemonic power relations (Lawson 2018). This dissertation explores some basic questions that form the bedrock of these assumptions – how do people in eastern Kentucky think about food? Where do they acquire their food and what types do they consume and why? How do they understand and experience doctors' orders to lose weight and how does this translate into particular behaviors? How do these behaviors – typically assumed to be individualized – move within and between bodies? How are these questions inextricably linked to broader political-economic decisions? What are possible political changes that could mitigate the problems and issues experienced and articulated by residents? What local, small-scale practices are already in place to support people and help them nourish themselves? Throughout this dissertation I think through an unthinkable politics that counter normative and hegemonic approaches, to at least make room for them, to "shake things up and create openings" (Mol 2020).

I collected the data to answer these questions in a small town in eastern Kentucky, or rural Central Appalachia, in the eastern United States (Image 1). I chose this location – or this location chose me – through my work as a research dietitian and

program manager. In general, this community has a strong history of participation in research studies, grant funding, and community organizing which made it amenable to my own research interests. People were generally excited to talk at length about the questions I was asking – or at least more excited than filling out a survey, something they were intimately familiar with from other projects. Residents in this county also experience some of the highest rates of chronic disease in the state; a statistical fact that no doubt contributes to the number of research and public health projects implemented within the community. It is interesting to note, however, that after decades of research interventions focusing on healthy lifestyle behaviors, health metrics have not substantially improved.

Kentucky, a commonwealth within the United States, sustains a culture of identity that is largely based on county residence (rather than state or nation) (Kingsolver 2011). This 120 county state (85 of which are considered rural (Davis 2009)) is home to approximately 4.4 million people, 36.1% of whom reside within two large urban areas (Louisville and Lexington) (United States Census Bureau 2017). Half (50%) of Kentucky land is devoted to agriculture with the number of farms significantly decreasing since 1980, particularly after the Tobacco Buyout in 2004 (Freedom Kentucky 2010; Kingsolver 2011). The majority of Kentuckians (88%) identify as white, and for much of its history the main source of economic stability was coal mining, primarily by men (Bell 2016).

The Appalachian Mountains extend north from central Alabama to Canada (Image 2). The eastern portion of the state of Kentucky is located within the central

Appalachian Mountains (Image 3). The majority of the data – but not all – that inform this study were collected from a county of approximately 21,500 people, 97.4% of whom self-identify as white and non-Hispanic (United States Census Bureau 2021b). Forty percent of the population is under the age of 18 (21.7%) or over the age of 65 (19.9%). One in four people (24.4%) live in poverty, as defined by the Office of Management and Budget and United States federal poverty guidelines. For example, in 2021 a nuclear family of four with a total household income below $27,479 would be considered a household in poverty (United States Census Bureau 2021a). The poverty rate in this county – and most of eastern Kentucky – is over twice as high as the national average of 11.4% (United States Census Bureau). Economic status – whether a family or individual is officially below the poverty line or not – is a key component of what, how, when, and with whom people in the United States eat. The next section outlines the political-economic context of the United States and how the food system fits within it, before further describing the history of extraction, exploitation, and community in eastern Kentucky. Following this theoretical and historical context, I present the research methods used for this study and my positionality as an anthropology student, registered dietitian, and program manager on a federally funded research grant.

Image 3: Map of the United States; the state of Kentucky in red. Image from Wikipedia.

Image 4: Map of the eastern United States, with Appalachia highlighted in green, as defined by the Appalachian Regional Commission. Image from Wikipedia.

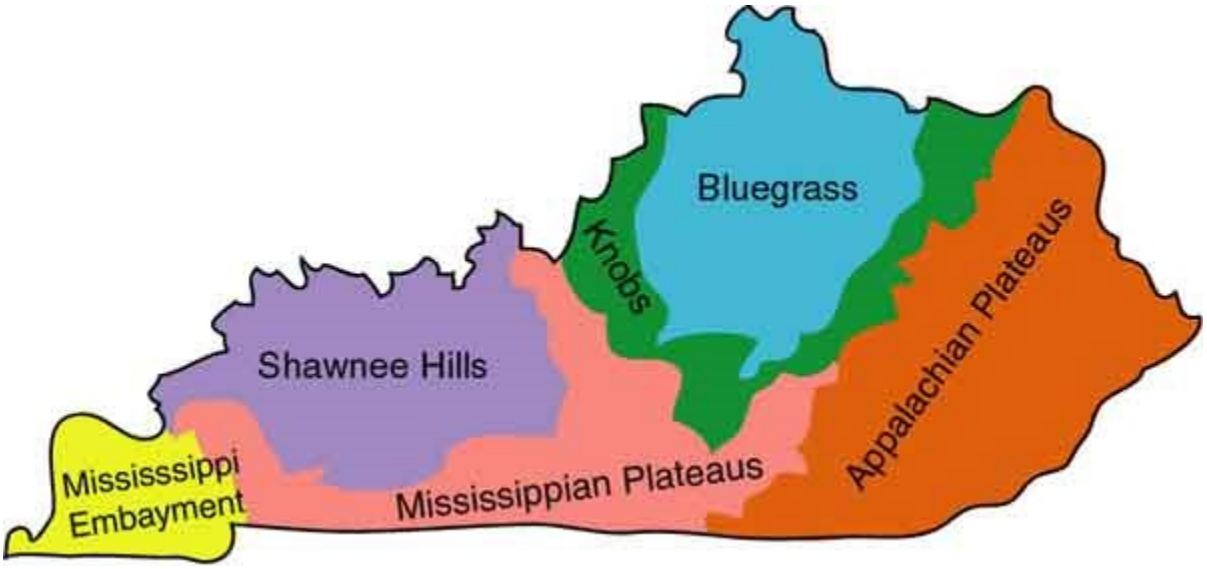

Image 5: Ecological Regions of Kentucky; the eastern part of the state is in orange and labeled "Appalachian Plateaus." Image from University of Kentucky Horticulture Department.

Background: Eating in the US

To understand eating in the United States, it's important to understand the political economic, capitalist context that determines the availability and affordability of foods while simultaneously placing the expectation of a particular type of "healthy" eating on the individual. Capitalism in the late twentieth and early twenty-first centuries is characterized by neoliberalism, or "a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade" (Harvey 2005). The coupling of public and private interests has dominated North American life and anthropological work since the 1980s and spread throughout other nation-states across the world. The food system of the late twentieth and early twenty-first centuries provides a clear example of neoliberal capitalist decision making as it influences global systems and exacerbates chronic metabolic and mental health conditions.

The globalized food system that emerged post World War II was characterized by a reorganization of grain production and distribution (Friedmann 1982). This international food order enrolled diverse communities into the marketplace of food, distancing people from direct ties to land and food production. "For people separated from the land," Friedmann writes, "an increase in the price of food threatens a crisis in a different sense, a crisis of subsistence." Between the 1950s and the 1970s, the United States, using Green Revolution technology and chemicals borrowed from military

operations, developed the largest grain surplus in the world. Policies diverted grains to food aid and exports, which negatively impacted grain prices elsewhere. “Cheap food” policies supported urban growth and a preponderance and reliance on processed foods. Broadscale commodification of food was dependent on and encouraged the specialization of industrial agriculture and reinforced the importance of work to survival, as those without wages struggled to eat.

The institutionalization of neoliberalism in the 1980s and the passage of the North American Free Trade Agreement (NAFTA) in the 1990s accelerated the increase in cheap processed foods and low wage jobs (Otero 2018). Through state intervention and liberalization of the transnational food industry, a “neoliberal diet” emerged in North America, comprised of basic and luxury foods. Basic foods include processed food and cheap meat that are widely accessible to most individuals regardless of income. Luxury foods are more expensive items, such as fruits, vegetables, and costly cuts of meat. Focusing on the distribution of goods within North America, Otero describes how basic foods are increasingly exported from the United States to Mexico as luxury foods are shipped out of Mexico and into the United States and Canada. Following NAFTA, corporations increasingly outsourced manufacturing jobs to Mexico, where they could pay lower wages (Galvez 2018). As U.S. corn flooded Mexican markets, undermining local prices, an increasing number of Mexican laborers left rural communities for urban centers and found themselves in low paying jobs. Consequently, the poor in both the United States (who saw job losses or shifts to low paying service jobs) and Mexico spend

a greater amount of their income on food while the rich spend more money on all types of luxury and basic food items. In short, wealthier nations' dependence on food imports enhanced food vulnerability and insecurity among the poor everywhere as the wealthy increasingly feast on 'exotic' luxury foods.

Alyshia Galvez points out that "food security is a purely market-based concept" (Galvez 2018) that is "complicated by issues of governance and power" (Vel, et al. 2016). In this way food insecurity is a product of neoliberal capitalist relations. For example, rural food insecurity in Alaska is largely the product of larger political economic policies including increased fuel and food prices and changing agricultural landscapes due to climate change (Fazzino and Loring 2009). The influx of rural residents into urban centers put increased pressure on food assistance programs, contributing to a further stretching of already thread-bare resources. In another example, the uneven development of Oakland, California concentrated the poorest residents in the most devalued locations, restricting access to land to grow food, producing a co-reliance on low wage jobs and store-bought foods (McClintock 2011). Finally, across the United States, racial projects undertaken by the federal government stripped indigenous peoples of their land, forced them to assimilate via boarding schools and distribution of government (surplus) foods, and contributed to mass death (Norgaard, et al. 2011). Indigenous peoples were increasingly limited from accessing land that they traditionally hunted, gathered, and fished on, unless they carried the proper (expensive) permits. In short, much like disasters, food insecurity is the result of "conscious and unconscious

choices" made by various people in positions of political and economic power (Oliver-Smith 2022). Like the communities discussed here, individuals I work with in eastern Kentucky face similar structural inequalities and discriminatory practices due to assumptions of what it means to be Appalachian and what it means to be poor.

The political project of public health often obscures the political economic context outlined above. The increased use of industrial, store-bought food since the mid-twentieth century tends to be interpreted by public health officials as a lack of nutrition knowledge or lack of desire to eat healthier among low-income people (Alkon, et al. 2013). This individual responsibility approach to health and food consumption obscures systemic injustices and conflates the solution (an increase in stores) with the problem. "Education based solutions," Alkon and colleagues write, "uphold the notion that an individual is entitled only to those goods for which their assets and resources can be exchanged, rather than creating a right to healthy food." What foods are readily available is only one aspect of what people eat. Focusing only on supply side factors overlooks the importance of social eating, food values, and desires. While price plays a key role in food decisions among low-income people, they are not "unthinking dupes of the corporate food system motivated only by appetite" (Alkon, et al. 2013) but live in complex social worlds with various barriers and preferences.

Food preferences are shaped by a mixture of socio-cultural factors. During her ethnographic work attending Expanded Food and Nutrition Education Program (EFNEP) workshops in upstate New York, Janet Fitchen came to understand how "hunger in

America, like the poverty that spawns it, must be understood in relation to the standards of living and eating in the surrounding society" (Fitchen 1997). Eating patterns, in other words, are shaped by the context of poverty, such as the uneven distribution of food within households, feelings of anxiety and deprivation around food, preoccupation with food, and food as a source of interpersonal friction. Eating patterns are also shaped by general American culture, as, for example, certain foods are heavily advertised to create desire and food often serves as the cornerstone to social interactions and celebrations. Fitchen also suggests that "in America there is a strong cultural belief, enshrined in government food assistance programs, that the poor should eat differently from other Americans because they are different." She provides an example of a low-income consumer purchasing a prime cut of steak using food stamps; an act that is anathema to what a poor person "should" eat and reads as a waste of taxpayer dollars. This resonates with Alkon's observation that education-based solutions to inequality in the food system tend to emphasize entitlements that reflect broader American cultural understandings of hard work and deservingness (Alkon, et al. 2013).

The mismatch between what a person desires to eat and what they are expected to eat can be understood through the concept of "double binds" or "contradictory positions in which people's symbolic understandings become insufficient in the face of economic and social change" (Gross and Rosenberger 2010). For example, small towns in rural Western Oregon shifted away from local food systems towards industrial, store-bought food following the growth of the timber industry. Food habits from childhood

often clashed with health advice that individuals encountered as adults, thus pitting memory, comfort, and pleasure against "health" (Mol 2012). Following the decline of the timber industry, even those who desired to eat healthy were often unable to afford their preferred foods (Gross and Rosenberger 2010). A second double bind concerns symbolic status via products such as computers, cars, or other material goods that signal middle class values to those within the community. Food, which readily and immediately disappears from sight, may play a less important social role.

In other contexts, food may be a way to virtue signal class and racial identification. For example, families across the socio-economic spectrum living in the San Francisco Bay Area assign symbolic value to food and that value shaped their dietary choices (Fielding-Singh 2017). For low-income parents, food became "a symbolic antidote to a context of deprivation" as food emotionally satisfied children and reinforced one's own identity as a parent and caregiver. On the other hand, higher income parents described proper caregiving as cutting their children off from food desires that were deemed unhealthy. In this way, making sure children eat the "right" food signals a particular type of middle- to upper-class, white, family life. Those families that fell in the middle fluctuated between these two responses, sometimes giving into children's desires, while at other times strictly prohibiting the intake of "unhealthy" foods. Across income level, most parents had diet-related goals for their children with differences attributed to unequal material conditions.

Local food initiatives also play a role in the symbolic value of food within the United States, as local foods – along with 'organic' or 'natural' foods – often carry class- and race-based values. Popular local food activists, such as Michael Pollan, prescribe an individualistic "vote with your fork" approach (Pollan 2009) to countering neoliberal structures of political economic powers, an approach that falls short of necessary structural changes. As Julie Guthman points out, "many of the discourses of alternative food hail a white subject and thereby code the practices of alternative food as white" (Guthman 2011a). Furthermore, the local food movement within the United States often ignores the needs of low-income individuals as programs and initiatives follow capitalist principles of profit, growth, and efficiency (McEntee 2011). Based on ethnographic work in the Northeastern United States, McEntee highlights the ways in which local food systems may re-inscribe the class and race-based symbolic values of food, placing local food within the same box as Fitchen's steak – foods that "should not" be eaten by minority and low-income individuals. Instead, McEntee suggests a "traditional localism" that articulates with food sovereignty projects (Bernstein 2014; Edelman, et al. 2014; Jarosz 2014; MacRae 2016a) that work to promote "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems."

Beyond prescribing who 'should' eat what foods, local food initiatives may cut concerned citizens out of broader conversations and organizational efforts to create just

food systems. In North Carolina, middle- to upper-class consumers who desired the status of purchasing local, organic, or natural foods purchased products rather than engaging in broader organizations or political protests for food justice (Nonini 2013). The local food movement among these individuals became an isolating place that actively reinforced class and race privilege. What these examples point to is the multiplicity of responses to the neoliberal industrial food system that attempt to overcome or unintentionally reinforce the political economic mechanisms and ideologies of a capitalist system that withholds food from those who cannot pay. The local food system, in some instances, may also work to produce understandings of certain foods and spaces as the property of the wealthy and white.

In summary, the political economic forces that contribute to the current industrial food system create differential experiences for individuals based on class, race, gender, ethnicity, age, and geography. Local food systems may be liberating spaces of food justice and equality, or merely reinforce the commodification and symbolic values of food, albeit on a smaller scale.

Background: Appalachia

Appalachia has, since the first white settlers displaced indigenous populations, been involved in national and global systems; natural resource industries, including gold, copper, iron, lumber, coal, and salt, contributed significantly to national and international markets (Lewis 2004). Anthropological work in the North Carolina mica industry (Anglin 1992) and eastern Kentucky tobacco towns and fields (Kingsolver 2011)

provides further evidence of heterogeneity, power relations, and global economic connections throughout the late 20th and early 21st centuries. The dominant industry during most of the early 20th century, however, was coal (Lewis 2004). Following the Civil War, in which both Union and Confederate armies destroyed transportation and industrial infrastructures across the region, coal rose to prominence as the north built itself as a large industrial center. Between 1870 and 1920, Appalachia was flooded with immigrants from a variety of nations and African Americans moving north. This movement of people into, through, and out of the region is a consistent characteristic of Appalachia, intimately linking it with diverse populations within the U.S. and elsewhere.

Company towns, in which all goods and services, including food and housing, were owned by the coal company, became one of the "defining features of life in the region" (Lewis 2004). Residents of coal towns, however, were not complacent to company control, low wages, and unsafe working conditions. As early as the 1870s, coal workers organized through the Knights of Labor, which later merged with another local union to become the United Mine Workers of America (UMWA) (Hennen 2015). Unlike the national American Federation of Labor (AFL), the UMWA included African Americans and organized all coal workers, not just those with more specialized skills. Throughout the 20th century, coal workers and their wives, sisters, mothers, and friends organized and enacted strikes on behalf of worker safety and rights. Time and again, however, "the coal companies prevailed because the local, state, and federal governments intervened on the company's side to break organized labor" (Lewis 2004). By the end of

the 20th century, global developments in mining technology shifted mining work from reliance on human labor to mechanization. This shift, along with exhaustion of resources, cost communities reliable, well-paying jobs, while devastating and destroying the environment.

The biodiversity of the forested, mountainous Appalachian region, with its ancient geographies, old hardwoods, and fresh wells is invaluable. bell hooks writes of the backwoods of Appalachia as a place she could retreat to escape the violence of class and race (hooks 2009). As such, the forests of her Appalachian home were "a threat to imperialist white supremacist capitalist patriarchy" as it allowed her and others to imagine a different, better world. Such dangerous imaginings led to the creation of "the notion that folks who inhabited these spaces were ignorant, stupid, inbred, ungovernable." The proliferation of such stereotypes suppressed other ways of living and subsumed both human and non-human life to capitalist exploitation. "Appalachia's energy landscape," writes Brian Black, "is one of the clearest expressions of a specific American environmental ethic: extraction" (Black 2011). Similarly, Rebecca Scott, writes of Appalachia as a sacrifice zone, or "a place that is written off for environmental destruction in the name of a higher purpose, such as a national interest" (Scott 2010). A key feature of the environmental destruction of Appalachia is the ways in which it (specifically: mountain top removal for coal extraction) is hidden from consumers, by both the natural geography of the mountains and the careful selection of sites by corporations (who extract the most profit) (Bell 2016; Black 2011). Even when hidden,

mountaintop removal sites profoundly impact local communities. Floods destroy their lands (including disturbing family and community grave sites) and coal dust coats entire towns, covering the outside and inside of homes (Bell 2016).

The effects of mountain top removal are also felt beyond local communities, as water contamination is widespread, flowing out of the region. Karen Harper-Dorton and Stacia Harper write about the entanglement of water and energy as water is used to produce energy and energy is utilized to provide clean water (Harpter-Dorton and Harper 2015). “The water-energy nexus,” they write, “raises social justice concerns as poor people in rural developing regions are heavily burdened by the lack of access and/or affordability for clean water, sanitation, or electricity”. In other words, as national and global corporations reap the profits of environmental destruction, those most at risk pay the heaviest prices in terms of physical and mental health. Additionally, as most of the profits are made by nonlocal entities who do not pay local taxes, basic services such as postal work and education are underserved and were closed or consolidated under the auspices of “efficiencies and savings” (Smith 2014). While environmental justice efforts in the region have been plagued with problems such as low community engagement and involvement (Bell 2016), it is imperative to include diverse local perspectives in environmental movements.

Appalachia is a massive region, spreading across thirteen states and home to twenty-five million people (Obermiller and Maloney 2016). Communities and neighborhoods vary by social class, geography, and degrees of rurality or urbanization.

To argue that there is one "Appalachian culture" is, therefore, misguided as it assumes Appalachia is singular, static, and fixed. In his memoir "Appalachia North," Matthew Ferrence, a creative writer from Pennsylvania, struggles to place himself within broader, popular narratives of what it means to be an Appalachian (Ferrence 2019). "Ultimately," he writes, "this is one of the chief problems of being Appalachian, that we're not afforded the capacity of multitudes." Appalachians, like global citizens anywhere, regularly incorporate multiplicities into their identities and modernity into their lives. "In contemporary terms," Obermiller and Maloney write, "when bullet points or a set of expected behaviors or beliefs are used in conjunction with the words "Appalachian culture," the information presented is usually both inaccurate and stereotypical" (Obermiller and Maloney 2016). Furthermore, "cultural content" or lists of Appalachian "characteristics" only represent very small localities and tend to focus only on positive characteristics, paving over local conflicts and tensions. By exploring and expressing the diversity of peoples, behaviors, and beliefs within the Appalachian region, scholars have contributed to broader theorizations of culture. Defining a culture "often tells us more about the biases of the observer than the nature of the people being observed" (Obermiller and Maloney 2016). Rather than falling back on reductions or insider/outsider dichotomies, social scientists are observing and writing about human behavior as dynamic and dialectic, founded on social interaction.

Such social networks and interactions have played key roles in Appalachian food systems. The increase in industries and technological developments of the mid-19th

century led to a commercial transformation of farming throughout the United States. Central Appalachia, however, continued to farm primarily for household subsistence, the largest exception being commodity livestock production (Pudup 1990). Most labor was performed by hand, meaning that, particularly during the spring planting and autumn harvest, labor exchanges between households were key to successful household reproduction. Households focused on their own consumption needs, and any goods or products left over might then be sold or exchanged. In this "safety-first" household reproduction model, "the ability to achieve subsistence, and hence reproduce the household on an annual basis, did not become dependent on the ability to produce for a market." Subsistence agriculture supports the (re)production of networks of sharing within families and the community and articulates with the American value of independence. Specifically, Patricia Beaver found that within certain Appalachian communities, independence and adulthood were deeply tied to marriage and the recognition of a new nuclear unit (Beaver 1978). While families attempted to be self-sufficient, their survival was highly dependent on cross-household cooperation and the development of reciprocal relationships.

The history of farming and agriculture in Appalachia, however, is not as straight forward as families willingly engaging in household subsistence. For example, while biscuits and cornbread are popularly lumped together as symbols of 'the South' or 'the mountains,' biscuits were introduced to the region as a result of Progressive Era programs that sought to sanitize the lives and practices of local communities

(Engelhardt 2011). Cornbread, a quick, easy, traditional food, made from homegrown corn rather than industrially processed wheat flour, was perceived as dirty and unhealthy. The more complicated biscuit, on the other hand, became a symbol of progress and participation in broader American (consumer) culture. In practice, the simple shift to biscuits undermined practices of homegrown food production, fostered a reliance on markets for food, and consumed an increasing amount of women's time and energy. Of course, cornbread remained a mainstay of many homes and communities, highlighting the resistance and agency that flourished amidst struggle and exploitation. Another example that highlights the tensions between willing participation and involvement in relations of power is found in the company towns of the coal fields, as "coal operators wielded subsistence as a weapon" (Stoll 2017). This was achieved through company-owned food stores as well as the explicit encouragement to garden. The idea behind such "captured gardens" was imported from British landlords who "realized that they could ensure adequate nutrition for their workers and reduce the wages they paid by shifting the burden of survival onto laboring households." In other words, gardens allowed employers to pay lower wages for work due to the unpaid subsistence labor of (mostly) women and children.

As a large, diverse region, Appalachia has always been entangled in national and global webs. While multinational corporations profit off the low wages of workers in a variety of industries, workers resist through strikes, environmental justice movements, writing, gardening, and other everyday activities of living.

Research Methods

This dissertation draws on the more than five years of experience I have working within eastern Kentucky communities as an anthropology student, research dietitian, and program manager (more on my positionality below). Program management and participant observation at farmer's markets, community events, conferences, shared meals, farm visits, and friendly visits form the backbone of my understanding and interpretation of the data collected for this project. Due to the Covid-19 pandemic, beginning in March 2020, data collected specifically for this project – including surveys and interviews – occurred online.

Survey Data

Surveys were administered online and distributed via social media in June 2020 and again in March 2021. In June, 181 participants completed a survey; of those, 56 completed the survey again in March. Eligibility criteria included being over the age of eighteen and currently living in eastern Kentucky. Of the initial survey respondents (n=181) 77.5% were from my primary research county; the remaining 22.5% of respondents were from surrounding or nearby counties. Advertisements for the study mentioned the interview and survey questions concerned food and disordered eating (defined in the ad as "periods of not eating, overeating, or a combination of the two). All survey participants received a $15 WalMart gift card or $15 to the local farmer's market. All interview participants received a $25 Amazon gift card.

The first part of both surveys included basic demographics: age, gender, income, number of people in the household, occupation status, perception of income (more, less, or enough to make ends meet), diagnosed diseases, participation in food assistance programs, and whether they grow their own fruits and/or vegetables. The second portion of both surveys contained the Eating Attitudes Test (EAT-26), a 26-item screening tool for disordered eating behaviors, which has been found to be highly reliable and valid among various populations (Garner 1982). Answers are on a six-point scale, ranging from "never" to "always." A score of 20 or above is indicative of clinically relevant disordered eating. Repeating the survey allowed for an assessment of disordered eating over time. This was important particularly given the context of the Covid-19 pandemic and the uncertainty and stress that might have altered eating behaviors during summer of 2020.

Data was analyzed using SPSS v 26 (IBM Corporation 2019). Descriptive statistics were conducted on demographics. This data is presented below in Figure 1 (Age), Figure 2 (Income), Figure 3 (Gender), and Table 1 (other key demographics). In general, survey participants tended to be married white women in their thirties with an income over $40,000 per year.

Chi Square Analysis and ANOVA were conducted on key variables to assess differences in scores; Independent Samples T-tests were run on variables with statistical significance. Paired Samples T-tests were utilized to compare survey results from pre (June 2020) to post (March 2021).

Interviews

Semi-structured interviews were conducted online via Zoom from September to December 2020 with thirty-two community members, teachers, social workers, food pantry volunteers, farmers, local food activists, food systems specialist, Cooperative Extension Agents and workers. Seventy-five percent of all interview participants lived in my primary research county; the other twenty-five percent lived in surrounding or nearby counties. Semi-structured interviews allowed for participant-led discussions about food procurement before and during the Covid-19 pandemic, food availability and eating habits during the Covid-19 pandemic, and disordered eating behaviors.

All interviews were transcribed verbatim and coded in NVivo (QSR International Pty Ltd 2020) following a Grounded Theory approach (Strauss and Corbin 1994; Strauss and Corbin 1990). Demographic information was collected at the beginning of each interview and is presented below in Figure 1 (Age), Figure 2 (Income), Figure 3 (Gender), and Table 1 (other key demographics). Interview participants tended to be married white women between thirty and fifty-nine years old with an income over $60,000 per year.

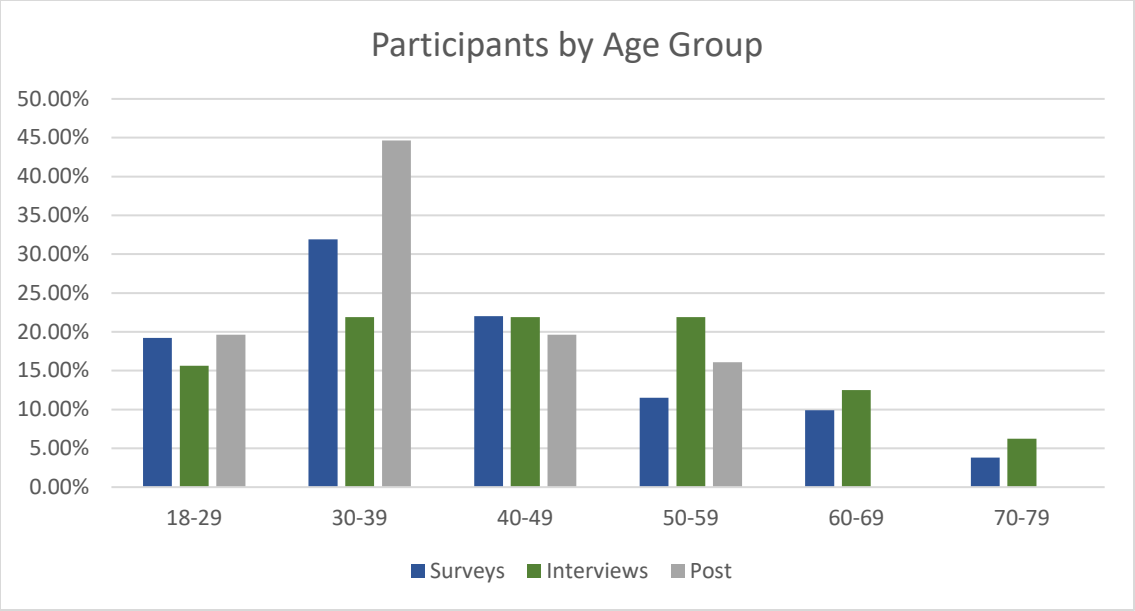

Figure 1: Survey (June 2020), Interview (September-December 2020), and Post-Survey (March 2021) participants by self-reported age

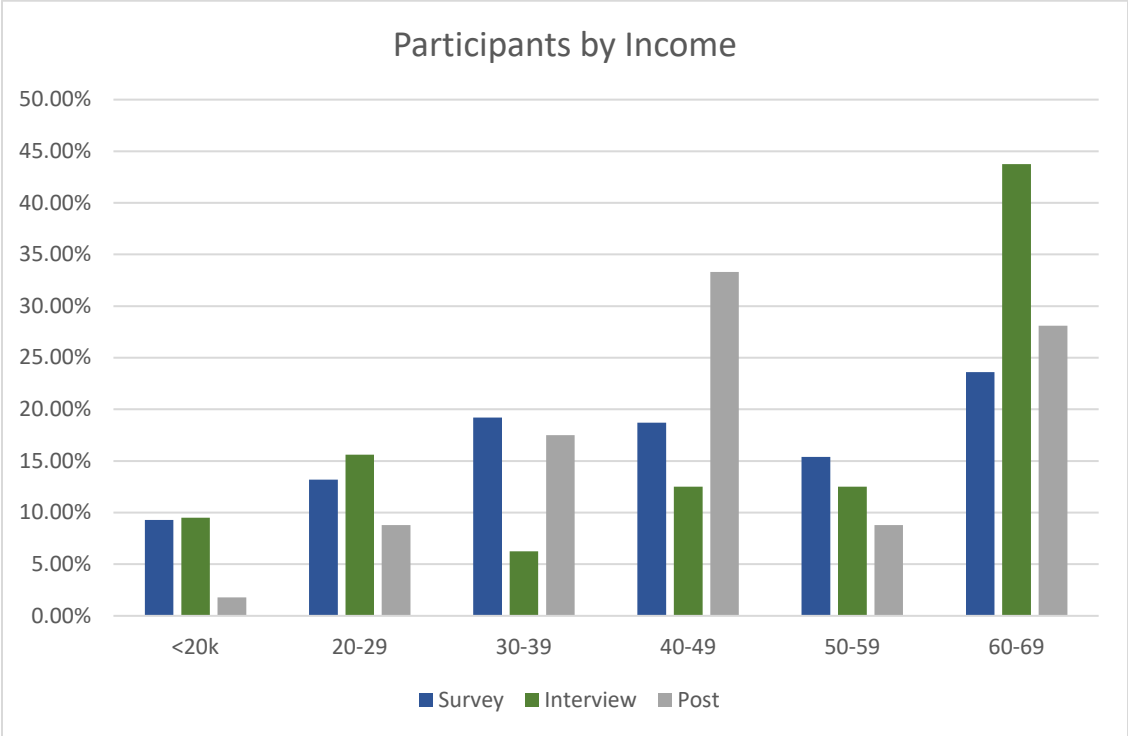

Figure 2: Survey (June 2020), Interview (September-December 2020), and Post-Survey (March 2021)
participants by self-reported income

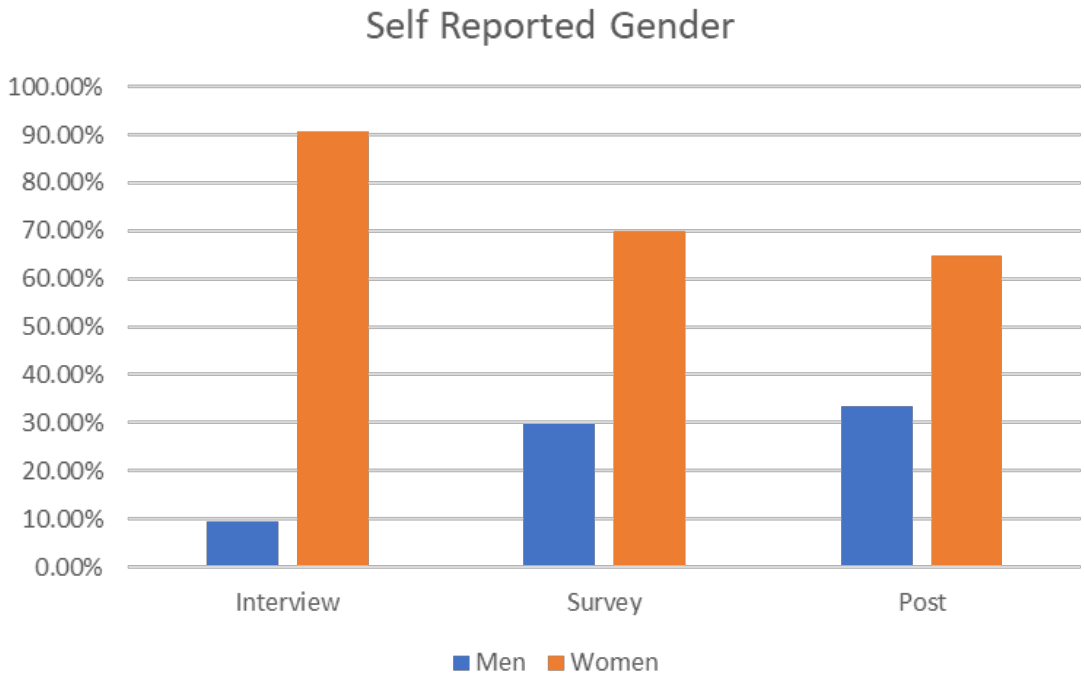

Figure 3: Survey (June 2020), Interview (September-December 2020), and Post-Survey (March 2021)
participants by self-reported gender

Table 1: Other key demographics of Survey participants

	Survey (June 2020) n=181	Post (March 2021) n=56	Interview (September-December 2020) n=32
White	92%	95%	97%
Married	70%	75%	72%
Employed Full Time	56%	60%	53%
Enough money to make ends meet	50%	58%	81%
Self-reported "good" health	45%	52%	*Not asked of interview participants

Metabolic and Anthropometric Data

I directly collected or directed the collection of all biometric and anthropometric data during my work as program manager of the University of Kentucky Superfund Research Center Community Engagement Core. More details about the feasibility study this data was collected for are included in chapter three. In short, a convenience sample of participants signed up for the program in May of each year at a familiar, public location and participated in pre-study measurements (detailed below). Participants were recruited through word of mouth; participants heard about program sign up days from friends and family as well as grassroots discussions of the program on social media (primarily Facebook). The program was named "Tanglewood to Table" by the

community in 2018 in reference to a nearby landmark. Each week during the farmer's market season (June-September), participants of Tanglewood to Table (T2T) walked approximately 1.2 miles (round trip) down a paved path to and from the farmer's market. When they reached the market, they signed in at a booth run by a community member and received ten dollars to spend on fruits and vegetables. Post-measurements were collected at the end of the season, typically in September or October. Each May sign up was open to all community members, not just prior participants, but there was overlap in participation across years. For example, the data presented in chapter three was collected from the same twenty-five people who participated in the program over three years (2017-2019).

Pre and post measurements were collected by a team of undergraduate and graduate students over the course of two to three days. I trained all students on proper equipment use prior to initiation of research, including hands on demonstrations with all research equipment. During data collection I managed all students, oversaw all interactions between students and participants, assisted with equipment troubleshooting, and stepped in to collect data when students needed a break.

Biometric and anthropometric data collected and analyzed in this study include: A1c (a measure of blood glucose over the past three months), lipid panels (triglycerides, LDL, HDL, and total cholesterol), blood pressure, weight, waist circumference, and skin carotenoids (a non-invasive measure of fruit and vegetable intake). All data collection occurred at a familiar, public location with a "station" for each measurement. Upon

arrival, after giving consent, participants received a paper survey to complete. After returning the survey and receiving a unique identifier, they were handed two sheets of paper with a space for each anthropometric and biometric measurement. Typically, participants would begin with finger stick measurements, followed by weight, height, waist circumference, and carotenoids, and ending with blood pressure. Results from each station would be written down on both sheets of paper; one for data collection (with their unique identifier) the other for their own reference. All collected data was de-identified at the point of collection. All data was entered by research assistants, under my supervision (and regular spot checks) and stored in a locked cabinet in my locked office on campus.

Anthropometric measurements were collected utilizing a research-grade stadiometer (seca213) and scale (Omron HBF516B). Participants were asked to remove shoes prior to measuring their height and to remove any outer clothing (such as jackets, sweaters, and shoes) before stepping on the scale. Blood pressure was collected using an automatic upper-arm monitor (Omron Model BP742N) after the participant had been seated, with legs uncrossed. Participants were asked to remove bulky outer clothing (such as jackets or sweaters) prior to measuring their blood pressure. Non-invasive carotenoid scans, using reflectance spectroscopy, or shining a light on the skin of the nondominant pointer finger, were collected with a portable Veggie Meter® (Images 7 and 8 below). Participants' fingers were cleaned with medical disinfectant wipes prior to carotenoid scans. Blood pressure, carotenoid scans, and waist circumference were

measured three times to ensure accuracy. Biometric measurements were collected utilizing finger-stick measurements for lipid panels (Cardiocheck PA) and HbgA1c (PTS Diagnostics A1C Now). Participants used hand sanitizer to disinfect their hands prior to measurement. Push button 17G Acti-Lance lancets were used to draw participant blood, typically on the side of the pad of their nondominant ring finger. Results for both tests were available in under five minutes.

Image 6: Author taking finger stick lipid and a1c measurements with T2T program participant

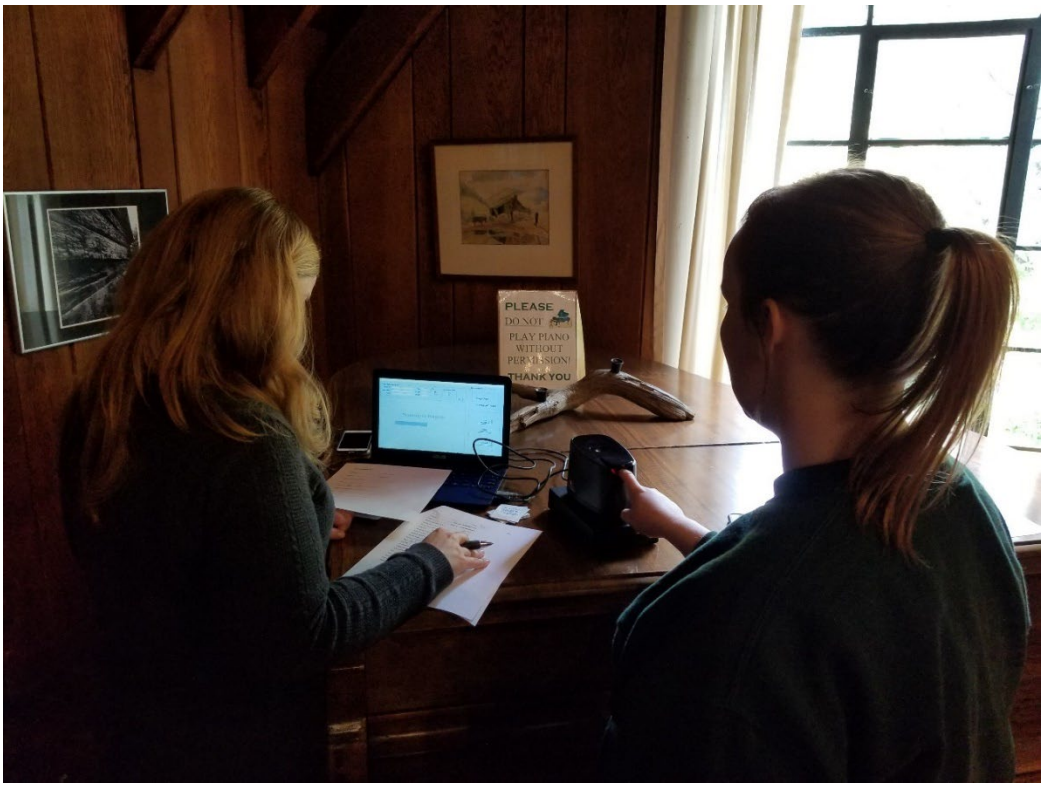

Image 7: T2T participant having their carotenoids scanned by a student research assistant

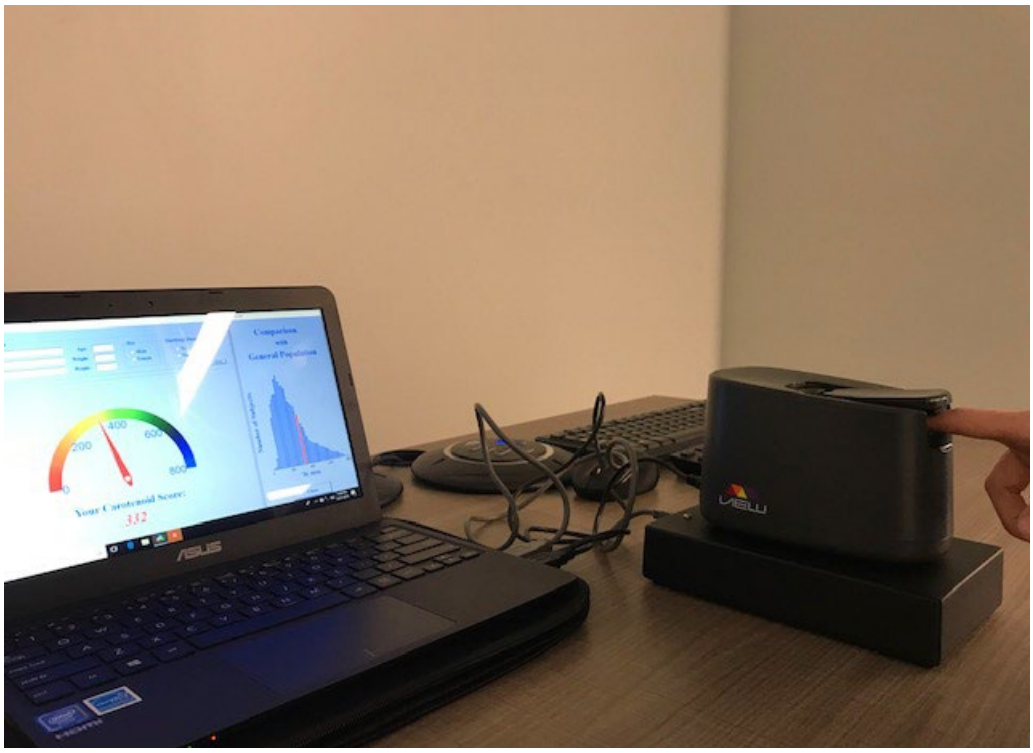

Image 8: Close up of carotenoid scanner

This study includes twenty-five individuals who participated in T2T over three years (2017-2019). All data was analyzed using SPSS v26 (IBM Corporation 2019). Repeated measures ANOVA were run on all anthropometric and biometric outcomes for which data was available for all timepoints. Analysis of Covariance (ANCOVA) was run on statistically significant findings to control for income, gender, employment, education, ability to make ends meet, and, whether the participant was on medication for diabetes, high blood pressure, or high cholesterol (yes/no question; specific medications or regularity of medication use were not collected). Survey data collected at each pre- and post-time point included demographic questions. In general, the twenty-five

participants of this study tended to be middle aged white women with at least a high school diploma (Table 2).

Table 2: Key Demographics of twenty-five three-year participants of T2T

Demographics	n = 25
Women	68%
White	100%
Age	51.9
Income <$20k	40%
Income $60k+	28%
Employed Full or Part Time	36%
Retired	32%
High School Education	48%
College Degree	8%
Masters Degree	16%

Strengths and Limitations

There were clear benefits to moving data collection online due to the Covid-19 pandemic. My original plans included distributing one survey, in person at an eastern Kentucky farmer's market. Distributing the survey online increased participant numbers,

as it was shared with friends and family across social media networks within eastern Kentucky. It also afforded the opportunity to reach out to the same participants for a follow up survey in March 2021. Conducting interviews online also had benefits – there was no need to find and coordinate a location for interviews and scheduling limitations were easily accommodated. When I began my interviews, most people had been self-isolating and physically distancing for months, myself included. The opportunity to talk with someone outside my household or immediate family and friends felt exciting, new, and welcome; feelings I would confidently state were shared by most of the people I interviewed.

Of course, much was lost due to the online nature of data collection. I was unable to engage in informal conversations that would have occurred during survey distribution at the farmer's market. Similarly, the last meaningful amount of time I spent in my research community was in early March 2020, approximately one week before economic shutdowns began in response to the pandemic. The affective nature of sharing physical space with another person and concomitant body language and cues were lost over the Zoom platform I used to conduct interviews. Furthermore, recruitment for both surveys and interviews occurred via social media. While advertisements for both portions of the study were shared by the local farmer's market and picked up and shared by other individuals, those without a social media account or with unreliable or no internet would not have been able to participate. This is a particularly noteworthy limitation given the unreliable nature of internet connection in

eastern Kentucky. This may also be a partial explanation for why the majority of participants were white women whose self-reported household income was enough to make ends meet. Women are more likely to take on childcare responsibilities and during the pandemic, more women left the labor force than men (Fry 2022), and were thus more likely to be home and able to spend one to two hours talking with me.

Due to the nature of the advertisement for the survey and interviews, it is possible that only people who experienced (and knew they experienced) disordered eating participated. Chances of such responder bias should have been mitigated by the gift card incentives.

Conducting this research online also precluded an exploration of some key questions that remain from this research. Namely, who was left out of the programs and networks I highlight? What do relationships between community groups and individuals look like on the ground, particularly around issues of power and access to resources? Who do people *not* share with and what is it that is *not* shared? What sorts of boundaries and conflicts exist that I was unable to observe?

Additional limitations apply to the metabolic and anthropometric data collected from the T2T program. First, the sample size of three-year participants was small, at twenty-five. Given equipment malfunctions or an individual missing a measurement time due to illness or vacation, some sample sizes fall below twenty. Additionally, this was a feasibility study utilizing a different convenience sample each year. Due to the

structure of the grant this study was funded from, recruitment numbers fell from over 120 in 2017 to just over 60 in 2019. Due to funding limitations, a power analyses did not drive recruitment numbers or data analysis. Second, the data is longitudinal, with no control data from prior to project implementation or from a similar group who did not participate in the project. Third, data represent a small portion of an eastern Kentucky community; it may reflect local conditions and not be generalizable to the broader community, state, or country.

World Building

In a way people like her – those who wield a pen – can be dangerous. At once a suspicion of vaguery springs to mind; that such a person is not him or herself but an eye that's constantly watching and whatever it sees it changes into sentences, in the process it strips reality of its most essential quality: its inexpressibility. – Olga Tokarczuk

The events I recreate at the beginning of this chapter illustrate the worlds I operate in, how I move through them (and how they move through me), how they overlap, and introduce my approach to interpreting my fieldnotes. My undergraduate studies in anthropology were deeply influenced by the teachings and writings of Paul Stoller, who encouraged me to develop a phenomenological and narrative approach to writing. He also taught me to see how all research tells a story and that no research can tell the whole story; that often what is hidden and inexpressible is the most affective and important. I was also deeply influenced by Renato Rosaldo's emphasis on positionality, including emotions and reactions of researchers and participants in ethnographic accounts. I cannot pretend at emotional distance from program

participants, or in response to stereotypes or injustices. As I will describe next, my fieldwork experiences had a deep impact on the development of the questions I asked.

Since the fall of 2016 I have worked as a research Dietitian at the University of Kentucky, on a federally funded National Institute of Environmental and Health Sciences grant. The piece of the grant I was included on was part of the university's Superfund Research Center Community Engagement Core, focusing on increasing fruit and vegetable intake throughout Kentucky to protect against the negative effects of environmental pollution. In practice, this meant coordinating and managing multiple projects and relationships across the state. One project works with community organizations and cooperative extension to provide the resources and information for participants to grow and maintain blackberry bushes as a free source of nutrient-dense (normally expensive) fruit. I have traveled, mostly to the eastern part of Kentucky, into the Appalachian Mountains, to provide cooking demonstrations, share recipes, meet with extension agents and other community leaders and members, and, of course, eat.

The largest and most logistically intense project was the Tanglewood to Table walking program introduced above, which I managed from 2017-2020. Participation was open to anyone over the age of 18 who was interested. Invested community members helped run the program on the ground, from spreading the word at the time of recruitment to encouraging participants to walk the full 1.2 miles. I would visit the market a few times every summer, for brief one day visits or up to a full week at a time.

An additional piece of participant recruitment involved metabolic, anthropometric, and survey data collection (described in detail above). Metabolic data collection involved finger stick blood measures for markers of diabetes and heart disease. Anthropometric data collection involved taking height, weight, and waist circumference measures. Despite the intimate nature of holding someone's hand in yours in order to take their blood (Image 6 above), most people expressed little to no hesitation or trepidation in having their metabolic measures taken. When asked to step on a scale, however, I received everything from apologies ("I'm sorry I'm too heavy for your scale") to jokes ("I hope you have an extra one 'cause I might just break it!") to pleading ("do I really have to get weighed?") (My answer to the latter: No, of course not. Though it is interesting to note that no one ever took me up on the offer to skip the scale). Within seconds I heard about weight loss attempts from surgery to pills to diets. I heard frustrations and exasperation and desperation. People would cover their eyes or stare down with an indescribable intensity. People, I learned quickly, regardless of age, gender, income, or ability, were hurting.

I choose the word "hurting" deliberately, as it is more active and action-oriented than a noun like *pain* or *discomfort*. To say they were "in pain" is accurate, but implies the individual is within its own state of being, one of pain. Hurting is dispersed, spreading into and out of one body and into and out of another. Hurting is affective.

I do not wish to exaggerate. While it is true that people underwent a distinct change during their time with me and the scale, within a few minutes they (at least

physically and socially) had shrugged it off. For them it was one interaction, possibly one they avoid, but are familiar with from their own bathrooms or doctor's visits. In 2017 I had this experience over one hundred times in three days. Clearly, I am still affected. Affect defies temporality. These moments do not occur in a vacuum, but are woven from the threads of historical exploitation, underpaid labor, and the structural inequalities of our capitalist food system that are absorbed by bodies, to manifest as weakened heart muscles or clogged arteries or enlarged lipid cells. In short, my experience as a registered dietitian and an anthropologist have helped me build a perspective that incorporates the overlapping and nonbinary nature of biology and culture. History, economics, politics, and social relationships work their ways into bodies and bodies, in turn, shape the contours of these. Economics and politics – to name just two – are not distinct or isolated spheres, but fluid contexts that are built by and in response to bodies. There is no dichotomy, no binary, and no boundaries when it comes to the health of bodies, politics, or economies.

My interactions in the field – as an anthropologist and a dietitian – are the touchstones for each chapter in this dissertation. In chapter two, I discuss three food aid programs that developed in response to the Covid-19 pandemic in the spring to summer of 2020. Participants received boxes of (mostly processed) foods and expressed both gratitude and frustration. Standardized, shelf stable food, after all, is not the most nutrient dense and often contains one or more allergens. Boxes provided food during a time of fear and uncertainty, undercut the agency of families to determine their own

food needs, and did not directly meet the needs of households without children. In chapter three, I analyze the metabolic and anthropometric data collected from twenty-five walking program participants over three years (2017-2019). Positive patterns emerged from the data, specifically concerning measures associated with the prevention of diabetes and heart disease. Biology is influenced by cultural products, such as access to medical care and a living wage. To contextualize the walking program and its suggestive but limited findings, I present key concerns from walking program participants and other members of the community. In chapter four I present another factor that contributes to health and disease – disordered eating. Disordered eating is a non-standardized term and phenomenon that, as a friend, colleague, and dietitian put it, "is like that old saying about porn. You can't describe it, but you know it when you see it." I understand disordered eating to encompass multiple relations as it affectively moves within and between bodies. It often features – but is not limited to – the ways in which people manipulate their food intake in response to medical diagnoses, weight loss attempts, and/or their relationships with others. Through a combination of a validated survey (the Eating Attitudes Test) and in-depth interviews, I explore what disordered eating is, how it affects individuals and those around them, and where it emerges from. Chapter five pushes back against the narrative of absence that often overshadows nutritional studies of eastern Kentucky, specifically when it comes to food. Through interviews and farm visits, I paint an alternative portrait of eastern Kentucky as overflowing with gardens and fresh produce in order to push for a turn towards food sovereignty in program development and implementation.

As with any good research project, this one left me with more questions than those with which I started. In the conclusion, I share these questions and how they might direct future research – my own and others'. I detail the potential applications of this research for scholars of rural North America – whether in anthropology, sociology, public health, or nutrition. These include looking beyond market-based solutions to health and poverty, considering social and affective qualities of food consumption, and developing policy that empower families and communities to act on their own deep, embedded knowledge for social, political, and economic change.

Before ending each interview in the late summer through early winter of 2020, I informally posed the same question: "Is there anything else you'd like to share about anything we've talked about?" Some people shook their heads, shrugged, and said "no, I don't think so." We would chat some more – when would I be in the eastern part of the state next, how terrible it is to drive in the city (Lexington), what batch of cookies to bake next – then hang up, the "end of meeting" box a jarring end to what felt like a meaningful connection. Lydia – who had lived in eastern Kentucky for years and recently moved back, after securing a state government job that afforded her the flexibility to live where she chose – paused, then shared the following comment:

"We want to produce healthy humans, we want our country, our communities, our cities, our towns, to be healthy. You know, like I truly believe in the statement like… as individuals [we] can only truly be as healthy as our communities. And our community members. And if we're not looking out for each other, and we're not setting our people up to succeed, what are we doing?"

Lydia's comment reflects an underlying theme interwoven through interviews and observations that constitute this dissertation, that despite the historical and contemporary inequalities, regardless of stereotypes and negative assumptions – despite the macro-level injustices – people are there, desire to be there, for one another. If anything is generalizable from this research, I hope – and I believe – that is.

Chapter 2: "Whoever needs food we'll feed them one way or the other": Covid-19 and Food Aid in Appalachian Kentucky

Introduction

"If you didn't produce at our house," sixty-five-year-old Francis told me, referencing the chickens, cows, dogs, cats, and geese she grew up around, "then you didn't stay, you got eat or you got traded." Reflecting on growing up in the 1970's and 80's, Holly said something similar: "We got everything we ate from the garden we planted…We just really felt like we were the same as anyone else. I look back at it now and I think, oh my goodness we didn't have anything! But I didn't know we didn't." Recent research has reported similar phrases from Appalachian residents - "we didn't know we were poor" - until the 1960s War on Poverty taught the Appalachian region (and the rest of the nation) that they were poor (Cardarelli, et al. 2020). Sixty years later, in 2019, the nation again learned, through various newspapers and media outlets, that almost half of the poorest counties in the country were located in eastern Kentucky (Anderson 2019; Kentucky 2019; Stebbins 2019).

The portrait of eastern Kentucky painted in the national imagination is one of dire circumstances, desperation, and fatalism (Billings and Kingsolver 2018; Billings, et al. 1999). The data behind these illustrations are important - eastern Kentucky, and in particular my primary research county, saw a 92% decrease in coal jobs – their main form of employment – between 1988 and 2018 (Estep 2018; Office of Energy Policy 2018). The biggest employers now are the school and healthcare systems. In 2019, pre-

Covid-19 and concomitant economic downturn, the poverty rate was 31%, as compared to 16% in the state and 10% in the nation (Appalachian Regional Commission 2019; United States Census Bureau 2021b). In 2018, 20.4% of people experienced food insecurity according to USDA measures which define it as a "lack of access, at times, to enough food for an active, healthy life for all household members and limited or uncertain availability of nutritionally adequate foods"(Feeding America 2018). This was a region already hard hit by extractive industries that, with nothing left to take, have left a vacuum of income earning opportunities, especially for men (Bell 2016; Black 2011; Wright 2019). The Covid-19 pandemic brought further uncertainty and economic precarity. Public and private institutions made the political choice to provide food aid to the region, rather than developing a system of distributive politics that could have better met everyday needs.

This chapter describes three direct food aid programs in an eastern Kentucky county that arose due to the Covid-19 pandemic. My primary goal is to uncover who governmental and corporate institutions value and how communities care for those who are left out. I argue that networks of care are grounded in a particular Appalachian history and identity, compressed and exported by the pressures of class marginalization and the myths of market-based solutions to poverty and food insecurity (Shannon 2013). This chapter contributes to growing anthropological insights into rural America, particularly Appalachia, that illustrate the importance of everyday relationships to the formation of networks of care, particularly in the wake of political economic

exploitation. It also highlights the care work that is integral to these networks and not recognized by market forces, bridging the anthropological studies of political economy and food studies. Ultimately, this chapter contributes to growing discussions within the social and political sciences that imagine a redistribution of wealth as foundational to solving the problems of late capitalism (Ferguson 2015; Fuentes 2022; Giles 2018; Giles 2021; Tsing 2015). In short, a distributive politics in the United States can be imagined and implemented to include direct cash payments, economic stability via jobs guarantees, universal basic incomes, state ownership of resources, and free and universal healthcare, childcare, and eldercare.

Background: Networks of Care and Distributive Politics

Numbers do not tell the whole story or paint a dynamic picture of what it means to live in one of the country's poorest regions. As Matthew Desmond and Bruce Weston write, "Measurement debates are important, but they focus attention narrowly on poverty's income dimension….For many, what researchers call poverty is better understood as something akin to correlated adversity that cuts across multiple dimensions…and institutions" (Desmond and Western 2018). Similarly, Alkon and colleagues argue that supply-side and market-based explanations of food insecurity ignore the agency and expertise of communities (Alkon, et al. 2013). Shifting the conversation to the "lived experience of scarcity" (Desmond and Western 2018) highlights the multidimensionality of poverty and food insecurity, namely the resources and strategies that exist outside capitalocentric systems and perspectives (Billings 2016;

Gibson-Graham 2006). A spectrum and specter of poverty and food insecurity exist in eastern Kentucky, alongside, within, and in-between community networks of care.

Maggie Dickinson observes “networks of distribution” among food bank recipients as they disseminate resources among family and friends (Dickinson 2020). I use the phrase “networks of care” to highlight the same phenomenon while emphasizing the care work that goes into building and maintaining relationships through which foods (and other goods) can be shared and exchanged. Care work is paid or (more often) un- or under-paid intimate labor that attends to the physical, mental, emotional, or spiritual needs of another person. “Caring,” writes Adrienne Pine, “and how we care, is reflected in the ways we challenge the dehumanizing practices and technologies of institutional hierarchies – and of corporate capitalism itself – on a daily basis” (Pine 2016). Networks of care comprise local systems of distribution among family, friends, and neighbors that challenge a reliance on market labor for subsistence while demanding constant work to maintain. Further, networks of care demonstrate the need and an extent infrastructure for largescale distributive politics that compensate this ongoing care work (Ferguson 2015).

Ferguson describes the underlying demand of a distributive politics as being “a proper share of things to be distributed to those who ought to have them. It is not a demand for a ‘right’ to such a share; it is a demand for the share itself” (Ferguson 2015). In the American imaginary, homes like the ones Francis and Holly grew up in are made into emblematic examples of rugged individualism. This is myth making at its best.

Gardens – often described as the size of "two basketball courts" or a "football field" – were (and continue to be) embedded in networks of care. Justine, a fifty-year old retired waitress remembers "My dad would never can anything….He'd always tell me put out for yourself and put out for your neighbor, you will never want for anything, you will always prosper." This sentiment illustrates how those who had the land, time, and physical ability to garden shared with those who – for any number of reasons – could not. The examples in this chapter are grounded in a small eastern Kentucky community, but resemble the networks of care identified among nutrition education participants in Kansas City (Kolavalli 2019), low income residents of Oakland and Chicago (Alkon, et al. 2013), rural Texas (Dean, et al. 2016), and rural Oregon (Gross and Rosenberger 2010). By focusing on networks of care activated in response to Covid-19 related food aid programs, I provide evidence that largescale distributive politics are needed in the United States and, moreover, would be an effective means of addressing the roots of poverty and food insecurity while maintaining the agency and dignity of recipients.

In United States society and political ideology, the agency and dignity of individuals is often deeply tied to participation in the formal market economy (Goode and Maskovsky 2001; Katz 2015; Piven 2001). This is reflected in conceptualizations of the "undeserving" and "deserving" poor, in which the "undeserving" poor are cast as making poor personal choices (for example, being lazy or addicted to substances) and therefore unworthy of assistance (Fisher 2017). Increasingly, the deserving poor – those who are worthy of and qualify for assistance – are low-income workers "who are framed

as deserving because they work" (Dickinson 2020). Public assistance – whether for food or medical care – has become linked to participation in the market, "encouraging working people to accept the increasingly poor terms employers are offering them" (Dickinson 2020). Given historical precedents and religious traditions that value hard work and individualism, participation in the market economy must provide all workers with, at minimum, a living wage, healthcare, and paid leave. Furthermore, public support via a distributive politics must be made available for those who cannot or do not directly participate in the market. As James Ferguson states, "As for making a contribution to society, there is simply no basis at all for the idea that those not in wage labor make no such contribution" (Ferguson 2015). In this chapter, the concrete policy objectives of a distributive politics in the United States include, at a minimum, universal healthcare and a guaranteed basic income, but also publicly funded higher education, universal housing, and governmental provision for child and elder care.

The chapter begins with a brief discussion of anthropological work that explores the overlaps of food and the Covid-19 pandemic. Next, I outline current writing about the anthropology of care and the ways it informed my use of the term "networks of care." I present an explanation of the research questions and objectives that shaped this work, detailing how these evolved in response to the Covid-19 pandemic. Then I briefly introduce my methods for data collection and analysis. Next, I outline the three direct food aid programs that seemed to most impact research participants. Finally, I explore who these food aid programs valued, who was left out, and how the community,

through networks of care, continued to support those who did not qualify. I conclude with a call for a largescale distributive politics in the United States that reinforces and builds on local networks of care and that is open to everyone regardless of age, income, work status, gender, race, or nationality and beyond the extraordinary conditions of a global pandemic (Ferguson 2015; Giles 2021).

Covid-19 and Food

The Covid-19 pandemic constituted a disaster, as understood by critical disaster frames as "the results of conscious and unconscious choices made by human beings regarding their relationships with each other and their priorities in the allocation of social and material resources" (Oliver-Smith 2022). The prioritization of economic structures over social well-being guided federal and state decisions and responses to a widespread public health threat that exacerbated existing inequalities (Caduff 2020). Marginalized people and communities struggle to access recovery resources, including food, to the same extent and at the same rate as majority populations (O'Connell 2021). Early in the pandemic (April through June 2020) food access, including school breakfasts and lunches, was hindered while some of the lowest paid workers across the food industry – in restaurants, grocery stores, and on farms – were put at higher risk of exposure or lost their marginal incomes.

In combination with the real fear of contracting a disabling or deadly disease, was "the license to rush forward with predictions, abandon basic standards of science, and make dramatic claims to scare people" (Caduff 2020). Testing, contact tracing, and

extreme (long term) socio-economic shutdowns were largely disregarded in the United States in favor of merely holding out until a vaccine came to market. Amidst the fear of disease and confusing and uncertain governmental guidance, the media spread graphic images and videos showing farmers plowing under fields of vegetables and dumping tanks of milk down industrial drains (Jeffery and Newburger 2020; Schneider 2020; Yaffe-Bellany and Corkery 2020). These images produced, in part, an increased interest in participation in Community Supported Agriculture (CSA) operations, farmer's markets, and home gardening (Aratani 2021; Preston 2021; San Fratello, et al. 2022; Shirvell 2021; WesterVelt 2020b). It is important to note here that CSAs require an upfront buy-in of hundreds of dollars in exchange for weekly farm shares of locally grown fruits and vegetables, thus largely preventing lower income individuals from participating. This fact was seemingly lost or ignored in national discourses that waxed poetic about "home farming" via apartment hydroponic operations (Kamin 2020) and organic land trusts (Westervelt 2020a).

Furthermore, disasters are caused (Oliver-Smith 2022) and prepare the ground for further disasters that would have otherwise been mitigated. Amidst lockdowns, job losses, and empty grocery store shelves, in early April 2020 severe storms blew through eastern Kentucky. Three days after the storms subsided, I spoke with a friend who said over fifty thousand people lost power. The incident did not reach the Lexington news until the next day, four days after the storms (according to my field notes). At that time, fifteen thousand people were still without power; commercial and personal stores of

frozen food were lost. Due to high rates of respiratory disease in the area – including black lung – people were hesitant to provide as much assistance to their neighbors as they would have under non-pandemic circumstances. Countless families were also without water for a week to ten days after the storms. Local community centers and kitchens worked overtime to prepare meals for electric company workers as well as anyone in the community who was still without power. The risks were unweighable – exposure to Covid-19 or days without food and/or water.

In short, the Covid-19 pandemic in the first half of 2020 exacerbated already existing inequalities and further exposed the precarity of the food system. This occurred across the United States, in varied and local ways. This chapter explores how this was experienced by an eastern Kentucky community and the local and national aid that filtered into the region.

Care

As previously stated, my framework for understanding the ethnographic evidence presented below is adopted from Maggie Dickinson's use of the phrase "networks of distribution." I use the phrase "networks of care" following Michelle Murphy's observation that care can amplify "affective entanglements through which things come to matter" (Murphy 2015). Care, furthermore, generates dependencies, or at least an awareness of one's dependence on others for the basic sustenance of life (Mol 2021). In short, the giving and receiving food is more than material exchange, it is more than just distribution.

Care, while a moral practice, is also messy and dynamic (Cook and Trundle 2020). Care encompasses multiple meanings, including fondness, provision, responsibility, watchful attention, and a sense of trouble or worry (Murphy 2015). These various meanings can be felt at once, in tension. For example, Patrick McKearney describes how carers of people with intellectual disabilities experience uncertainty amidst attachment and fondness for their clients (McKearney 2020). While working to do right by their clients – such as making sure they are fed or bathed – carers may need to use force that often elicits violent reactions. Carers often debated what was "best" for the client – honoring what the client wants or acting on what the carer perceives the client needs and should want. "Their debates and doubts," McKearney writes, "help us appreciate the inherently vulnerable, political, and interactive nature of claims to know what good care is" (McKearney 2020). Care often exceeds individual relationships, exemplified by arranged marriages in South Asia that are part of the care work performed by parents, but often interpreted by children as coercive or emotionally violent (Mody 2020). "Care is made visible," Mody concludes, "for and with the wider social group, replete with all its ambivalences and resistance." While an individual may resist entering into an arranged marriage, the social obligation – from their own family, their potential partner's family, and the wider social world they inhabit – begets an attentiveness to the needs of others that cannot be ignored. Care, in other words, is unsettled (Cook and Trundle 2020) in that the forms and manner of giving and receiving care are not always agreed upon.

Under the current political-economic context, care work – particularly for the sick, children, and elderly – is increasingly financialized. This often translates to dependence on systems and institutions to provide the resources and conditions to provide the best possible care (Bludau 2017). Institutions often set policies that do not align with carer-caregiver relations, particularly gift and other material exchanges that facilitate and solidify intimate relationships (Buch 2014). Furthermore, direct, hands-on care work is often underpaid and organizationally ignored, exemplified by lower rates of pay among Certified Nurse Aids and clerical staff who often assist patients to navigate complex bureaucratic systems (Solimeo, et al. 2017). Particularly within the United States, the ability to buy into better or worse institutions of care is highly normalized via a for-profit healthcare system (Mulligan and Castaneda 2018). This normalization of purchasing care work ignores the "mundane specificities" of care and its "ongoing" nature that "does not end" (Yates-Doerr 2020). Care, as stated earlier, (re)produces relationships and their inherent dependencies (Mol 2021). "Care isn't a luxury good," states Emma Dowling, "it's not optional. It's not something that you can get if you can pay for it. Everyone needs to be cared for….even if everyone doesn't have the same needs" (Dowling 2021). What happens when care is financially unobtainable?

This question provides a starting point for the emergence of "networks of care." Care – understood as a necessary precondition for life, in its full multiplicity of meanings – always already exists, as a movement of the requirements for life between beings, both human and non-human (Duclos and Criado 2020). Care is planetary, it depends on

the health and functioning of entire ecosystems that support the soils from which food grows and the human relations through which food passes and is returned. “Networks of care” points to the affective work that undergirds the movement of food – the sustenance of life – between people and households. To know someone is in need of food or to know someone’s food preferences requires a social history and continued entanglement that exists before and beyond the exchange of the food stuff itself.

Research Background and Methods

My research interests emerged out of the tensions I observed in eastern Kentucky between poverty and abundance, poor health outcomes and gardens bursting with produce. Much public health literature demonstrates low fruit and vegetable intake and a lack of motivation for behavior change in the region (Hoogland, et al. 2019; Schoenberg, et al. 2013; Schoenberg, et al. 2018; Swanson, et al. 2013). However, I heard over and over about various weight loss techniques individuals engaged in to try to “get healthy.” The same people shared their ongoing struggles to afford food. Despite working full time, one person told me, they made $17 over the monthly limit to qualify for SNAP benefits (to qualify, household income must be at or below 130% of the poverty line and the rules take into account both net income and assets (Center on Budget and Policy Priorities 2019)). While the state did not identify them as being food insecure, they lived precariously. These individuals occasionally failed to pay their rent or utility bills in order to purchase food. Many research participants received shared garden produce from neighbors or family. Overall, they experienced sustained or

repeated periods of food insecurity while simultaneously cycling in and out of weight loss diets.

Research for this chapter was conducted online in late summer into the fall of 2020. I conducted 32 in-depth semi-structured interviews via Zoom, most of which lasted an hour to an hour and a half, with teachers, social workers, cooperative extension agents, local food activists, food pantry volunteers, and other members of the community. Interview data was recorded and transcribed by Zoom. Prior to analysis, I listened to each interview to make corrections and add notes (for example, when someone laughed or their tone indicated discomfort). Interviews were analyzed thematically using NVivo (QSR International Pty Ltd 2020) and following a Grounded Theory approach (Strauss and Corbin 1994; Strauss and Corbin 1990). This study was approved by the University of Kentucky Institutional Review Board.

Program 1: Expansion – National School Lunch Program Delivery

At first glance, due to Covid-19, my research county is a community overrun with both public and private food aid. Due to the high poverty rate, every student in most eastern Kentucky counties receive free breakfasts and lunch through the National School Lunch Program (USDA Food and Nutrition Service). During the pandemic, breakfasts and lunches were delivered by school bus to each student's home, Monday through Friday. Isabella, a forty-five-year-old mother of three shared, "The school program provides my kids with a lunch every school day. And they'll sometimes give [me and my husband] one as well. I guess when they have extra…they do."

Several parents reported benefiting from the School Lunch Program deliveries. While a few, like Isabella, received extra portions from staff, others benefited from what their children would not or could not eat. Erica is a forty-one-year-old mother of two teenagers and shared that her daughter is a picky eater. "She hardly ever eats [the school food]….Every day she'd be like what did I get? There's like three or four things she'll be like 'Yeah, that one's mine.' The rest of it she's like 'Here you all can have it.'" In this way, food that is usually relegated to the school cafeteria and, perhaps, thrown out by students like Erica's daughter, is consumed by others in the household. Family members also benefited from the foods students could not eat due to food allergies, a topic explored more fully below.

Program 2: Shipments – Shelf-Stable Food Boxes

In addition to home delivered breakfasts and lunches, families with members under the age of 18 could sign up through a link provided by their teachers to receive a box of shelf stable food, shipped to their door, from Baylor University in Texas. On their website, Baylor describes the distribution of food boxes as "an innovative partnership between the Baylor University Collaborative on Hunger and Poverty, USDA, McLane Global, and PepsiCo, to feed low-income kids in rural areas. The initiative will serve nearly 5 million meals per week to rural children impacted by COVID-19-related school closure" (Baylor University 2020; United States Department of Agriculture 2020b). This description supports what social worker and researcher Graham Riches points out – "The focus [of food banks] is on the outputs: acquiring ever increasing

volumes of surplus food, sorting and delivering it as quickly as possible and reporting the numbers of meals served and people fed. The causes and consequences of food insecurity are not high on the agenda" (Riches 2018). In other words, the shipment of shelf-stable food boxes reflects the broader approach of food banks in the United States, described above, which prioritize measurement outputs over the root causes of hunger.

Families in my research county received one box per school aged child, regardless of the child's age. For example, thirty-one-year-old Adalynn is an elementary school teacher with two children – a three-year-old and a six-year-old who started Kindergarten in the fall of 2020. Since neither of her children were enrolled in school at the time of the sign up in spring 2020, she was not eligible to receive a shipment of food. On the other hand, Sophia is also a mom of two in her early thirties. Because her oldest child is in second grade, Sophia was able to sign both of her children up – her youngest is not yet school aged – and received two boxes per week of shelf stable food throughout the summer and into early fall. Forty-two-year-old Candace is a mother of two young teenagers and described the food they received in these boxes. "It was filled with non-perishable milk, juice boxes, healthy snacks like granola, and sometimes these little shortbread cookies that were really good and some canned food and cereal. So it was like breakfast and lunch yet we still have quite a bit of it. I don't need to buy milk for at least another year or so." While Candace stored the non-perishable milk for the future, extra canned foods and snacks made their way through her networks of care,

including her sister, neighbors, and a local church food pantry. “But,” she told me “we still have a lot of it. We have two boxes we’ve not even opened yet.”

Program 3: Local – Fresh Food Boxes

Part of the reason there was so much food to share and store was, perhaps, in part due to the biggest Covid-19 related food program in my primary research county, managed by a local community center and distributed through a local community kitchen. Each Tuesday, anyone with a school aged child who registered could drive up, pop their trunk, and drive away with a box of fresh food per child. Funding for these food boxes came from the USDA Summer Food Service Program, and at the October virtual board meeting of the community center, it was reported that the state department was shocked by the number of meals distributed through this site – over one million dollars’ worth of food. Fifty-eight-year-old Camelia regularly picked up boxes for her grandchildren. “They got fresh vegetables,” she said, “fresh fruit, milk, bread, potatoes, macaroni and cheese, cereals, rice. Just a whole bunch of stuff. And a lot of it came from the farmers here, all the fresh vegetables come from our farmers.” I have previously written about the pride members of this community feel about being able to eat locally grown produce (Koempel, et al. 2020). Most recipients of the community kitchen food boxes praised the efforts to distribute fresh food as they navigated their children’s and partner’s picky eating, food allergies, and concerns about consuming too many processed foods.

Due to the unique nutritional needs of families, direct cash payments would have helped substantially more than boxes of food chosen by unknown others. Food allergies are a growing concern nationwide, with 8% of school-aged children experiencing some type of immune response to common foods (Center for Disease Control and Prevention 2020). Most reactions are not severe, but approximately 40% of allergic reactions lead to emergency room visits due to anaphylaxis in response to, primarily, milk, eggs, fish, shellfish, wheat, soy, peanuts, and tree nuts. One of Isabella's three daughters is allergic to both milk and gluten (gluten is a protein found in wheat, barley, and rye (Celiac Disease Foundation 2020)). She was unable to consume the dairy milk that was provided from all three programs or most of the prepared lunches (sandwiches), additional snack foods (granola or cookies), or shelf-stable meals (macaroni and cheese, cereals). In order to procure dairy-free and gluten-free foods for her daughter, Isabella traveled from county to county (during a global pandemic), sometimes hours at a time, searching for these foods that had suddenly become scarce. "We got to budget more gas money," she told me, "and you got to allow more time because a lot of times you'll go to a place that limit the amount of people that can be in the store [due to Covid-19]. So you're waiting for a while…."

Along with allergies, some parents, particularly those whose children had diagnosed diseases, voiced concerns about the health consequences of relying on boxes of processed foods for months at a time. Sarah is in her early thirties and the full-time caretaker for her disabled brother, a veteran of the war in Afghanistan, and two

children. Sarah's partner had a well-paying job but, she told me, "since Covid we had to make the tough decision for him to choose to stay home because my oldest son has a heart condition. And so we were at much more risk with Covid and he worked out of town, and we just couldn't have him being out of town and coming home on the weekends….So we went to living very comfortably to nothing." She explained that the food programs helped a lot, but she was constantly stressed about the health of her son. While she gardened to provide him with fresh produce, she made the difficult calculation that the risk of feeding her son the processed food was not only the more affordable option, but safer than going into the grocery store and bringing Covid home. This calculation, and the strain on financial and time budgets experienced by Isabella and others, caused immeasurable stress. As I will argue later, this could have been avoided by providing direct cash payments (that could have been used on curbside pick-up groceries and supplemental gas money) rather than boxes of processed, potentially allergenic, foods.

An Increase in Available Food…for Some

Despite allergy and health concerns, most interview participants had more food available during the summer and early fall of 2020 than they did during pre-Covid years. Candace received both the Baylor shelf stable box and the community kitchen fresh box. When asked her thoughts about the role of these different programs, she told me "I would say we had more food than we usually do, and we were having to shop a lot less…I felt like we had more food than we normally would have. We still do." Sophia also

received both food boxes and reflected "I normally go to the grocery store twice a week…I probably go once every two weeks now…. Our menu is different, but we eat what's here and if it goes together it goes together." Candace, Sophia, and others regularly mentioned that they would "give [extra food] to other people that…would use it." In this way, while children were the intended beneficiaries of all three programs, the food was distributed and shared through various networks of care.

The movement of food through networks of care is illustrated through Richard and his son Jared, both of whom I had the pleasure of interviewing. Richard – a sixty-two-year-old grandfather – received a call from his son Jared early in the summer. Jared told Richard to go to the community kitchen every other week to pick up their fresh food boxes (Jared has two children) to keep for himself. Jared told me that over half the items they received from both boxes were what he and his wife would normally get at the grocery store and that "it was nice, and I appreciate being able to take advantage of it because oftentimes your working people are left out of that kind of stuff." Jared, like other interview participants, reported receiving enough food to eat, store, and share. As Richard told me, "there was no reason in this county for kids to go hungry, I can tell you that if anything, they probably had too much food."

Who is Valued?

While we can debate what it means to have too much food in a resource strapped, under-funded, and over-exploited region, instead I'd like to emphasize what a lot of interview participants did – that all of these programs only went to children. In her

2020 book, Rx Appalachia, anthropologist Lesly-Marie Buer explores how addiction recovery services in eastern Kentucky are deeply tied to pregnancy and motherhood (Buer 2020). “When women are no longer pregnant,” she writes, “services disappear.” Furthermore, “Some of these programs make clear that the primary client being served is the fetus or newborn, not the adult.” This articulates with Richard Robbins’ 2016 observation that corporations in the United States have, as he says “created a kinderculture that is designed to produce consumers and to separate them from any other institution that might challenge that goal” (Robbins 2016). Rachel Stryker similarly points to the particularly American neontocracy, or “a child-centered culture whose primary goal is to serve children’s many needs” (Stryker 2016). Central to United States kinderculture/neontocracy is a carefully constructed emphasis on child development by those with economic and political power. It is worth noting here that PepsiCo was a major funder of the shelf stable food boxes. It’s also worth noting the role of brand recognition, particularly in providing a sense of stability, as well as biological reactions to the carefully researched and constructed, high-sugar, high-salt food products of Pepsi. For just a few examples, PepsiCo owns Doritos, Quaker Oats, Lays, Sabra, and Captain Crunch (Pepsico 2021).

The emphasis on children is also characteristic of the “dual development model” that links human and socioeconomic development firmly together (Worthman 2011). To quote Carol Worthman, who critiques this model, at length,

Health and education programs essentially provide outside-in, society-to-individual routes to building human capital, by providing social resources aimed to build embodied capital by promoting physical wellbeing and acquisition of knowledge and skills during the course of development. In turn, embodied human capital is expected to yield inside-out, individual-to-society returns by forming the basis for a productive, healthy adulthood that turns the wheel of progress and pays back outside-in investments.

Together, these concepts explain how those in political and economic power justify providing resources for children because they expect those children to grow into consumers and laborers. This, I would argue, devalues all members of society, as the children are not valued for who they are as children, but for who they may potentially become. Meanwhile, their adult caretakers, former children who have grown up to be undervalued, are often left by the state and by non-state relief programs to go it alone or depend on surplus, leftover foods. Riches describes this as using "leftover food to feed left behind people" and as a "loss of human rights and dignity" (Riches 2018). Additionally, Andrew Fisher briefly discusses the emphasis on children common in food charity fundraisers and websites: "the need to concentrate on the plight of children in order to be effective demonstrates just how entrenched the dichotomy between the underserving and deserving poor is" (Fisher 2017). In short, the distribution of resources must be untied from notions of deservingness, whether due to age or participation in the market.

Who is Left Out

In my research county, approximately 20% of the population were under the age of 18 in 2019. Providing resources for one fifth of the population – who are also vulnerable due to their age and development – is important, but not enough. Twenty

percent of the population in my research county are also over the age of 65, and they experience their own vulnerabilities. Transportation can be a major barrier for anyone accessing services in rural areas – distances between destinations are longer, adding the cost of gas and oil to your grocery bill, while regular erosion issues occur – including collapsed rock walls, flooding, and debris. Such transportation challenges become more acute as residents age: participants shared that their elderly neighbors and family members often never learned to drive or no longer felt comfortable driving, so relied on them or someone else for their transportation. Covid-19 exacerbated this, as those who could drive no longer felt comfortable being in an enclosed space with an elderly, vulnerable person they cared about. In addition to transportation, Sophia – who regularly cares for her elderly grandparents – told me that, in addition to transportation, she noticed that for her grandparents "it's hard to get yourself up, get ready, go to the store, walk around the store for an hour, come home, and put your things away."

After retiring from her job as the manager of a fast-food restaurant, Francis began spending her time volunteering at the local food pantry. This food pantry receives most of its food from a food bank in Lexington, Kentucky that is part of "the largest, wealthiest, and most influential national food banking organization"(Riches 2018) that was third on the Forbes List of 100 largest US charities and whose CEO earns well over half a million dollars annually. "We have a lot of older people," Francis told me, "I'd say a lot of our people for the food pantry was, I'd say 75% that drew a check and are older people like myself." While Francis reported that work at the food pantry was steady –

and that donations were flooding in – fifty-two year old Donald had a slightly different story. Donald helps run his church's food pantry and they saw their numbers double over the late spring and early summer of 2020. He reported a number of people who usually frequented their food pantry were now some of their biggest donors – due to the influx of food into their homes from the two food boxes. He also pointed to the local county food pantry, the one Francis works at, as another location to get food, but stated "they've got so many qualifications it's kind of hard to get on with them because a lot of restrictions – you can make too much money, you can have not enough in the household. And we don't have any qualification. If you're hungry, we feed you."

The struggle to afford food (or other needs) is not always visible. Covid-19 created a unique set of circumstances where absences became more difficult to note. As summer 2020 dragged on, Donald became increasingly worried, unsure whether older church members were staying home to self-isolate or because they were unable to reach the church due to health or transportation issues. When he noticed certain older adults, particularly ones he knew struggled to eat and pay their bills, were no longer at church or the pantry, he organized a small group of people to regularly visit, check on them, and take them food from the pantry. "People get depressed where they're confined to their home," he told me, underscoring how nutritional and emotional needs are entwined, as sharing food came with a chance to talk and connect for the first time in weeks or months. While most previous examples – such as Candace and Sophia – illustrate how networks of care in this community tend to develop organically among

groups of family, friends, and neighbors, due to Covid-19 Donald deliberately expanded his – and others' – networks of care.

Fifty-six-year-old Kathy provides a further example of the organic development and spread of networks of care. A few years before Covid-19, between farming family land and working for the school system, she serendipitously began distributing goods and food out of her home. When her youngest daughter got a well-paying job she became, as Kathy explained, "a shopaholic…she'd go out and buy and then change her mind, oh I want apples in my house instead of grapes and she said, 'What do I do with all this?' I said well bring it here. I'll find somebody that can use it." Kathy collected her daughter's unwanted furniture, linens, toys, and clothing in the upstairs of her house and gave them away to friends, family, and neighbors as needed. "Next thing I know," Kathy told me, "neighbors started sending stuff here and it wind up being a pretty big organization." A friend connected her with an evangelical church in Georgia who, twice a year, would bring a truckload of brand new items for her to distribute. In early 2020 Kathy noticed mold forming and discovered a leak in her roof. When I spoke with her in November 2020, her roof was still leaking; due to Covid-19 related delays she had only just scheduled someone to come out to fix it. Kathy's project began small, as a means to care for people within her network, a project that took considerable work that she was not monetarily compensated for. She welcomed the opportunity to expand her operation as it became increasingly apparent that her network had also grown. This type of non-market labor deserves recognition and renumeration.

Not all networks of care are as expansive. While Kathy took creative advantage of various opportunities, not everyone has the time, space, or financial or emotional capacity to engage in such extensive work. Furthermore, such a precedent would put the onus of responsibility to take care of the people left behind by an extractive economy on individual community members, rather than the corporations that exploit and underpay workers and the government that allows this.

Many participants provided elderly relatives with what resources they could, but such support cannot – and should not – take the place of a formalized, federally funded distributive politics. Direct resources are desperately needed, as sixty-six year old Meredith, who survived multiple bouts of cancer, explained "[Older people like me] choose medicine over food or food over medicine….I feel like [support] was out there for [kids], but I don't feel like there was enough programs out there for...older people." As participants watched some households overflow with food, others, like twenty-two-year-old Ashley, worried about her grandmother. "My dad's mom…draws a check monthly, and I think she gets maybe $800 a month and she qualifies for $15 in food stamps. So by the time that she pays her power bill and her insurance and stuff like that she struggles." The increase in available food often made its way through networks of care but did not – and could not – address the root causes of poverty, including low wages, medical debt, and a deteriorating safety net, especially for older adults.

My research demonstrates that there is a real need for a largescale distributive politics in the United States for all age groups regardless of income or formal

participation in the labor market. While I've focused most of my attention in this chapter on age, it's important to reiterate what Donald pointed out – the strict qualifications for accessing food through the food pantry or SNAP office. Briefly, Erica is 48 years old and works for the unemployment office. Her husband is disabled, but does not qualify for disability. "You have those households," she said, clearly speaking about her own, "that are just barely on the line and those are the ones that get overlooked. You have the super, super needy and everyone knows that they are very needy, and they deserve the most. But then you have the ones that are just barely able to make it." In short, despite three different direct food aid programs that were widely shared and circulated throughout the community, households like Erica's saw an increased need that was not met, and could have, perhaps, been better met by a federally funded, multi-system distributive politics rather than shelf stable foods.

Conclusion

While the direct food aid programs that came out of the Covid-19 crisis focused exclusively on children, the food made its way to other members of the community. As I mentioned earlier, for example, Richard did not qualify for any food aid programs, but received boxes of fresh food every other week since his son Jared was receiving too much food. Researchers in eastern Kentucky have explored how prescription drugs are often shared as a strategy for accessing unaffordable and often life-saving medications (Anglin and White 2009; Buer 2020). There is a tendency to be either sanguine or pessimistic in interpreting resource sharing – whether drugs or food – within rural

communities. Is this communism with a lower-case c, the organic development of mutual aid in a resource strapped community where neighbors genuinely care? Or is it the enrollment of everyday people into a neoliberal system that supplies "leftover food for left behind people" (Riches 2018)? I would argue that the distribution of food and goods through networks of care operates in the liminal space created by capitalist expectations that cannot be readily met.

I acknowledge that food is a particular type of social and material good, one that may – due to its perishability and sociality – move more easily through networks of care. While I did not directly ask participants about sharing cash or other goods, it came up nonetheless, and provides further support for my argument that largescale distributive politics could make a meaningful impact within various communities. Every interview ended with the question "what do you like best about living where you do?" Participants' responses centered on sentiments such as "if you need anything your neighbors are willing to help" to "everybody comes together in our little community whenever something goes wrong." The most common story about needing help when "something goes wrong" concerned fundraising, particularly for medical bills. Due to the failings of the United States for-profit healthcare system (Fletcher 2017; Mulligan and Castaneda 2018), Go Fund Me and other online fundraising platforms have become common ways to raise funds for medical care. I point this out to say that raising funds for medical care is a particularly American experience, one that is present in intimate ways in eastern Kentucky and illustrates already extant systems of distribution that

could be bolstered and thrive under a largescale distributive politics. One can't help but wonder what poverty and food insecurity would look like if cash remained in the community rather than being pooled to pay for cancer or other medical care.

The title of this chapter was something Donald told me, in his laid-back drawl, "whoever needs food we'll feed them one way or the other." One way would be through a distributive politics that maintains the dignity and agency of recipients regardless of engagement in the market. Such a distributive politics would grant all people, at a minimum, medical care, appropriate foods for children struggling with allergies or health conditions, and support for the elderly. The other way – sometimes the only way given the lack of support for basic social safety net programs – is through charitable donations that are picked through, picked over, shared, exchanged, and perhaps eventually eaten. As Ferguson argues, "We must look to the realm of distribution. In a world of massive overproduction and widespread poverty, it seems almost embarrassingly obvious that what is needed most is neither more fish nor more fishermen and -women but rather better ways of making sure that the abundant yield of this global industry gets properly spread around to those who are, at present, not getting their share." The stories of networks of care presented here provide more proof and evidence for an expansion of distributive politics beyond the Covid-19 pandemic. While direct food aid helped many families and circulated throughout the community, these privately and publicly funded programs excluded the elderly and childless households and were an insufficient response to the complex reality of limited resources, multiple bills and the intersection of allergies, food preferences, and health

conditions. Furthermore, programs such as the Baylor University food box program, funded by PepsiCo, do more to help the bottom line and reputation of food corporations than to alleviate the underlying causes of poverty (Fisher 2017).

The data presented here support Maggie Dickinson's recent calls for decoupling the right to food from participation in the market economy, providing all people with rightful shares of food, creating a federal jobs guarantee, and raising the bar for private employment to include higher wages, paid leave, flexible schedules, and affordable child and elder care. For rural communities in particular, where the largest employers are the public school system and for-profit healthcare, much more must be demanded. Donald and Kathy were two of many who labored outside the formal economy, in ways that are not recognized by market forces, to support networks of care and, when necessary, build new ones. People engage in meaningful work outside the market and, to put it bluntly, all people must be given this right and be fully supported so they may engage in non-market work, whether that is taking care of one's own children and elders or the children and elders within one's community. This public support for non-market work was acutely needed during the Covid-19 pandemic, but chronically necessary. When asked "do you think more direct resources are needed, even during non-pandemic times?" every interview participant answered with one word, often repeated – "absolutely."

Chapter 3: Metabolic Projects: Health, Research, and Metabolism in Eastern Kentucky

Introduction

Leslie sat across a cafeteria table from me as the sun set behind the eastern Kentucky mountains, out the windows to my left. “What were your thoughts on the meals?” I asked her. It was February 2019 and a healthy meal program I managed, run through the local community kitchen in partnership with the university I work for, had just wrapped up. The program was an extension of a summer farmer’s market walking program (discussed in the Introduction to this dissertation and below) in which participants could sign up and, after walking to the market (1.2 miles round trip), receive $10 to spend on fruits and vegetables. The meal program was offered to the same participants – each Thursday night they could swing by the local community kitchen to pick up a prepared meal for themselves and their family. Meals were approved by University of Kentucky dietitians to follow the Dietary Guidelines for Americans – a portion of meat (or other protein such as eggs or beans), a portion of grains, and half a plate of fruits and/or vegetables. The program ran for sixteen weeks and included staples such as chicken and rice with vegetables and what was by far the most unfamiliar meal: a vegetable quiche with quinoa stir-fry.

“I think they’re great. Wonderful!” Leslie gushed. I asked her to say more and she continued, “They was very nutritious, very delicious. Something that I probably would have never fixed for myself cause I’m - until I got in this program I really didn’t eat healthy. I never eat any vegetables. Because I can’t afford ‘em, to be honest, cause

they're real expensive." Leslie was fifty-two years old at the time of the interview, widowed, with a history of disability and multiple chronic conditions such as diabetes, asthma, and arthritis. Her reported income was less than $20,000 per year; it's no wonder she could not afford fruits or vegetables. In this way, Leslie represents the target demographic of public health and nutrition interventions, the prescribed assumption being that her health would improve due to her increased consumption of fruits and vegetables (Anderson, et al. 2001; Backman, et al. 2011; Bryce, et al. 2017; Clark, et al. 2019). While the basic science supporting fruit and vegetable intake is compelling, I am skeptical about its over implementation to solve problems that are rooted in the extractive nature of capitalism. I argue that alternative approaches might better address Leslie's mounting medical debt, mental health struggles following the death of her husband, and unsustainably low disability payments.

This chapter explores the anthropometric and biometric outcomes of a nutrition and public health feasibility study – the Tanglewood to Table walking program (T2T) introduced in chapter one and mentioned at the top of this chapter – as well as an exploration of the everyday realities of navigating multiple systemic problems, including the high costs of medical care and unlivable wages. First, I describe the entangled and interlocked nature of culture and biology, and the benefits and drawbacks to analyzing quantitative data. Next, I briefly contextualize this feasibility study within the local economic precarity of post-coal eastern Kentucky and describe three public health interventions aimed at preventing the development or progression of chronic disease

through fruit and vegetable consumption. Descriptive and inferential statistical analysis were conducted on biometric and anthropometric data from twenty-five participants in the T2T walking program over three years (2017-2019) using SPSS v26 (IBM Corporation 2019). After a brief glimpse into the intrusive nature of Covid-19 in the summer and fall of 2020, I conclude with a reflection on the concerns of community members and potential approaches to supporting the health of rural communities beyond temporally and geographically limited programs that rely on reductive approaches to health and well-being.

This chapter problematizes the way applied researchers in public health and nutrition conceptualize community programming. It challenges applied researchers to think beyond the immediacy of quantitative outcomes to the policy implications of their work and the broader societal and political-economic shifts necessary to assure holistic health and well-being. It seeks to push beyond the interventionist approach common within public health and nutrition spheres to consider broader change.

Biocultural Approach

The concept of "culture" developed alongside the ideological and political concept of the nation-state as a means of understanding human diversity and evolution within the boundary-setting projects of nation-building (Obermiller 2019). In this vein, "the term culture tends to create an 'essence' out of great diversity, changing something highly fluid into something boxed-in and static, thus creating 'types' where no types exist" (Calcagno 2003). Culture can often be operationalized reductively:

"history, geography, geology, environment, along with social, political, and economic factors...are too often conflated under the all-encompassing rubric of 'culture'" (Obermiller and Maloney 2016). Culture is a sleight-of-hand term, a "slippery concept" (Hoke and Schell 2020) that pulls attention away from the operations of power and differential responses to it. Despite its limitations, those *things* that make up culture impact – differentially and variably – bodies.

Human biology is similarly difficult to pin down. "Human biology is constantly in motion," Goodman writes, "reacting to contexts that are time and site specific. Human biology is every bit as created by culture as it is a result of DNA sequences. In a sense, human biology sits between, and in dialectical communication with, genetics and culture" (Goodman 2013). Projects that attempt to approach culture as a variable may lend themselves too readily to "integration lite" or research that merely connect a sociocultural variable with a biomedical variable (Goodman 2014). Instead, Goodman argues for deeper theorization into how human biology is always cultural (and how culture is impacted by human biology). In a review of the anthropological scholarship using the term "biocultural," Wiley and Cullin found no shared meaning of the term biocultural, no established criteria for biocultural work, and no theoretical framework that was unique to biocultural work (Wiley and Cullin 2016). Common measures of "culture" in their sample of articles included socioeconomic status and belief values. They reinforce Goodman's explanation that "relationships between human biology and culture are undoubtedly bidirectional and complex, as they occur across evolutionary

and historical timescales, as well as over an individual's life history" (Goodman 2013). Biology is as much a sleight-of-hand term as culture, as measures of biological phenomena fold back into the disciplines that study them, the products of the same culture that researchers seek to measure.

In other words, culture – as context, consensus, or all those external factors that impact human biology – is an input that shapes nutrition and health but also informs the ways bodies and health are made legible. Such practices further shape broader understandings and experiences of health and disease and alter human biologies. As George Armelagos writes, "social, political, and economic factors have a major influence on food patterns" (Armelagos 1987). Food is integral to the creation and maintenance of social relations in that it can cohere group identity or set individuals and groups apart (Mintz 2002). What, then, are the implications to mental and physical health of not being able to obtain the food that connects one to their group (Hadley and Crooks 2012)? Biocultural work attempts to follow human biological variation in response to the ways that "food systems influence and shape foodways" (Galvez 2018) and how those foodways may shape health. Of course, while dietary patterns are implicated in health and disease, those same social, political, and economic factors may also impact biology. For example, the psychosocial stress of racism may be more implicated in hypertension rates among African Americans than salt intake (Dressler, et al. 2005). However, it is easier to prescribe a low salt diet and continue to monitor blood pressure

(and other biomarkers) than it is to treat (or even discuss) racism within the United States.

Hypertension and obesity provide key examples of how culture, specifically the culture of Western biomedicine, makes biology legible in particular ways. This legibility itself translates to how individuals experience health and disease. Blood pressure is the quantification of each heartbeat as blood is forced against blood vessel walls (systolic) then forced into the heart as blood vessel walls relax (diastolic) (James 2020). Each heartbeat provides a new "measure" of blood pressure; this aspect of blood pressure makes it highly adaptive in that it can vary in response to immediate and changing situations. Within biomedical paradigms, however, individual measurements plotted on a bell curve of "normalcy" create a dichotomy of health or disease. For example, high blood pressure in clinical settings may be a response to the stressful experience of being in a doctor's office or the broader stresses of racism, sexism, ageism, etc (Dressler, et al. 2005). In clinical settings, reliance on numbers, particularly regarding bodyweight, is faster than learning about the patient, and allows for detachment and "the ostensible objectivity or safety offered by metrics" (Yates-Doerr 2013). Numbers obscure other knowledges about the body and imply a cause-and-effect directionality that does not necessarily exist. "There is no true accuracy existing within measures," Yates Doerr explains, "and, in this sense, all scales that are used to diagnose problems of health are liars." In other words, measurements such as high body weight are the products of biomedical culture that not only reads how culture shapes nutrition and health but is

itself implicated in the definition of health and nutrition. “Not only are these[biomarker]norms based on white bodies,” Guthman writes, “they lead to the twin assumptions that what is statistically abnormal is pathological and that pathology is absent in the statistically normal” (Guthman, et al. 2014; Wiley 2021). These two states–blood pressure and body weight–are intimately linked, in that clinically experienced weight stigma may lead to heightened blood pressure, where the solution–going to the doctor–becomes the cause of the “disease”–hypertension (Brewis and Wutich 2019; Guthman 2014).

Over reliance on biological measures contributes to a feedback loop that relies on particular types of knowledge over others. In fields such as nutrition, knowledge is composed of beliefs and values that are expressed through dietary advice and behavior change interventions (Biltekoff, et al. 2014). Nutrition facts, for example, are rooted in moral and class-based values that stress controlling individual appetites, as particular foods and body types are valued over pleasure (DuPuis 2015; Mol 2012). “Dietary reformers,” Biltekoff and colleagues write, “have consistently responded to nutrition crises that were also social crises by providing dietary advice (rules) that also expressed social ideals (ethics)”. Additionally, the “isolated ‘goods’ of metrics and conversions are easily communicated through general nutritional advice or sold by commercial weight loss programs” (Vogel 2018) . The role of profit-seeking industries in the development of governmental and nutritional advice and the proliferation of particular understandings of “normal” (such as BMI) reinforces a reliance on numbers to “reveal the interior health

of the body" (Yates-Doerr 2013). From calories to pounds, numbers "become a kind of surveillance–by doctors, insurers, fitness instructors, food producers, and moral reformers–which means that nutrition and health ideals are ultimately forms of social control of one's self and one's neighbor" (Caldwell 2014). In short, biological and cultural data can, together, reinscribe political projects that focus on individual behavior change rather than historical, political, or economic contexts.

Critiquing biomedical and anthropometric measures, however, should not lead to their complete dismissal. There is value in research on human biology (Hoke and Schell 2020; Wiley 2020), including the use of biomedical markers, and, after all, all research is, to a degree, reductive (Kuntz 2015). Rather, care should be taken in the analysis, interpretation, and contextualization of biological measures. For example, recent rapid weight gain and diabetes rates among African Americans in the South parallels historical and contemporary experiences with racism, an increase in the accessibility of food, and the stresses accompanying dual-income households (Steckel 2013). The cultural context that necessitates (under)paid labor of both adult members of the household (when present) in order to survive (particularly among minority groups who, on average, make up the low-wage labor force), also rests on a proliferation of cheap, processed foods that may contribute to caloric overconsumption (Darmon and Drewnowski 2015; Drewnowski 2010). In other words, when both parents are too tired to cook, large food corporations offer "easy" solutions of packaged, refined foods (Scrinis 2013), thus earning a dual profit from the exploitation of low-wage labor and the

purchase of food products. Together, biological and cultural data can illustrate the racist, imperialist policies of the United States government that create and continue broad injustices experienced – biologically and otherwise – by minority populations (Wiedman 2012).

Biocultural anthropologists possess the diverse methodological tools necessary for moving beyond the accounting culture (Caldwell 2014) of health and disease. Calcagno slightly alters the often-cited Geertz quote to read "our ideas, our values, our acts, even our emotions are, like our nervous system itself, biocultural products" (Calcagno 2003). Cultural determinism or reductivism is not the appropriate antidote for biological determinism, or vice versa. Biocultural anthropologists recognize that biology does not equate to singular measurements and singular measurements do not equate to health or disease; that culture does not equate to inflexibility in behaviors and behaviors do not equate to biological outcomes. Biocultural anthropologists, through a combination of the descriptive tools of cultural anthropology and biological measurements, are uniquely positioned to contribute to nuanced and deeper understandings of human biological variation, particularly in contexts of social and environmental injustice. This chapter utilizes the descriptive tools of cultural anthropology – participant observation and in-depth interviews – and biological measurements – both metabolic and anthropometric – to explore the context and outcomes of a health-related feasibility study.

Appalachia in Context

The economic stability of Central Appalachia over the past century was largely based on coal.[1] This industry has experienced an upheaval in the face of a falling global dependence on coal, the shift of production to other countries, and increased mechanization (Hansell 2016). By the end of the 20th century, global developments in mining technology shifted mining work from human labor to machines. This shift cost communities reliable, well-paying jobs, while devastating and destroying the environment. "Appalachia's energy landscape," writes Brian Black, "is one of the clearest expressions of a specific American environmental ethic: extraction" (Black 2011). Similarly, Rebecca Scott, writes of Appalachia as a sacrifice zone, or "a place that is written off for environmental destruction in the name of a higher purpose, such as a national interest" (Scott 2010). As national and global corporations reap the profits of environmental destruction, communities most at risk pay the heaviest prices in terms of physical and mental health (Harpter-Dorton and Harper 2015). Additionally, as most of the profits were made by nonlocal entities who did not pay local taxes, basic services such as postal work, education, and public health are underserved and closed or consolidated under the auspices of "efficiencies and savings" (Smith 2014).

As much as extraction and exploitation are pieces of Appalachia's history, so too are influxes of resources and programs designed to "fix" systemic problems. Since the

[1] This is not to exclude the non-market, alternative economies that flourish(ed) throughout Appalachia, including the networks of care described in chapter two, household exchanges of labor and material goods, and sharing gathered, grown, and hunted food (described more in chapter 5) to name just a few.

turn of the 21st century, health – often defined through the cultural lens of the obesity epidemic – has been one of the biggest issues receiving attention and funding in Central Appalachia. Following the discussion above concerning biological metrics and outcomes, the emphasis on health – as a measurable outcome that is broadly understood to be within an individual's control – seems normal, or even necessary. Approximately one in five people living in eastern Kentucky have a diagnosis of diabetes (Kentucky Public Health 2020) and heart disease is the leading cause of death (Centers for Disease Control and Prevention 2021b). These numbers are higher than the national averages, convincing policy makers, public health experts, and researchers to focus on innovative, individualized behavior change programs.

Since the postwar era, policymakers and public health officials have inextricably tied economic development to positive health outcomes through the production of particular types of metrics (Adams 2016a). "One finds," Vincanne Adams writes, "a persistent reduction of health inequality to problems of economic lack" (Adams 2016b). While I end this chapter with an argument for worker ownership and redistributive policies (Ferguson 2015; Giles 2021), I do not believe that such economic forces would naturally or immediately lead to improved health outcomes or reductions in chronic disease rates and symptoms. In addition to a reimagining of late capitalist forms of labor relations, communities can *also* benefit from funding for health and wellness programs, such as the ones discussed here. Ideally, these programs would be developed and organized by community members without relying on quantifiable justification (such as

returns on investment or improved health metrics) for program sustainability. In short, this chapter argues for a reimagining of US political economic norms in favor of *non-extractive* and community-based programs at all levels, from the local to the federal, to holistically support human health and flourishing.

Nutrition and Health Programming

In this section, my goal is not to provide a literature review of published articles or reports related to nutrition and health programming in eastern Kentucky. Rather, I provide a community review of such programming, compiled from interview data and supplemented, where possible, from participant observation in the community from 2016 until the present. Research worlds – much like policy worlds – often erase "discrepancies of practice, disjuncture, or individual compromise" while they deny "context and contingency" and refuse "significance to the event or individual action in favor of rules, principles, instrumental ideas, and expert models" (Mosse 2011). In other words, the best practices and lessons learned via research articles do not always articulate with how communities experience programs and interventions, as academics' professional careers require us to "gain control over research and protect reputations and public images of success" (Shore, et al. 2011). I point this out merely to invite deeper reflection from the public health, nutrition, and applied research communities – if the expectation of research is quantifiable success, what are we missing? What are we choosing to represent and reproduce about community life?

Health and nutrition programs in this county (population just over 21,500 in 2020 (United States Census Bureau 2021b)) included school backpack programs, chronic disease prevention classes run through the health department, diabetes and heart disease classes hosted by local churches, and food-related events hosted by the Cooperative Extension office. Interviewees highlighted (and were excited by) three programs in particular: a healthy cooking class series, a fruit and vegetable prescription program, and the T2T walking program. The only program I was personally involved with and intimately familiar with was T2T. After a brief discussion of each, anthropometric and biometric data from T2T is presented.

Healthy Cooking Classes

The healthy cooking class series was a collaboration between a local agricultural organization, community center, and state university. Classes were open to anyone within the community, but targeted specific groups depending on the grant cycle, such as individuals with diabetes or households with children (see Francis' comment below). The classes ran for eight weeks; participants learned cooking and budgeting skills and were sent home with a bag of groceries after each class, as sixty-five-year-old Francis explains:

"I also participated in the program they did – that Sophia did, was if you had a kid under the age of 18 living with you. And each week you went and they did a different meal prep and they supplied you up with almost all the products [so] that you could go home and [prepare the meal]. I learned to make some stuff. Some I already knew, but like I learned a different meatball recipe and a stir fry recipe I didn't have."

It was not always clear to community members who provided the classes or where the funding for them came from. For example, fifty-six-year-old Kathy shared, “We’ve got cooking classes here through the [state university], the university has cooking classes for people. I took one of them when my grandson lived with me. That was real nice.” While Kathy was aware of the academic funding, Francis credited Sophia – the local woman who taught the classes – with the entire enterprise. This is noteworthy particularly when funding runs out or grants are not renewed. Unlike Sophia, researchers who live and work three hours away do not need to contend with the disappointment community members express when a program is dropped. In other words, community-based behavior change research often relies on the social capital of the people they hire (or the people who volunteer) to manage the programs on the ground.

Betty taught cooking classes and collected data for the project for years but found out about a week before I spoke with her that she was being let go, due primarily to the Covid-19 pandemic. Despite her frustrations, she credited the cooking classes with “doing it right” by seeking out the support of the community and offering opportunities residents wanted rather than “just coming in and telling a community what you can do for them or how you’re going to do it or decide for them how they want to do it.” This resonates with what previous cooking class participants shared. Francis worked in food management for decades and had a robust history of cooking for both customers and her family. While she was excited to learn recipes (rather than skills) she also enjoyed

watching other participants learn new skills like how to chop using a chef's knife or which vegetables to peel. She also gushed about the conversations she had with other participants as they discussed which meals their families liked and how they tweaked them for household food preferences. "One of the things people love about getting together [for cooking classes]," Betty said, "is the reconnection with other people and just having discussions around food and having somebody with you when you food prep and just the joy of communally preparing food. There's something about it that's soul nourishing." The emphasis on reconnecting with people and nourishing the soul runs counter to the reductive public health focus on behavioral or biometric health outcomes, such as fruit and vegetable consumption or weight status.

Produce Prescription

The produce prescription program was managed by a local clinic, with financial assistance from insurance companies and local non-profits. The program began at one, central clinic and eventually spread to satellite clinics in the region (with varying success). Initially, clinic patients gained access to the program through health markers, specifically pregnancy or a diagnosis of diabetes or obesity. At the point of care, their doctor would write them a prescription for a voucher to the farmer's market, based on how many people lived in their household. "When [the clinic] first started the produce prescription program it didn't matter how much money you made," Donald stated, "It was all about your health." Due to exponential interest in and growth of the program, however, the clinic recently added an income qualification that reflected federal poverty

guidelines. When I asked Donald – whose household (including his wife and twenty-three-year-old daughter) makes less than $30,000 per year – how he felt about the change he shook his head. “I don’t like it…I appreciate what I got when I got it, but I figure if you gonna start a program and it’s based on your health and is to…get you into a better, healthier lifestyle…but then your income affects that, I just don’t think that’s right.” To Don, anyone who needed and wanted the program – regardless of income – should qualify.

Donald was the only interview participant who had ever participated in the produce prescription program. Other participants, however, were aware of it and widely supported the effort. Francis only vaguely knew how the program worked but called it a “great asset” for both the farmer’s market and the participants. During a farm visit in August 2019, Teresa and Tom showed me around their fifty plus acre farm. Among the peppers, tomatoes, beans, and summer squash a feathery, light pink plant erupted gracefully from the dirt. “That’s pink radicchio!” Teresa said, excited that I noticed it. When I asked if customers enjoyed things like pink radicchio Teresa frowned. “People like what they like,” she shrugged, “mostly it’s tomatoes, beans, and corn.” Tom added that this was particularly true of the produce prescription participants. They did not want to waste their vouchers on food they would not like. “This isn’t Lexington,” he said, drawing a stereotypical line between the cosmopolitan urban customer and the backwards rural resident, “we have to more or less give it away for them to try it.” Previous research suggests that farmer’s market participants are more likely to try new

foods when they are given coupons or vouchers with which to buy the food (Anderson, et al. 2001; Bihan, et al. 2012; Durward, et al. 2019). In this case, in Teresa and Tom's experience selling their produce, participants spent the vouchers as if they were their own money. This illustrates how important the voucher program was to participants as they planned meals and considered the food preferences of family members and themselves.

T2T Walking Program

The fruit and vegetable walking program (T2T) was started by a local community member and funded by the National Institutes of Environmental Health Sciences and evaluated by a state university in its second through fourth years. This study was a feasibility study utilizing a convenience sample of community members to assess acceptance of the program and gather pilot data. The program was open to anyone in the community and promoted via word of mouth. Anyone over the age of eighteen years and not pregnant at the time of sign-up was eligible to participate. Participants were asked to walk 1.2 miles round trip to and from the weekly farmer's market and, in return, received $10 in tokens to spend on fruits and vegetables at the market.

Evaluation consisted of pre- and post-measurements, including height, weight, waist circumference, carotenoids, finger stick A1c, blood pressure, and finger stick lipid panels (total cholesterol, LDL, HDL, and triglycerides). Pre- and post-surveys asked about physical activity, fruit and vegetable intake, farmer's market use, and demographics. Pre-data was collected each year in the spring, prior to the farmer's market season;

post-data was collected each year in the fall, following the end of the walking program. Biometric and anthropometric data were not collected in 2020 due to the Covid-19 pandemic, an intrusion into everyday life that is briefly considered below. First, I present the demographic make-up of long term (three years; 2017-2019) participants, followed by the anthropometric and biometric data of these same participants over time.

In 2018 I collected qualitative data among walking program participants to assess participant use and enjoyment of the program (Koempel, et al. 2020). In fall 2020 I interviewed a combination of walking program participants and other community members. Approximately half (n=15) of all (n=32) interview participants had participated in the walking program at some point. Nine interview participants had participated for the three years 2017-2019. Most participants interviewed in fall 2020 – even those who had never participated in the program or lived outside the county – had heard of and mentioned the walking program. Their comments reflected previous findings (Koempel, et al. 2020); participants enjoyed the program for its exercise and financial benefits as much as the social opportunities it provided. For example, Donald told me in 2020:

> "[The walking program] is an awesome opportunity not just for the food, but the exercise that you get through it [and] the new people you meet through it. This is just, it's an awesome part of this county and, of course, to meet you guys when you come in here. A lot of times you've got different people with you and it's always been great when ya'll get to come in. We get to talk to you and get your opinion on different things."

I collected pre- and post- anthropometric and biometric data with assistance from three to five graduate and undergraduate students (depending on the timepoint). At each data collection point we would spend two or three ten-to-twelve-hour days consenting participants and collecting data. Much of those days included extended periods of down time which allowed me to spend a lot of time talking with various participants who did not have to go to work that day or were waiting for a friend or relative to finish up their business in town. In this way, T2T provided social opportunities beyond the immediate community, as relationships – however fleeting or long lasting – were formed between myself, students, and participants.

Three Year Participants

Of the three programs discussed above, only T2T collected quantitative metabolic data from program participants. The data presented here is from twenty-five individuals who participated in the walking program in 2017, 2018, and 2019. This data is longitudinal, following the same twenty-five people over this three-year period. Total participation varied from year to year depending on grant funding. In 2017, the program supported over 120 participants; in 2018 the number fell to 82, and in 2019 the program could only financially support just over 60 participants. The twenty-five participants followed in this study are the only twenty-five people who participated in the program all three years. All twenty-five participants participated in the evaluation phase, except when they were unable to make the data collection periods due to sickness or vacation.

All participants of this longitudinal sample (100%) identified as white and over two-thirds (68%) identified as women. Ages of participants are shown in Figure 4. Figure 5 shows which other farmer's market programs walking group participants utilized; Women, Infants, and Children (WIC) double dollars are not shown in the chart as no participants used this program, despite its availability. The produce prescription program (highlighted above) was commonly used among walking program participants. Figures 6, 7, and 8 present self-reported data on socio-economic status by season and year. Figures 9 and 10 show blood pressure and diabetes medication use by time point. Participants were asked whether they were on medication for diabetes, high blood pressure, or cholesterol, but not asked which specific medications they were on or the regularity with which they took them. Blood pressure medication use among program participants increased from seven participants taking the medication in Spring 2017 to twelve in the fall of 2019. Diabetes medication use increased from six individuals in the spring of 2017 to seven through 2018, then dipped back down to six in the fall of 2019. Cholesterol medication use is not shown; the same seven participants were on blood pressure medication throughout the entire time period.

During and after 2017 the survey underwent changes to incorporate additional, validated survey tools; employment status and ability to make ends meet were added in 2018 and income was only added to the fall 2017 survey. Under half of participants were employed full or part time; over half of participants reported having just enough to make ends meet. With the exception of fall 2017, when most participants did not report

their income, the majority of participants lived in households making less than $30,000 per year. For reference, in 2021 the federal poverty threshold was $26,500 for a family of four and $31,040 for a family of five (Office of the Assistant Secretary for Planning and Evaluation 2021).

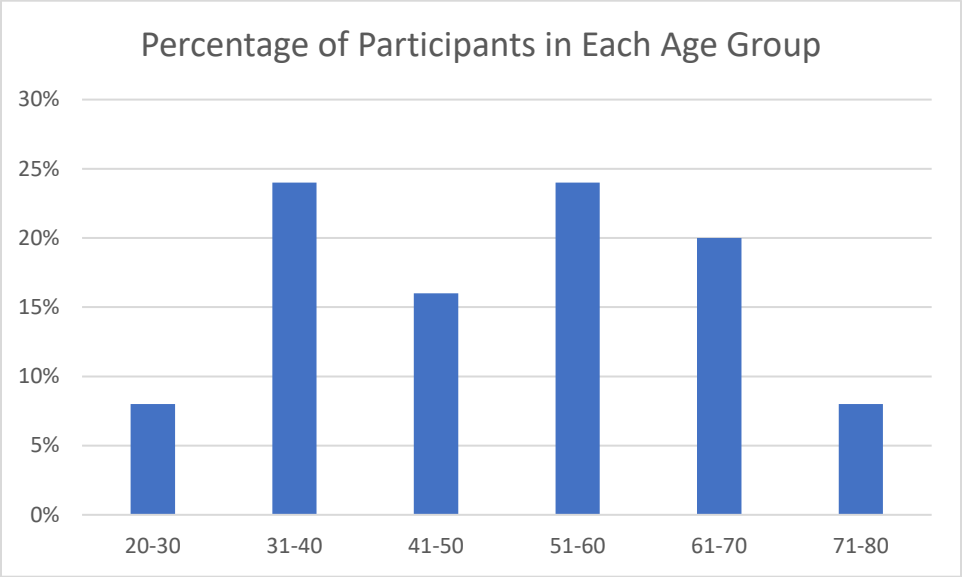

Figure 4: Percentage of Participants in Each Age Group (n=25)

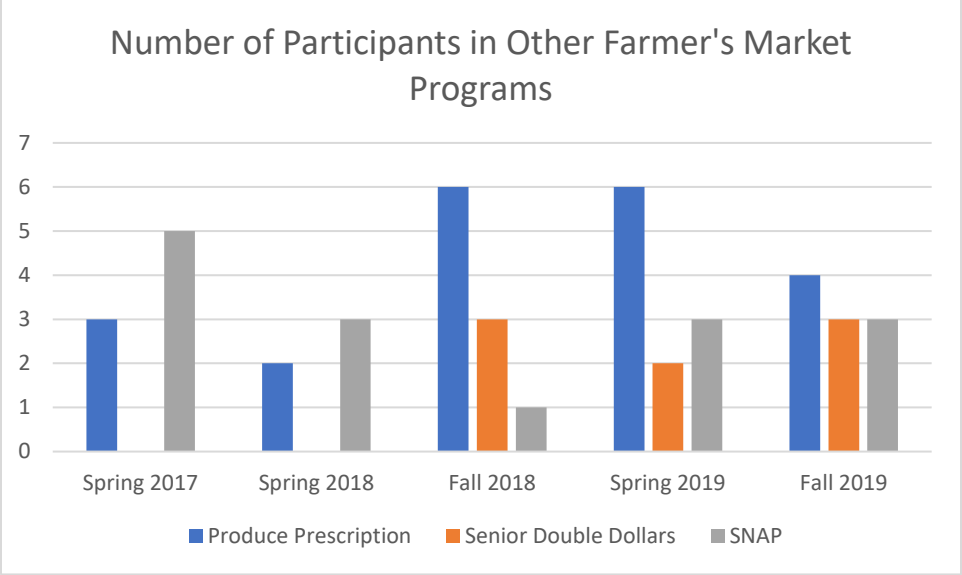

Figure 5: Participants in Other Farmer's Market Programs (n=25)

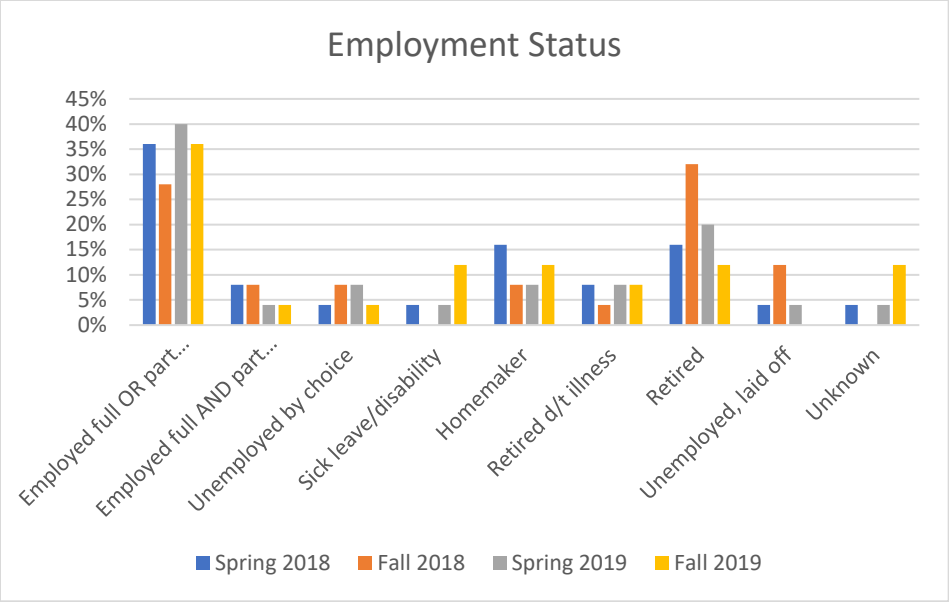

Figure 6: Employment Status of Walking Program Participants (n=25)

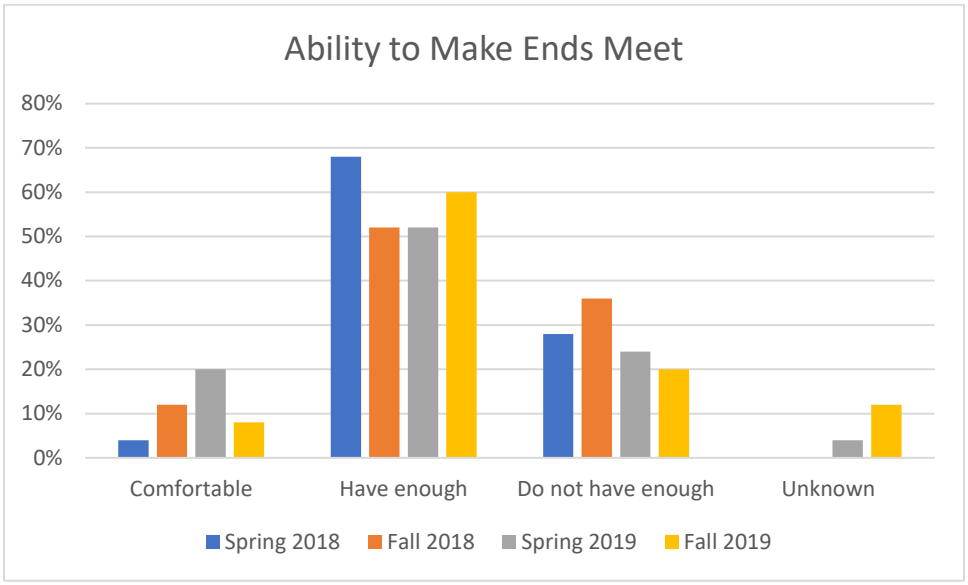

Figure 7: Self-Reported Ability to Make Ends Meet

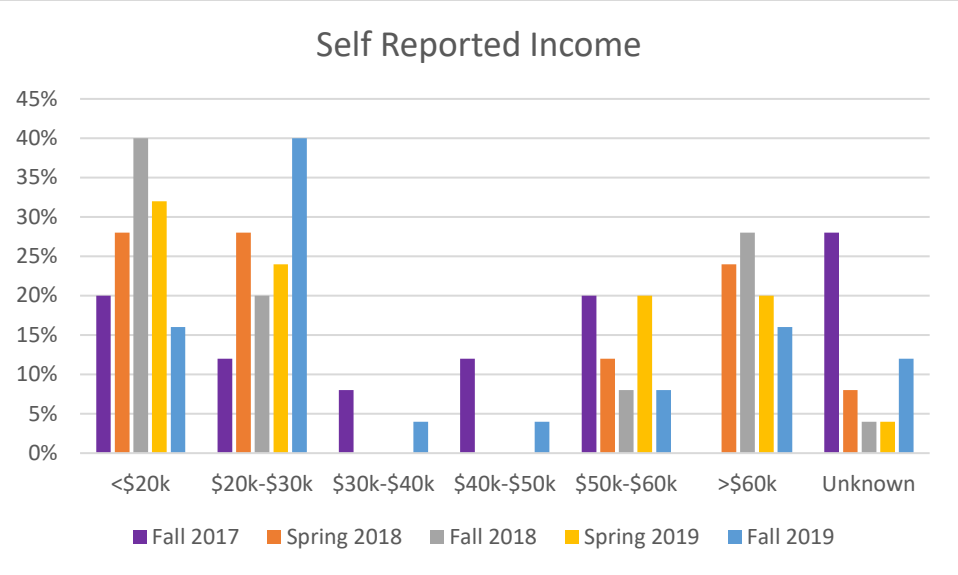

Figure 8: Self Reported Income of Walking Program Participants (n=25)

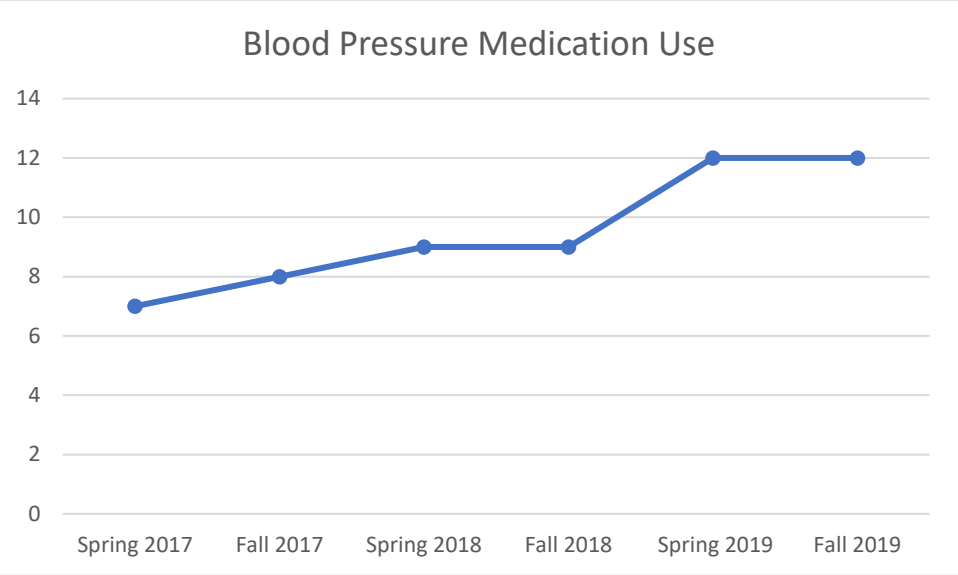

Figure 9: Blood Pressure Medication Use of Walking Program Participants (n=25)

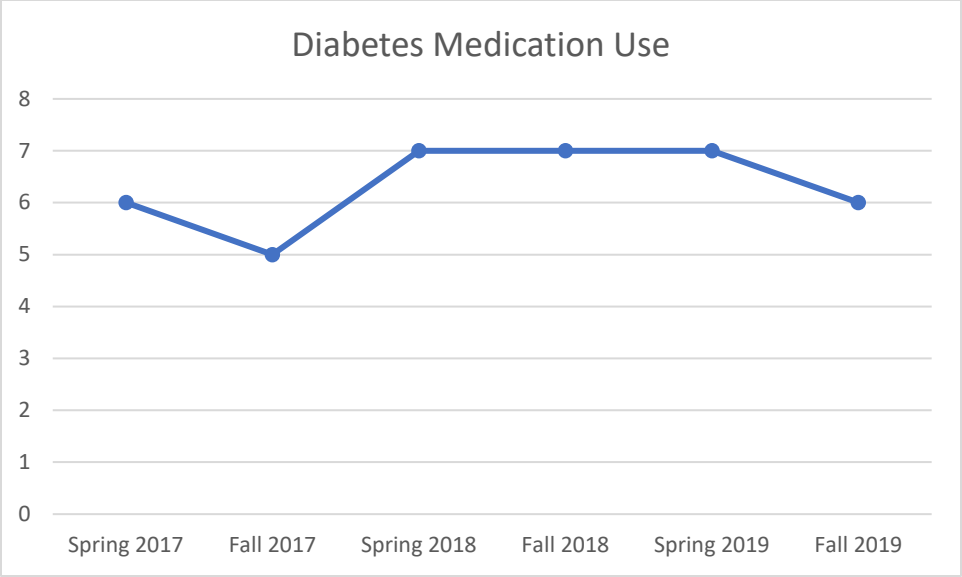

Figure 10: Diabetes Medication Use of Walking Program Participants (n=25)

Metabolic Data

The methods for biometric, anthropometric, and survey data collection for T2T are presented in the Introduction to this dissertation. In short, all data was collected at a public location in the community utilizing finger stick lipid panel and finger stick A1c tests from a convenience sample of community members. All data was analyzed using SPSS v 26 (IBM Corporation 2019). Mauchly's Test of Sphericity and normal distribution were tested at each time point. Data was not altered or transformed due to small sample size; if Mauchly's Test was violated Greenhouse-Geisser correction was applied (Field 2018). Repeated measures ANOVA were run on all anthropometric and biometric outcomes for which data was available for all timepoints. Analysis of Covariance (ANCOVA) was individually run on statistically significant findings to control for income, gender, employment, education, ability to make ends meet, and, where applicable, medication use. Sample size for each variable is indicated under each chart and in the

column labeled “sample size” in Table 3. Sample sizes are lower than the total sample of twenty-five due either to equipment malfunction or the inability of participants to attend a measurement session. Due to small and variable sample sizes, the nature of this grant-funded feasibility study, and the use of a convenience sample, a power analysis was not conducted prior to study implementation or data analysis.

Results of repeated measures ANOVA revealed statistically significant differences in A1c ($p=0.036$), systolic blood pressure ($p=0.016$), total cholesterol ($p=0.028$), and skin carotenoids ($p<0.001$), but no statistically significant differences in average waist circumference ($p=0.338$), weight ($p=0.419$), diastolic blood pressure ($p=0.782$), triglycerides ($p=0.071$), HDL ($p=0.252$), or LDL ($p=0.113$). Table 1 presents all results of the repeated measures ANOVA for biometric and anthropometric measurements, including calculated p-values, and effect sizes. Pairwise comparisons suggest a seasonal pattern in the data. A description of each biomarker and its clinical relevance, along with statistical significance (as evaluated by repeated measures ANOVA) and possible influence of covariates (evaluated by ANCOVA) are presented below.

Table 3: Repeated Measures ANOVA for Biometric and Anthropometric Measurements, Walking Program 2017-2019

Measurement	Sample Size (n)	P<0.05	F	Effect size
A1c	17	0.036*	3.198	0.167
Weight	19	0.419	0.93	0.049
Waist Circumference	20	0.338	1.126	0.056
Systolic Blood Pressure	19	0.016*	2.958	0.141
Diastolic Blood Pressure	19	0.782	0.491	0.027
Triglycerides	16	0.071	2.134	0.125
Cholesterol	20	0.028*	2.646	0.122
HDL	20	0.252	1.347	0.066
LDL	8	0.133	1.828	0.207
Carotenoids	19	0.00*	36.269	0.668

A1c

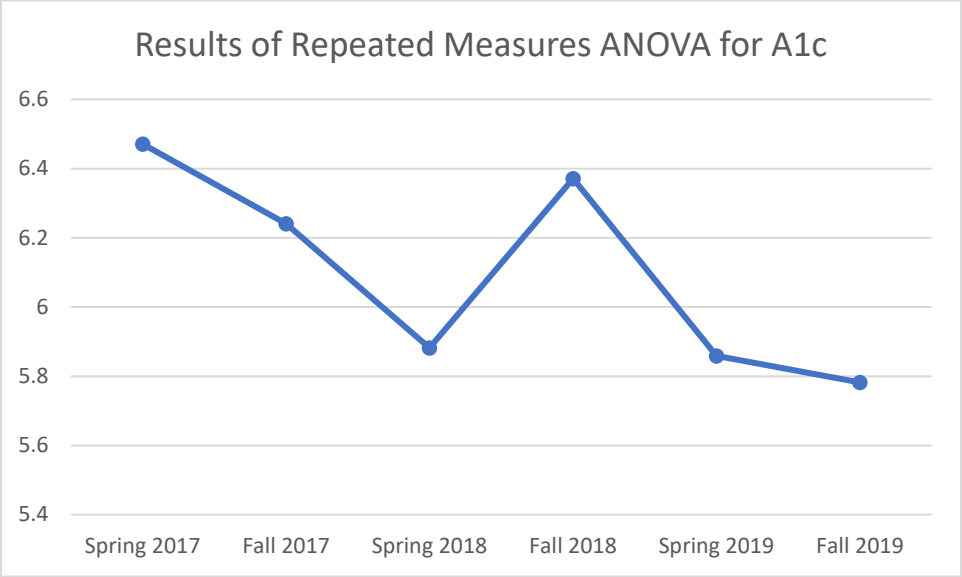

Figure 11: Estimated Marginal Means, A1c (n=17)

A1c – or hemoglobin A1c – is a measure of average blood sugar over the previous three months (National Institute of Diabetes and Digestive and Kidney Diseases). Carbohydrates from food are broken down into molecules of glucose. The glucose enters the blood stream and attaches to the protein in red blood cells called hemoglobin. If too much glucose circulates through the blood stream, over time it can lead to diabetes and related complications such as kidney disease, nerve damage, and visual impairments. In general, an A1c reading between 5.7%-6.4% is considered a sign of pre-diabetes; a reading at or above 6.5% indicates diabetes. Previous research has indicated that receiving a ten dollar voucher for fresh produce can significantly reduce A1c (Bryce, et al. 2017), participating in a community walking program can reduce

fasting blood glucose levels (Oja, et al. 2018; Schulz, et al. 2015), and engaging in twice weekly group exercise can reduce A1c (Seguin, et al. 2018).

Figure 11 shows the mean A1c readings for seventeen program participants across three years, from spring 2017 through fall of 2019. Overall, with the exception of the spike in fall 2018, there was a decrease from just above 6.4% down to just under 5.8%, suggesting that on average participants' A1c moved closer to the non-diabetic range. Despite statistically significant results ($p=0.036$), pairwise comparisons between time points were non-significant. This is most likely due to a weak significant global effect, or the p-value being too close to the significance level of $p=0.05$ (Addinsoft 2021). The role of medication use should not account for the significant changes seen, as it remained relatively stable across all time points (Figure 10) but should not be excluded as a possible mechanism for lower A1c measures in some participants.

Systolic Blood Pressure

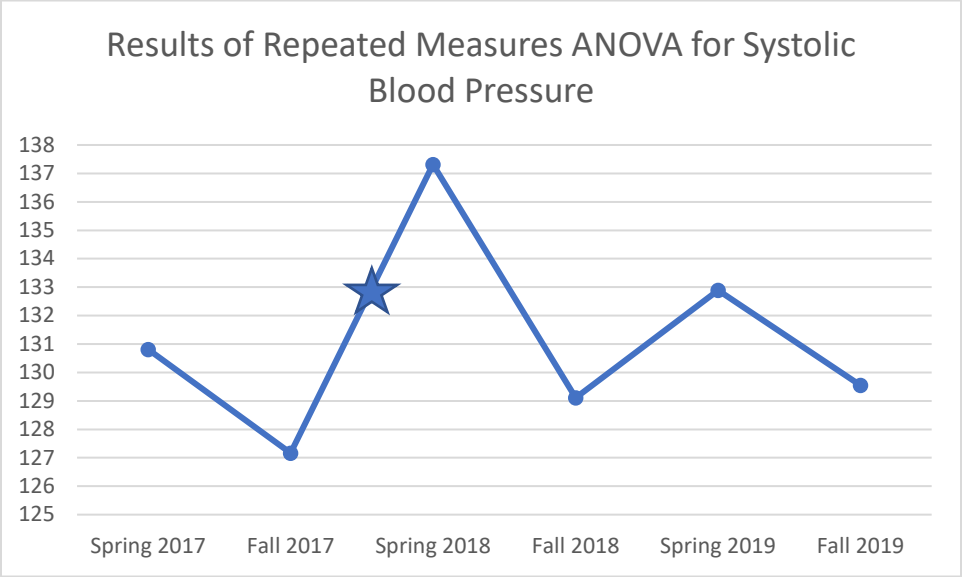

Figure 12: Estimated Marginal Means, Systolic Blood Pressure (n=19)

Blood pressure is measured using two numbers: systolic and diastolic (American Heart Association 2018). Systolic blood pressure generally ranges from 120-180 and is a measure of how much pressure a heartbeat exerts on artery walls. Diastolic blood pressure generally ranges from 80-120 and is a measure of how much pressure is exerted on artery walls between heartbeats. For both systolic and diastolic readings, the higher the reading (over 120 or 80, respectively) the more at risk an individual is to experience a heart attack or stroke. Within this dataset, changes in only systolic blood pressure were statistically significant. Previous research has suggested that an increase in walking can improve systolic blood pressure (Duru, et al. 2010; Hanson and Jones 2015; Murtagh, et al. 2015; Oja, et al. 2018).

Figure 12 shows the mean Systolic Blood Pressure readings for nineteen program participants across three years, from spring 2017 through fall 2019. The change from fall

2017 to spring 2018 (an increase in 10 points) was statistically significant (p=0.01) and indicated by a star in the chart. In general, however, the pattern shows a seasonal change with systolic blood pressure dropping over the course of the farmer's market season and increasing over the fall and winter. From the beginning (spring 2017) until the end (fall 2019), however, there was minimal (less than 1 point) change.

A one-way ANCOVA was conducted to compare systolic blood pressure over two timepoints while controlling for income, gender, employment, education, ability to make ends meet, and blood pressure medication use. There were no significant differences between time points when controlling for key variables, except for blood pressure medication, where a significant, moderate effect (p=0.033) was observed. Participants on blood pressure medication were significantly more likely to have a higher systolic blood pressure when compared to participants not taking blood pressure medication at this time point.

Total Cholesterol

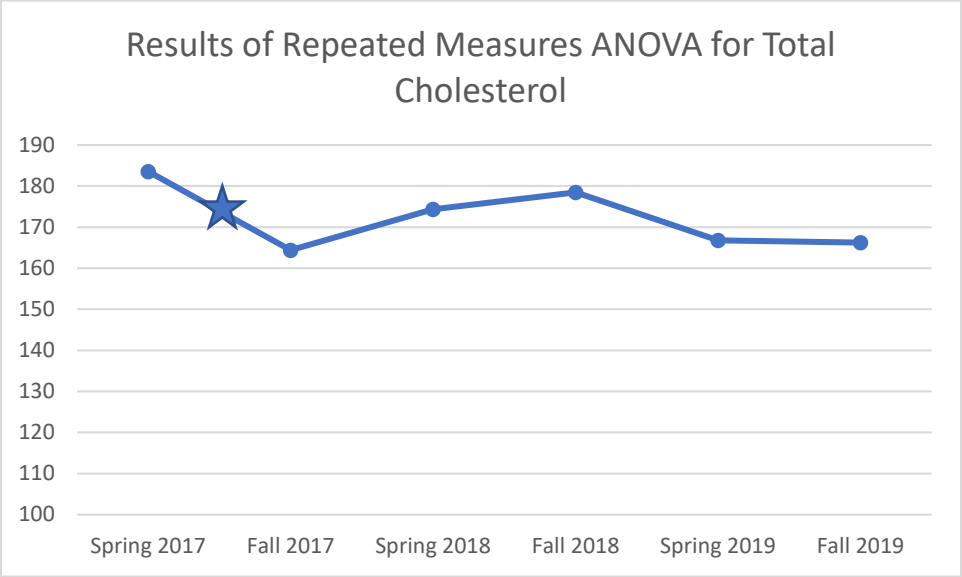

Figure 13: Estimated Marginal Means, Total Cholesterol (n=20)

Cholesterol is a lipid, or fat, that is integral to proper bodily functions (such as the creation of bile and the production of hormones and Vitamin D) (National Heart ; National Heart 2005). It is naturally made in the liver but can also be consumed in the form of foods such as dairy and meat products. Cholesterol is transported through the blood, but too much can lead to the buildup of plaque and increase an individual's risk for experiencing a heart attack. Generally, a cholesterol reading below 170 mg/dL is considered "normal" and a cholesterol reading over 200mg/dL indicates an increased risk for developing heart disease. Walking programs, increased low-impact physical activity (Hanson and Jones 2015; Kodama S, et al. 2007), and increased fruit and vegetable intake (National Heart 2005) have demonstrated the potential to improve cholesterol levels.

Figure 13 shows the mean total cholesterol readings for twenty program participants from spring 2017 through fall 2019. The change from spring 2017 to fall 2017 (a decrease in 19.15 mg/dL) was statistically significant (p=0.031) and indicated by a star in the chart. While total cholesterol dropped 17.3 mg/dL from spring 2017 to fall 2019, the seasonal changes are not as drastic as those shown in Chart 12 (Systolic Blood Pressure). Similar to Figure 11 (A1c), there was a spike in the fall of 2018 that gradually decreased over the following two seasons. Additionally, Figure 10 suggests that the average participants' systolic blood pressure moved from a pre-hypertensive (high blood pressure) reading of over 180 mg/dL to below the "normal" 170 mg/dL.

One-way ANCOVA was conducted to compare total cholesterol over two timepoints while controlling for income, gender, employment, education, ability to make ends meet, and cholesterol medication use. A significant difference was found when controlling for education (p=0.05) with a moderate (0.548) effect size. Pairwise comparisons showed no significant differences between educational attainment. No differences were seen when controlling for other variables.

Skin Carotenoids

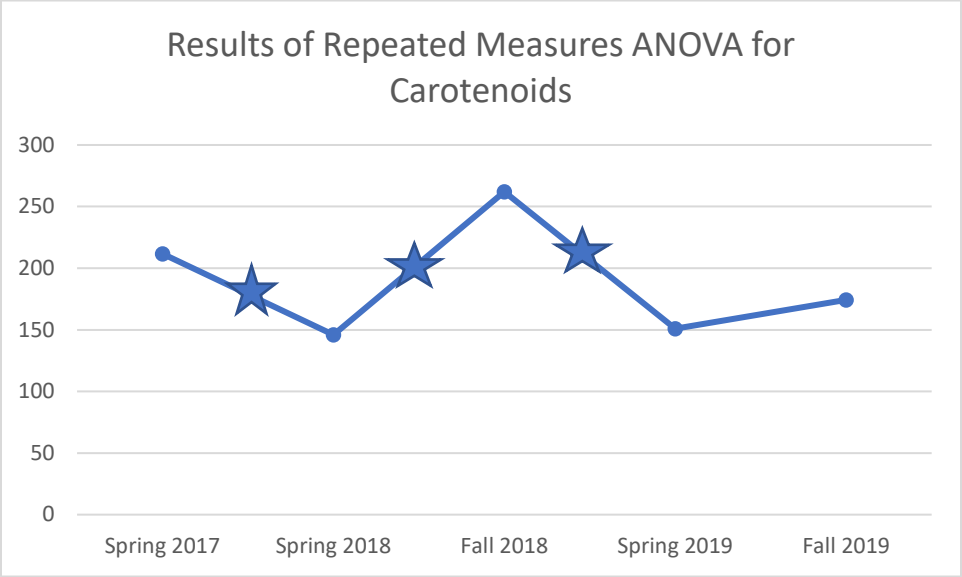

Figure 14: Estimated Marginal Means, Carotenoids (n=19)

Carotenoids are found in fruits and vegetables, particularly dark and richly colored produce such as greens, butternut squash, carrots, and red peppers (Blekkenhorst, et al. 2018). Carotenoids play a key role in decreasing physiological inflammation, maintaining cell health, and potentially decreasing the risk of developing chronic diseases including cancer, diabetes, and heart disease (Aune, et al. 2018; Crane, et al. 2011; Duthie, et al. 2018). Levels of carotenoids can be measured from blood or skin readings. This study utilized a carotenoid scanner, or Veggie Meter, to take skin readings of the non-dominant pointer finger (Images 7 and 8 in chapter one). The scanner employs reflectance spectroscopy, which involves using light to reflect the amount of carotenoid pigment in the body (Conrady, et al. 2017; Ermakov and Gellermann 2012; Scarmo, et al. 2012). The measure provides an estimate of fruit and vegetable consumption over the past four to six weeks. Every 50 points is roughly

equivalent to a half cup serving of a dark colored fruit or vegetable. For example, a reading of 350 would indicate that, on average, the participant consumed three and a half servings of carotenoid-rich fruits and vegetables every day for the past month. Current dietary recommendations suggest consuming five or more fruits and vegetables every day (United States Department of Agriculture 2020a).

Figure 14 shows the mean carotenoid readings for nineteen program participants from spring 2017 to fall 2019. The carotenoid scanner broke during the summer of 2017, was outsourced for repair, and was thus unavailable for data collection in the fall of 2017. Similar to systolic blood pressure, carotenoid data tracked with season. Statistically significant changes were seen between spring 2017 and spring 2018 ($p=0.001$), spring 2018 to fall 2018 ($p=<0.001$), and fall 2018 to spring 2019 ($p=<0.001$); all three are indicated by a star in the chart. The increase in carotenoids from the spring to fall, and the subsequent decrease during the winter months, is most likely due to the increase in locally available (and higher quality) fruits and vegetables during the spring and summer months made affordable through programs such as the walking program. Overall, carotenoids decreased by 35 points from spring 2017 to fall 2019 and the average participant consumed two to two and a half servings of fruits and vegetables less than recommended over the entire time period.

A one-way ANCOVA was conducted to compare carotenoids over three timepoints while controlling for income, gender, employment, education, and ability to make ends meet. A significant difference was found during the first timeframe (Spring

2017-Spring 2018) when controlling for gender (p=0.001) with men significantly more likely to have a higher carotenoid score when compared to women and employment (p=0.055) with moderate effects (0.407 and 0.055, respectively) for both. Pairwise comparisons showed no significant differences between employment status.

Weight and Waist Circumference

Average weight increased by 1.7 pounds from Spring 2017 to Fall 2019, following a slight decrease of 3.2 pounds from Spring 2017 to Fall 2018. Waist Circumference showed a similar, albeit modest trend, increasing by 0.09 inches (.25cm) from Spring 2017 to Fall 2019 following a decrease of 1.4 inches (3.56cm) from Spring 2017 to Fall 2018. None of these changes were significant.

Discussion of Metabolic Data

In summary, despite an inability to attribute causation to any one program or initiative, a small sample size, and no pre-program longitudinal data or control data, three main patterns emerge from these results. First, changes in systolic blood pressure and carotenoids tracked closely with season, improving during the spring and summer months. This could be due to seasonality beyond the program, for example the effect of ambient temperatures on blood pressure (Barnett, et al. 2007; Mpemwangi 2021; Xu, et al. 2019). All measurements were collected indoors, in a controlled environment, but data was not collected on ambient temperatures during data collection. While blood pressure medication had a moderate effect on observed changes, participants who took

blood pressure medication tended to have higher systolic blood pressure. This effect was seen at one time point (fall 2017-spring 2018). Second, A1c and total cholesterol decreased from the first year of the program to the last. While there were not significant changes in diabetes medication use over the course of the program, the use of medication should not be excluded as a potential mitigating factor. Third, a reverse association was seen in A1c and total cholesterol in the fall of 2018. In other words, due to the seasonal patterns observed in systolic blood pressure and carotenoids, we would expect A1c and total cholesterol to decrease from spring to fall of 2018. The data, however, shows an increase in both measures during the farmer's market season.

This data suggests that, in the short term, T2T was effective in improving biomarkers related to chronic disease, specifically heart disease and diabetes. The changes in blood pressure and carotenoids during the farmer's market season suggest that increased intake of fruits and vegetables, along with weekly exercise, may play a role in health improvement. Changes in A1c and cholesterol over the three years of the program suggests the potential for longer term positive health outcomes. This resonates with previous research that has demonstrated a positive effect on anthropometric and biometric health markers from both physical activity and increased fruit and vegetable consumption (Aune, et al. 2018; Bryce, et al. 2017; Crane, et al. 2011; Duru, et al. 2010; Duthie, et al. 2018; Hanson and Jones 2015; Kodama S, et al. 2007; Murtagh, et al. 2015; Oja, et al. 2018; Seguin, et al. 2018).

Despite these patterns, effect sizes were small (less than 0.20) for all measures except carotenoids, which had a moderate effect size (0.668) (Table 3, above). Key limitations of this study are the small sample size, due to the nature of the feasibility study and reliance on convenience samples each year. Small samples within this longitudinal sample are due primarily to participants being unable to make the data collection times due to sickness or vacation or due to equipment malfunction. Further limitations include the variability in what and how much produce can be purchased for ten dollars and the uncontrollable aspects of any human-based study, specifically the societal and political-economic context.

In general, fruit and vegetable intake is positively correlated with improved health and a decreased risk for developing chronic diseases such as diabetes and heart disease (Centers for Disease Control and Prevention 2018; Duthie, et al. 2018; Ford, et al. 2003; Jarvi, et al. 2016; Zino, et al. 1997). While the basic science supporting fruit and vegetable intake is compelling, as noted earlier, we should view its over implementation to solve problems that are rooted in the extractive nature of capitalism with caution. Such over implementation diverts resources and programs towards "fixing" systemic problems utilizing reductive approaches to health and well-being (Crawford 1980; Scrinis 2013). This does not mean there is no place for such programs; rather, local level public health programming that provides fruits and vegetables and physical activity opportunities should be coupled with broader social, economic, and political changes. It is to this topic, explored through the words and experiences of community members, I

turn next. The quotations shared below come from interviews conducted with walking program participants as well as members of the wider community.

A Tangled Web

> "I know the whole addiction as disease versus a choice is a hot topic, but it starts with a choice whether it turns into a disease or not. [Substance abuse] connects in with all the other social issues here, you know. Maybe they didn't get a good education, they don't have anything to do. They're not healthy…. What a tangled web we weave." --Sophia

Community members overwhelmingly enjoyed the programs offered, including healthy cooking classes, produce prescriptions, and T2T. While these programs could contribute to a healthy and robust community, particularly – as shown above – when fresh produce is in season, they are not a panacea. I would go so far as to argue that the over implementation of such interventions diverts resources and efforts away from addressing institutional and systemic injustices in favor of reductive and individualized approaches. As Sophia poignantly points out, we live in – and co-create – a tangled web of choices, not all of which are under our control. Programs discussed in this chapter can strengthen the creation of social spaces and networks while making a "healthy" choice – such as fruit and vegetable consumption or physical activity – easier. But they cannot fix centuries of extraction, destruction, and the obstruction of capitalism and its injustices. In this section I do not attempt to untangle the web – the dangers and beauty of a web are part and parcel of how it is tangled – but to trace some of its threads, guided by community members' concerns.

An Intrusion

> Annie: I'm curious what other concerns or worries you have about your community.
> Richard: Is it mostly because of Covid or just in general?
> Annie: Just in general.
> Richard: Because that answer might be different if it wasn't because of Covid, you know. It's hard to leave that out, isn't it?

In the fall of 2020 Covid-19 – and its ripples of influence – were on the forefront of many people's minds. The intrusion of fear and uncertainty into everyday life –

> "My husband, he's had open heart surgery and he's a diabetic. And he has Wolf-Parkinson-White [syndrome] as well. So we kinda have to keep him in a bubble."

affected previously taken for granted acts, such as grocery shopping –

> "My [other] concern is the packaging that [workers] are putting [food] in, you know, if they've not got gloves on…if they got the virus then you bringing it home with you. I don't know if it can be transmitted that way."

volunteering –

> "No, I haven't [volunteered at the food pantry]. Because you got a lot of huggers. I shouldn't be out in that. There's three or four of us older people that's not [volunteered]….I'm so scared of getting Covid that I've not…I haven't worked [at the food pantry] since March."

gardening –

> "This year we planted more beans and things like that that we knew would go a long way because I didn't know if [Covid] would ever ease up. So I planted more beans and things that we could save."

and seeing friends –

> "There's so many things I can't do now that I used to. And it's, you know, things aren't a lot of fun. With this Covid business you can't enjoy your friends and you can't go any place and it's very depressing."

in ways that were inescapable and weighty. Covid-19 was an intrusion, the forcible entry of fear and uncertainty like molten lava between layers of rock. Even in the absence of an immediate, visible danger the ground beneath everyone's feet had shifted. These cracks and fissures were apparent in interviews as we discussed broader concerns within the community and as, at the time of writing, we continue to struggle with surge after surge of Covid-19.

Community Concerns

On my first drive into eastern Kentucky, in the fall of 2016, I was struck by the number of billboards advertising various types of medical and health support. Regional clinics, university hospitals, and the faces of local practitioners dotted the roadside promoting affordable appointments and surgeries. Over the years, the main street of town metabolized this pattern as previously empty shops and restaurants converted into dialysis clinics and outpatient facilities. A few restaurants and bars remain but walking down main street I am always struck by the injection of the medical industry into the central artery of town.

Despite the preponderance of medical offices, community members identified major gaps in using and implementing medical care. The most common example was the cost of prescription drugs and other material supports. Participants had various

levels of insurance and could often afford to at least get in the door to see a doctor. Beyond that initial visit, the material substances necessary for improving and maintaining health – including prescribed medications and diets – were often beyond their means. "Especially senior citizens," an extension agent who is deeply involved with older adults in her community told me, "they don't have enough money to pay for their medicine, their food, and everything else." People are put in this position by political and economic decisions made hundreds or thousands of miles away that maintain low wages and a for-profit healthcare system. This position itself – absent the biochemical necessity for drugs or food – actively limits possibilities for self-care and is, I would argue, extraction for the 21st century. Insurance companies and the pharmaceutical industry extract wealth from the bodies made sick by the waste streams of capital, whether pollution, processed foods, or the opioid epidemic.

Laura did not have health insurance until she was sixty-five-years-old and qualified for Medicare. She struggled with cataracts for most of her life but did not have the insurance or money to afford corrective surgery. When a hole was discovered in her retina a few months before her seventieth birthday, she explored how much her insurance would cover. She found herself forced to choose between a substantial medical bill or going completely blind in her left eye. She chose the medical bill.

> "From the time I walked in the door until the time I walked out the door – it was three hours – they billed $12,000. They billed me for an operating room – it was a reclining chair in a closet. That was $1500. They billed me for the recovery room. It was that chair moved over into a big room. $1200. They billed me $1400 for anesthesia. It was a valium. It was one

> valium pill, with a little cup of water. It's for profit. It's somebody's got to make money out of it, out of healthcare. That is not healthcare. That is health business."

Given this context, it is no wonder that national survey research in summer 2021 found that a non-significant portion of Covid-19 vaccine hesitancy was due to the fear of being left with a medical bill (Sparks, et al. 2021). As a result, Covid-19 surged in these areas throughout the fall of 2021 and into the winter of 2022, leading to unnecessarily high rates of illness and death.

While prescription drugs and surgeries are available but often unaffordable, mental health care is often entirely unavailable. After the birth of her son, Tina struggled with post-partum depression and severe disordered eating that left her unable to care for her baby. "My mom would have to stay with me a lot of times," Tina said, "because I would sleep…like I was exhausted beyond exhausted." She had basic insurance through her employer at the time and her primary care physician ordered various tests to check her vitamin levels and told her to take B12 and iron supplements. Tina progressively worsened but no one ever considered mental health support; eventually, slowly and painfully, she worked her way into a safer state with the help of her family and friends.

> "I think mental health is probably one of the biggest things. I don't really think that people express how important it is. There's not a lot of resources for people and mental health is more than just being sad or whatever, you know….I mean most of the time if people are having [health issues] it boils down to mental health for some reason. A lot of people…don't have the money to buy healthy foods and that's really depressing to not have what you need for your family. It's depressing when you can't afford things and you know that takes a huge mental toll on people."

Covid-19 exacerbated already existing mental health conditions, with 40% of adults nationwide reporting struggles with mental health, including anxiety and depression, substance use, and suicidal ideation (Czeisler, et al. 2020). When physical healthcare is almost impossible to afford and mental health is completely ignored by healthcare practitioners, as Tina's case exemplifies, it should come as no surprise that during an unprecedented global pandemic trust in institutions falters.

The role of mental health – specifically stress – on biological health is well studied (Flinn 2008; McDade 2010; Worthman 2015). Stressors are understood as anything that disrupts the normal stability of an individual, whether the individual consciously detects the stressor or not (Worthman 2015). The disruption can fall along a continuum from mild to severe. In response to stress, physiological systems become active and release hormones that suppress a range of bodily systems (such as gastrointestinal and immune) in favor of increased operation of physical and mental systems to withstand immediate conditions (Dressler, et al. 2016). The consequences of this hormone cascade can have deleterious consequences for individuals, particularly children and adolescents, including an increased risk for depression, diabetes, and high blood pressure (Worthman 2015). Low socio-economic status presents numerous material and social stressors. Cash assistance programs delivered to women with children in Mexico lowered the cortisol levels (a well-studied stress hormone) of women with depression and their children (Fernald and Gunnar 2009). This suggests that distributive politics might provide a buffer to the stressors associated with poverty.

If mental health is the liquid within which physical health boils, I would argue that the political economic system of late capitalism is the pot. While Laura, Tina, and others voiced their concerns through their embodied experiences of health and illness, the underlying pattern is the economic web woven centuries ago. "Unemployment effects our economy tremendously," fifty-six-year-old Ruby told me. She went on:

> "We were stuck on coal forever and ever and that was the primary source of employment for our economy and now it's not here. And it's, you know, if you don't work for a government office…or the school system or in the medical field, you really don't have any kind of employment, other than, you know, we've got Walmart and the couple grocery stores. That's about it. There's not any choices here for employment for people to make a living wage on."

Fortuna was the youngest person I interviewed – she was in her early twenties and pregnant with her second child. "I worry about unemployment rates," she said, "because even if people are employed it's like – we have a Food City, a Walmart. Stuff that's close to minimum wage. So it's not like [people] make a living." Most participants expressed disgust and frustration over the fact that working forty hours a week at minimum wage was not enough to afford even basic necessities like food, rent, gas money, and childcare. "I wish the tide would turn," Fortuna sighed. "I would hope things would change versus, you know, when [my child] is looking at…where does he want to be, you know, used to I would have been like, well, he's gonna live right here. But I don't know if I would even wish that for him….But you know, used to I wouldn't have even thought them things." Much like the high price of prescription medications, stagnant wages are the product of specific political and economic decisions.

Discussion

Appalachia's history includes influxes of resources and programs designed to "fix" systemic problems – or at least the symptoms of systemic problems. Health has become a major issue receiving attention and funding for interventions – such as those discussed above – for decades. I do not want to give the impression that these programs are useless. While there is no way to definitively demonstrate that the walking program decreased the total cholesterol and A1c of participants – and thus decreased their risk of heart disease and diabetes – it does not feel like a particularly illogical leap to suggest that it contributed, even minorly, to these biometric findings. Particularly given the seasonal variation in systolic blood pressure and carotenoids – something was happening during the summer months, the months when fresh, quality produce is available. Programs to increase local fruit and vegetable intake can support individual and community health. But they are not enough. Rather than temporally and geographically limited programs that rely on reductive approaches to health and well-being, nation-wide economic and political changes are needed. The conclusion of this chapter briefly explores what these changes might include.

Interview participants overwhelmingly had faith in the market to help the tide in Appalachia turn. For example, Coralynn suggested "If we could get one good company to come in and see, I think others would move in also." Other participants, such as Sarah, expressed faith in local agricultural enterprises. "[A solution] would definitely include local farmers and networking to show people that we do have some stuff in our

area." Multiple people took this sentiment a step further by suggesting, as Fortuna does: "I'm not really sure how you could make that work and still make the person who grew the food make extra money, but I feel like somehow if you could get people to deliver the food to homes, even if it may cost a little extra, then that would help people out more." The degree of faith in the market – whether an outside company or a local farmer cooperative – to solve the tangled webs of eastern Kentucky reflects the neoliberal imperative that displaces social welfare from state and federal governments to corporate entities.

Given the lack of support – or, historically, outright violence (Bell 2016; Catte 2018; Hennen 2015) – from the federal government, it is no wonder the majority of people in this study have more faith in a corporation to provide for them than the government. Even when facing harsh working conditions, the workplace is a material space at which resistance can be expressed, as illustrated by the history of mine strikes throughout the 20th century (Hennen 2015). How does one, particularly without reliable transportation or the time and money to get to Frankfort (the Kentucky state capital) or Washington D.C., resist the state or federal government, outside of the voting booth? I do not mean to suggest a lack of political agency, merely to point out the spatial-geographical distance that often translates to a feeling of political distance or even abandonment by elected officials. When the federal government has stepped in to "fix" Appalachia, grassroots control over programs and agencies remained rare and local elites often stepped in and directed resources towards their own benefit (Billings and

Blee 2000; Davis and Baker 2015).

The hope participants such as Coralynn expressed that a "good company" would "come in" to the region and initiate a flood of good employment opportunities might best be realized by worker owned operations; a thought Sarah, Fortuna, and others danced around. When local workers retain ownership over the means of production and the equal distribution of profits, not only do they retain more say over their work conditions, but tax revenue to provide for basic services remains in the community. This is one potential counteraction to the history of exploitation and extraction within Appalachia and the violence of late capitalism that resonates with community members' desires to provide for their families and social networks. State and federal support for such worker owned operations could be a step towards repairing faith in the government.

Conclusion

Such efforts could – I would argue should – be supported by federal redistributive policies. Over the course of the Covid-19 pandemic year of 2020 the wealth of a few billionaires increased by 34% while over 20 million people lost their jobs and struggled to afford rent, food, and medicine (Peterson-Withorn 2021). Survey research from the US Census Bureau found that twenty-five percent of households were using Covid-19 stimulus payments to make ends meet and to pay off debt that was accumulated over the first half of 2020 (Perez-Lopez and Monte 2021). One in three respondents were forced to take out loans or borrow money from friends and family to

pay for basic living expenses. Distributive policies should not be limited to crisis situations such as global pandemics. In June 2021, IRS documents revealed that the same billionaires who increased their profits during 2020 paid little to no federal income taxes (Eisinger, et al. 2021; Hansen 2021). Closing tax evasion strategies and loopholes could fund extensive social welfare policies, including regular payments to assist with cost-of-living expenses, truly affordable (or free) healthcare, childcare, and elder care.

Additionally, such money could go towards programs such as healthy cooking classes, fruit and vegetable prescription programs, or walking programs to support both local markets and physical health. Interview participants overwhelmingly enjoyed all three programs and, possibly, benefited from them metabolically. This chapter describes statistically significant improvements in systolic blood pressure and carotenoids during the spring and summer months, as well as improvements in A1c and total cholesterol over the life of the program. The redistribution of wealth could open more space for such programs in areas other than nutrition – including substance abuse and mental health, but also art, music, and other creative endeavors that play an important role in human health and well-being. Programs such as T2T lead to, in my opinion, success. These successes are demonstrated not only through the positive changes to some biological markers, but through participant enjoyment. And, at the very least, every participant receives money to spend on food and an excuse to exercise and be out in their community. These programs, however, are not the solution to broader political economic issues such as high costs of medical care and low wages,

that, as cultural products, impact health and disease as much as diet and exercise.

Worker ownership of companies could improve worker rights and better disperse corporate profits to those who actually provide the labor. By demanding that the few with the most resources contribute to the well-being of the many from whom their wealth is extracted, the systemic problems that have haunted many Appalachian communities can be truly – holistically – addressed.

Chapter 4: "She's Afraid of Gaining Weight and Losing her Husband:" Affective Political Ecology and the Sociality of Disordered Eating in Rural Appalachia

Introduction

Rosie was a small, slender, eastern Kentucky woman whose weight never topped 120 pounds, even during her four pregnancies. After she graduated high school her father insisted she attend college or a trade school "in case [she] married some man and he couldn't keep them up or left them or something that [she] would be able to provide for [herself]." Rosie became a licensed beautician, but was more interested in marrying her lifelong husband, raising a garden, and starting a family than cutting and styling hair. While she never worked one day in a beauty shop, Rosie labored to make her home. She re-upholstered inherited furniture, set wallpaper, cooked and baked, cultivated a variety of vegetables in her garden, and in the summer canned jar after jar of fresh peaches and grape jelly. On each of her children's birthdays she baked them their own special pie – butterscotch or meringue. "Her recipes would be like sugar, flour, you know, it didn't say a spoon of this or a cup of that, she just knew how to do it," her daughter, Coralynn, shared with me.

Despite spending most of her life active in the garden and cooking fresh food at home, in her early 50s Rosie's cholesterol was in the 800s ("normal" cholesterol is 125-200 mg/dL)(National Heart). Her doctor put her on a low-fat diet, which she followed meticulously. That Christmas she made a special cake for dessert, and, Coralynn told me, "I sat and watched her cry, literally tears. She wanted a bite, just a small piece of

her cake she had made, but she wouldn't dare go off her diet." Less than a month later, Rosie suffered a heart attack and died. "Til this day," her daughter continued, "it makes me *sick* that we didn't insist that she eat a little bite of that cake."

Christy's husband Daniel was diagnosed with type II diabetes in 2017 and began following a low carbohydrate diet to try to manage his blood sugar. During the late spring and early summer of 2020, due to the Covid-19 pandemic and related economic and supply system issues, meat was both expensive and difficult to find. Christy and her twenty-two-year-old daughter did not eat meat for weeks, as the small amount they were able to find Daniel insisted on eating, citing his diabetes and low-carbohydrate diet as justification. "We prefer a potato anyways" Christy said, her voice trailing off.

Kathy's husband was laid off due to Covid-19, and for reasons they do not know, he never received unemployment checks. Like many people, they suddenly found themselves trying to make do on $300 per week from Kathy's job in the school system. On top of their reduced finances, Kathy's niece Monica moved in with them for a few months. While initially concerned about how to afford feeding an additional adult, Kathy's concerns soon shifted. Monica refused to eat anything except tomatoes and cucumbers, a combination lauded by online diet "experts" for its ability to stimulate weight loss and detoxify the body (Minger ; Nayak 2018). After many conversations about the importance of protein, carbohydrates, and fat, Monica finally agreed to eat a small piece of pork chop Kathy cooked for her. "Her husband," Kathy said, her voice

sharp and rising with anger, “doesn’t allow her to get *fat*. So she’s afraid of gaining weight and losing her husband.”

This chapter considers the experiences of individuals such as Rosie, Daniel, and Monica, through the lens of affective political ecology (discussed in more detail below), to understand what disordered eating is, what it produces in others, and what might produce it. Previous anthropological research has focused primarily on what eating disorders are (Musolino, et al. 2015; O'Connor and Van Esterik 2015; Warin 2003; Warin 2004), how they circulate in online worlds (Abbots and Attala 2017; Lavis 2017), and how the for-profit insurance industry makes treatment out of reach for most individuals (Lester 2019). This chapter builds on this research of eating bodies (Abbots 2017; Lavis and Abbots 2020) by understanding that all eating disorders include disordered eating, but not all disordered eating constitutes an eating disorder. My interest is in the latter; my intent is not to develop a strict definition or diagnosis of what disordered eating is, but to explore it as a phenomenon that exists beyond binaries. I understand disordered eating to encompass multiple relations as it affectively moves within and between bodies. It often features – but is not limited to – the ways in which people manipulate their food intake in response to medical diagnoses, weight loss attempts, and/or their relationships with others. Disordered eating is about more than food or specific eating patterns; it is an affective – and often painful and preoccupying – interplay between bodies, minds, and the material world. Throughout this chapter I use the terms

"disordered eating" and "dieting" to refer to the same phenomenon, in part because, as I will explain more fully below, both have similar material and bodily realities.

The analysis is based on data gathered through ethnographic research in a small, rural Appalachian community in eastern Kentucky. Rural Appalachia residents are regularly stereotyped as uneducated, poor, fatalistic, and more recently, fat (Billings, et al. 1999; Cardarelli, et al. 2020; Fletcher 2017). Panic over fat bodies grew throughout the late 20th and early 21st centuries, a history I explore below to provide the context for an increasing quantification of health and, more specifically, eating. Tracking body weight, number of carbohydrates consumed, or calories eaten are common public health prescriptions to "fight off" weight gain. What is hidden by obsessions with fat and numbers, however, is the pain and suffering that exists beneath and moves between bodies. This chapter illustrates how rural Appalachian Kentuckians adopt disordered eating patterns through their relationships with bodies (their own and others) and the materiality of food as they attempt to lose weight or control their metabolic health. Based on survey and interview data, disordered eating is common in this community, particularly among men and participants between the ages of 30-39.

To better understand what disordered eating is, I begin with a brief explanation of how eating disorders – as the most extreme example of disordered eating – are psychiatrically diagnosed but simultaneously understood as involving the body. Eating disorders involve disordered eating, but not all disordered eating constitutes an eating disorder – a distinction that seeks to interrupt "the ontological error in conceptualizing

pathology in categorical versus continuous terms" (Jenkins 2015). I also present a brief history of the artifactual construction (Guthman 2013a) of the "war on obesity" as government institutions, public health initiatives, and research studies reinforced cultural narratives of fat bodies as risky, creating an environment within which minds and bodies interacted and reacted, often in disordered ways. Next, I delve into the results of an online eating disorder and demographic survey distributed in June 2020 and again in March 2021 in an eastern Kentucky community. By presenting overall results and their gendered distribution I paint a particular portrait of disordered eating in eastern Kentucky. Examples from in depth, semi-structured interviews conducted in the fall of 2020 help to flesh out the affective quality of this data. Next, understood through anthropological explorations of food sharing and affect theory, I examine how disordered eating is shared and creates affective ripples as it moves between and among friends, family, and coworkers, changing material and bodily realities. This chapter contributes to food and fat studies literatures by bringing the eating body into the discussion of food as a social object. It also adds to the anthropological interest in food sharing by bridging the gap (and inherent power relations) between materiality and affect. Finally, I would urge nutritional and biocultural anthropologists to consider the affective (and disordered) ways in which people eat along with the amounts and nutrient compositions of foods and food patterns. As will be discussed later, disordered eating can have metabolic consequences which can be missed by reducing nutritional and biocultural studies to the component parts of dietary patterns.

To understand the dance of disordered eating within and between bodies and material worlds, I use the lens of affect theory, particularly affective political ecology. Affective political ecology is described as "an explicitly affective lens, one that recognizes the central role of the visceral and the emotional in mediating human-environment interactions and in the entanglement of the neurobiological and the sociocultural and incorporates an embodied perspective that follows food into the body" (Abbots, et al. 2020). The visceral is typically understood as intuition – as gut feeling. The gut – or the stomach – is often discussed as the "second brain" but it makes more sense to think of the brain as the second stomach. Through our neurobiology we metabolize all types of layered informations that are deeply incorporated into our organs and bones, much as nutrients from food. This plays a role not only in the food eaten, but the way that food is consumed, digested, and absorbed. Anyone who has eaten a meal in a particularly tense environment and picked at their plate or suffered stomach cramps during or shortly after can attest to this. Political ecology produces our information diet, from job related stressors, economic precarity, and lack of medical care to the exercise and nutrition data (calories, macros, etc.) to which we are constantly exposed. When considering disordered eating, affective political ecology helps sketch how a weight obsessed, Western biomedical environment is connected to and connects bodies. In other words, to understand eating – disordered or not – you cannot disentangle bodies from the shared social and cultural understandings and material realities of what it means to live in particular types of (fat)(non-white)(femme) bodies.

The Limits of Diagnoses: A Brief History of Disordered Eating and the War on Obesity

Biomedicine, like psychiatry, is "a product of culture, an ideological position grounded first in the belief that we can separate the body and the mind and second in the belief that we can separate the mind from the environments in which we live" (Grinker 2021). Following this belief, eating disorders – the most extreme (and widely recognized) manifestation of disordered eating – are diagnosed following strict guidelines laid out in the Diagnostic and Statistical Manual, written by and for psychiatrists. Eating disorder care, however, requires a team of specialists including a psychiatrist, medical doctor, and registered dietitian (Lester 2019). The psychiatric diagnostic criteria for some common eating disorders are presented in Appendix A. While the diagnostic criteria for an eating disorder is found in the discipline of the mind (psychiatry), the criteria itself involves the body through a focus on weight and eating behavior. Additionally, treatment teams include professionals who care for the body. In other words, the diagnostic criteria and standards of care disrupt the mind/body dichotomy. While all eating disorders are cases of disordered eating, not all disordered eating is an eating disorder. Disordered eating is a phenomenon that demands attention *on its own* as it troubles the cultural separation among body, mind, and environment. Before exploring how the bodies and minds (taken together) of participants experienced disordered eating, in this section I briefly outline the history of bodily categorizations and its ramifications as they developed in the twenty-first century United States. In particular, I draw attention to the institutional power that trickles down into everyday

life as well as gendered relations and their implication for more local instantiations of power.

In the United States, women are significantly more likely to receive an eating disorder diagnosis (Anorexia Nervosa and Associated Disorders 2021) but disordered eating behaviors are equally common between men and women (National Eating Disorder Association 2021). Most current research on disordered eating in men focuses on body image, in particular a preoccupation with building and exhibiting musculature (National Eating Disorder Association 2021). This focus is reminiscent of early feminist work that explained the disproportionate number of women suffering from eating disorders on unattainable standards of beauty (Wolf 1991) and "the crystallization of a culture" of abuse against women (Bordo 1993). More recent work has primarily focused on women due to the higher rates of diagnosed eating disorders among women (Lester 2019; O'Connor and Van Esterik 2015) and "because of women's historic association with physicality, and because feminine body norms are still central vehicles for patriarchal control" (Lelwica 2017). Disordered eating among men is understudied; in families and groups that retain patriarchal structures men could very easily be setting the eating norms – disordered or otherwise – within the household.

The first two decades of the 21st century witnessed a steady increase in conversations around disordered eating, due largely to an increased attention to weight. Despite no new scientific or medical findings, during the fall of 2001 the press unleashed a torrent of stories related to the obesity epidemic, national anxiety increased, and the

U.S. government released the first anti-obesity campaign in December of 2001 (Biltekoff 2007). The obesity campaign intently focused on marginalized communities, with the effect of "perpetuating negative stereotypes about Blacks, Latinos, and the poor" (Biltekoff 2007). Given the historical dominance of the white, thin, male body as "normal" (Guthman 2011b; Guthman 2011c; McCullough and Hardin 2013) it should come as no surprise that during a resurgence of national militaristic pride, the bodies of (fat) femme, non-white individuals would be increasingly scrutinized and surveilled.

Despite myths of scientific objectivity, scientists are always subjective and culturally situated; in this context of growing concern over body size, existing assumptions about fat bodies became incorporated into the questions and methods of inquiry (Guthman 2013a). For example, the reliance on body mass index (BMI) cut-offs (<18.5 underweight; 18.5-25 normal; 25-30 overweight; 30+ obese) creates absolute categories where small shifts take on great meaning that can influence the interpretation of scientific results. Five to eight pounds can make the difference between a BMI of 29 and 30, depending on height. "So if actual population weight gain in a given time span is on average about seven pounds per person, much of the rise in the rates of obesity reflects the movement of people at the high end of one category moving into the next category" (Guthman 2013a). In this way, average weight gain may be relatively minor, while creating the appearance of dramatic change. Similarly, prevalence rates can appear overly dramatic, as percentage changes within a category typically mean that already large people have become larger, not that once thin people

became fat overnight. Furthermore, it bears repeating that the BMI was based on a "normal" white, male body. Natural changes in fat stores over the course of a woman's life – due to hormone changes, pregnancy, menopause, etc – are not accounted for. As Alan Goodman (2013) indicates, finding statistical significance, even with advanced computational power, is difficult because biology does not stand still.

The original purpose for BMI and body measurements was not "in finding a metric that would compare an individual against a normal curve but…a means of calibrating vast amounts of data about body size to make comparisons between populations" (Yates-Doerr 2013). Measuring detached aspects of human bodies to compare to a bell curve ignores other experiences and practices of living in a human body that cannot be measured. Disordered eating develops as bodies attempt to fit themselves onto the bell curve (Greenhalgh 2016a). The human bodies that helped construct now taken-for-granted body measurements were overwhelmingly white and male (Guthman 2013a; McCullough and Hardin 2013; Saguy 2013; Yates-Doerr 2013). This sets unrealistic expectations for women and people of color, holding them to a standard that was not meant for them (Guthman 2014; Strings 2019). Furthermore, "an additional consequence of bell curve thinking is that it makes non-normality tantamount to pathology"(Guthman 2013a). In other words, any body – particularly an "overweight" body – that is not white and male is abnormal or even diseased. Health "is but one dimension of an overdetermined web of relationships and realities that are not easily separated out, but rather are interwoven into a broader sense of lived experiences"

(Leatherman 2005). In short, health cannot be understood through numbers alone, whether those numbers are individual weights or population level statistics.

By the late 2000s, it became a largely accepted fact, if not common sense, that fat equated to sickness and ill health (Sanabria 2016). This was codified in 2013, when the American Medical Association recognized obesity as a diagnosable (and thereby billable to insurance) disease (Kyle, et al. 2016). In her book *Fat Talk Nation,* anthropologist Susan Greenhalgh deconstructs the term "war on obesity" by pointing out the casualties of that war: both bodies and identities are under perpetual attack (Greenhalgh 2015). By collecting personal essays from over 300 of her students, she details the way that all bodies – regardless of weight status – are stigmatized, bullied, surveilled, and controlled. Other aspects of identity formation are subsumed in student's efforts to gain, control, or lose weight in their attempts to meet an abstract, never-achievable "norm". "It is unjust," she writes in her conclusion, "to classify one-third of children and teens – to say nothing of two-thirds of adults – as 'biologically abnormal' and 'diseased' when the field of medicine has no safe, reliable means to enable them to lose the weight and keep it off, and so become 'well' and 'normal'" (Greenhalgh 2015). What Greenhalgh and others do not fully explore are the disordered eating thoughts and behaviors and their affective and social qualities that lie beneath attempts at controlling one's body.

Similar to the uptick in psychopharmacology that led to the explosion of diagnoses (Grinker 2021), private industries promised to produce smaller bodies via a

cacophony of weight loss 'solutions' (Greenhalgh 2016b). These financially feasible quick fixes included pills, exercise equipment, surgeries, and diet foods. Scholarly research, embedded in neoliberal ideology and utilizing funding from federal or private sources, reinforces the fat-as-bad narrative in increasingly reductive ways. These forces, in tandem, have resulted in an over-emphasis on individual behavior and an obsession with weight and dieting that fat activists and critical dietitians have labeled "diet culture" (Baker 2015; Crabbe 2017; Harrison 2018; Miller 2016; Tovar 2018). Kate Cairns and Josee Johnston (2015) describe the "do-diet" of middle class, white women in America as "healthy eating discourse that reframes dietary restrictions as positive choices, while maintaining an emphasis on body discipline, expert knowledge, and self-control"(Cairns and Johnston 2015). Body discipline is reinforced through regular weighing, kept in check through the expert knowledge of dietary and exercise rules, and tracked through careful monitoring of calories in and calories out.

Similarly, Annemarie Mol explores how "science interferes with daily life" through the embodiment of Dutch dietary advice (Mol 2012). Calorie counting turns the kitchen into a laboratory that stresses food as fuel, lists of "good" versus "bad" food pits health against pleasure, and the image of a balanced plate (rather than a communal bowl) suggests the value and significance of a particular, scientific diet over other cultural ideas of what a meal should look like. Together, calorie counting and the balanced plate underscore the importance of the *individual* to controlling themselves, rather than considering food as social. In this way, scientific, nutritional "knowledge

structures particular ways of healthy living, rather than others" (Vogel 2018). This healthy living is individualized and self-referential, but, as illustrated below, deeply affects social relationships and the bodies of others.

In this way, "dieting" and "disordered eating," can be conceived of as behaviorally and, perhaps, psychologically and metabolically equivalent. Epidemiological "fit but fat" and dietetics "health at every size" literatures find that disordered eating patterns are highly correlated with long term weight regain, often above and beyond starting weight (Aphramor 2010; Mann, et al. 2007; O'Hara and Taylor 2018; Pietilainen, et al. 2012). A focus on numbers-as-health also makes it more difficult for individuals to value non-numerical understandings of their own bodies. Julie Hogsgaard Anderson and Susan Reynolds Whyte, in their fieldwork among Danish individuals with diagnosed metabolic illnesses, outline the concurrent rise of chronic disease and ways to quantify and monitor those diseases (Andersen and Whyte 2014). "Whereas doctors are prescribing by numbers," they explain, "it has been suggested that older Danes are 'living by numbers.' In their pursuit of health, they quantify exercise and diet." Patients regularly began to assess their success in managing their disease risk through numbers, shaping their subjectivity in particular ways. Numbers, however, are never objective (Biruk 2018). Numbers read as pathological were assumed to reflect poor lifestyle choices, such as high fat diets and a lack of exercise; objections were read as lies or non-compliance. Patients who were unable to manage their numbers were read as irresponsible or lazy, despite their best intentions to follow prescribed advice. "Acting

on scientific facts is a culturally constituted rational act," Anderson and Whyte write, "implying that you are not just leaving your life to fate, but have tried to take responsibility for it. This is an existential search for control as well as a moral process." Furthermore, disordered eating patterns have numerous negative effects that impact long term health and the development of chronic diseases, including gastro-intestinal health (Preidis, et al. 2016), cardiovascular health (Look, et al. 2013; Ross, et al. 2015), and maintenance of blood glucose levels (Koster-Rasmussen, et al. 2016). Such health implications of eating patterns demand more attention from nutritional and biocultural anthropologists. In short, the accounting culture (Caldwell 2014) of health extends beyond bodies, into the shared social and material contexts which encourage disordered eating behaviors.

The Quantification of Disordered Eating

This study utilized a mixed methods approach. Pre-surveys (June 2020; n=181) and post-surveys (March 2021; n=56) were conducted online and included the 26-question Eating Attitudes Test (EAT-26) to assess rates of disordered eating, along with demographic and food procurement questions. Data was analyzed using SPSS v 26 (IBM Corporation 2019). Chi Square Analysis and ANOVA were conducted on key variables to assess differences in scores; Independent Samples T-tests were run on variables with statistical significance. Paired Samples T-tests were utilized to compare survey results from pre (June 2020) to post (March 2021). Participant observation and thirty-two (August-December 2020; n=32) in-depth, semi-structured interviews provide

experiential and self-reported data about dieting and disordered eating behaviors. All interviews were transcribed verbatim and coded in NVivo (QSR International Pty Ltd 2020) following a Grounded Theory approach (Strauss and Corbin 1994; Strauss and Corbin 1990).

The EAT-26 was developed in the late 1970s to diagnose eating disorders based on the DSM-IV (Garner 1982), but decades of research in diverse non-clinical settings found it to be an adequate measure of "abnormal, disturbed, or exaggerated eating patterns" (Kashubeck-West, et al. 2001). The questions reflect behaviors and thoughts such as "I avoid foods with sugar in them" and "I am terrified of being overweight" (Garner 1982). Responses range from 1 (never) to 6 (always) and recommended scoring gives no points to items marked "never," "rarely," or "sometimes" while granting one point to "often," two to "very often," and three to "always." Scores range from 0, indicating no engagement with disordered thoughts or behaviors, to a high score of 78. In clinical and non-clinical settings, a score of 20 or higher is considered the standard cut-off, indicating engagement in significant disordered eating (Garner 2021). In a clinical setting, an individual with a score over 20 would be referred to a psychiatrist for evaluation and potential diagnosis (see Appendix A for diagnostic criteria of common eating disorders).

In her genealogy of panic, Jackie Orr writes that "panic is made into an object of knowledge by scientific discourses and disciplined subjects that partially construct the very object they promise to explain and control" (Orr 2006). So it is, I would argue, with

disordered eating. As the eating body became the site of anti-obesity fervor, disordered eating – like panic – spread. The EAT-26 was increasingly used to construct disordered eating as a binary; one had it and perhaps required medical attention or did not have it, regardless of the personal or social ramifications of their eating behaviors. As sub-clinical levels of disordered eating were normalized, it became harder to grasp what counted as normal or disordered. "Survey research," Orr continues, "produces a set of spoken responses offered up in the valuable currency of "data," open to exchange and the magic equivalences of quantification" (Orr 2006). This is exactly what I hope *not* to do. The EAT-26 is a useful tool for clinical diagnoses and understanding community trends, as I will discuss below. Even as it partially constructs disordered eating, it cannot tell us about the affective qualities or social and community relationships that are changed as eating behaviors are altered.

Demographic information for survey participants is presented in Table 4, below. Of the initial survey respondents (n=181) 77.5% were from my primary research county; the remaining 22.5% of respondents were from surrounding or nearby counties. The majority of people (98.2%) who live in the research county identify as white and less than one percent (0.6%) as Black; participation in this study was marginally more diverse. The majority of participants self-identified as women and average age for both samples was relatively young; 41.5 years in June 2020 and 36.4 years in March 2021. Despite slight differences in income between the survey samples (Figure 15), a majority of respondents (58.8% in June 2020 and 57.9% in March 2021) reported that their

income is enough to make ends meet (Figure 16). Over one third of the June 2020 sample (66.7%) reported working one full time job while 59.1% of the March 2021 sample reported working one full time job.

Table 4: Demographic data, June 2020 to March 2021

	June 2020 (n=181)	March 2021 (n=56)
White	92.9%	94.7%
Black	2.7%	3.5%
Women	69.8%	64.9%
Farmacy	11.5%	14.0%
WIC	13.2%	17.5%
Senior Double Dollars	9.9%	8.8%
SNAP	13.7%	3.5%
T2T	32.4%	19.0%
Age	41.5 +/- 13.9	36.4 +/- 10.7

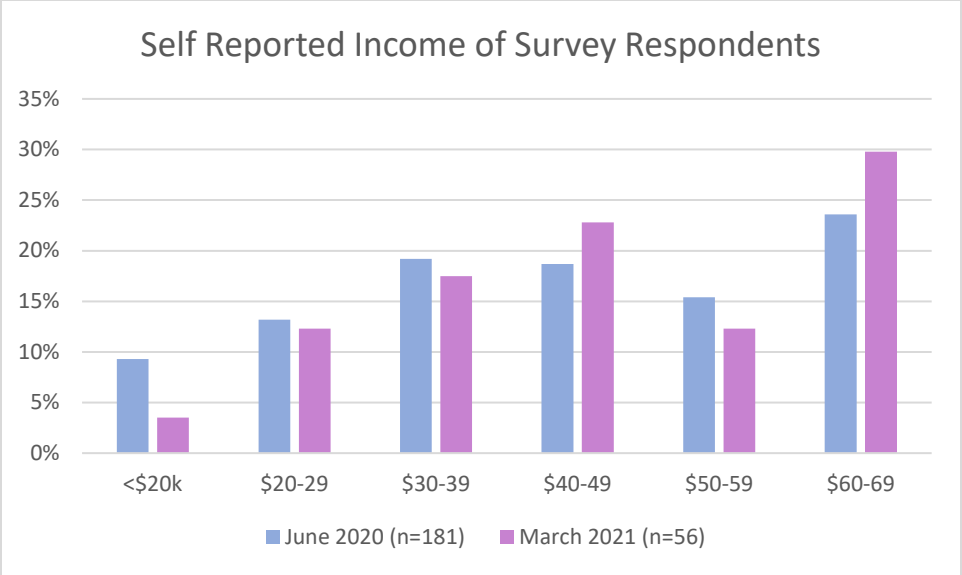

Figure 15: Self-Reported Income of Survey Respondents in June 2020 and March 2021

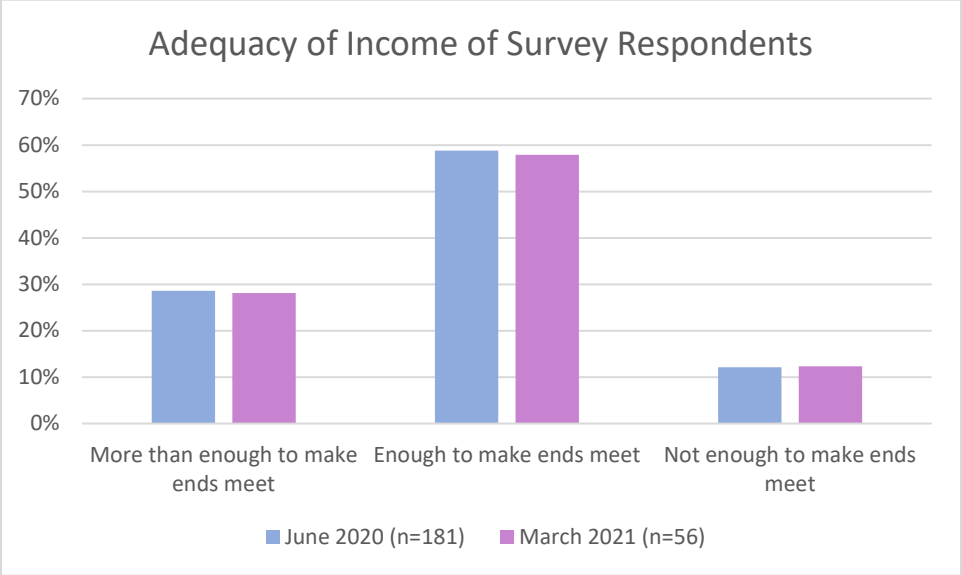

Figure 16: Self-Reported Adequacy of Income, June 2020-March 2021

Within the sample of participants who completed a survey in June 2020 and again in March 2021, high scores increased from 17.5% to 28% from pre to post. There were no statistically significant differences between pre and post survey questions. Figure 17 below depicts a subset of survey questions; despite no statistical significance, there were subtle patterns in the data. The largest change was seen in an increase in consumption of diet foods and engagement in dieting behaviors.

There are multiple potential explanations for the increase in high scores. Due to the disruptive nature of the Covid-19 pandemic, many people turned to food for entertainment, comfort, or a sense of control. Cooking and baking became a family activity, a way to entertain children who were stuck at home and bored. “My kids got really into making cookies and baking cakes and desserts,” Amber, a mother of two, told me, “and I think it was just for something to do. But now they know how to do it. And so we’re eating more baked goods [than we did before].” Melissa, whose experiences are explored in more depth below, currently lives alone and turned to baking for “comfort.” In the first few months of the pandemic, she was trying “to limit myself going into a store. So I found myself just like – you have to eat what’s in the cabinet or in the garden. And I love to bake. So that became, well, I’m going to make a carrot cake!” Seventy-year-old Carol regularly turns to food when she feels depressed and like her life – characterized by two cancer diagnoses and a husband who was exposed to Agent Orange in Vietnam and suffers from multiple debilitating ailments – is out of control. Like Melissa, at the beginning of the pandemic Carol “made different desserts every day. Not really. Not every day. But every other day….And I don’t know why. Well, I guess because we were actually afraid to get out because my husband, you know, with his Agent Orange and he has heart problems and everything…and then we both have compromising conditions…so you know, he’d say why don’t you fix us something sweet to eat and I’d say okay!” Amber, Melissa, and Carol claimed to have gained significant weight or received a new diagnoses of diabetes during the spring and summer of 2020. It is not surprising that so many people would turn to food during a time of uncertainty.

Given this context it is also no surprise that the pendulum would swing in the other direction as people manipulated their diets in efforts to lose weight.

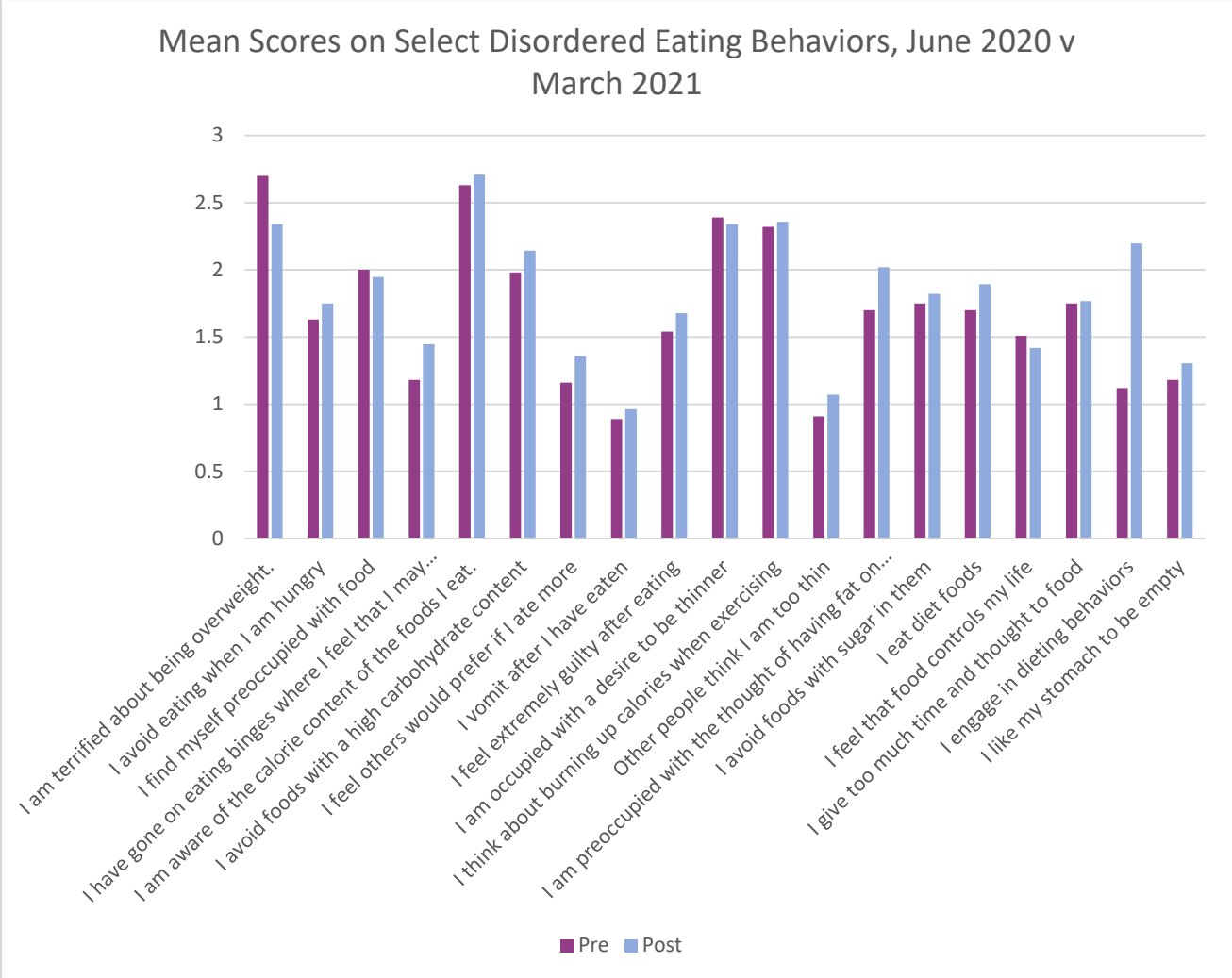

Figure 17: Comparison of mean scores on a subset of EAT-26 questions

In June 2020, 20% of all survey respondents (n=181) scored higher than 20 on the EAT-26. There were no statistically significant differences on overall scores between those employed full time, self-reported diabetes, self-reported high blood pressure, or

income groups (Table 5). Due to the number of Covid-19 related food aid programs directed at families with children, households had more food available during the summer of 2020 than they otherwise would have. Despite this influx of mostly processed and packaged food, households with children were not statistically different from households without children. This could be due to a number of factors, not least of which includes sharing food with elderly and single households. It is also possible that survey respondents were unaware of or did not sign up for the food aid programs. Finally, there was a statistically significant difference in age (p=0.023). Pairwise comparisons revealed statistically significant differences (p=0.033) between those in the 18-29 and 30-39 age groups. Figure 18 depicts the percent within each age group that scored over a 20 on the EAT-26. Nationally representative research in the early 1990s found that 42% of 6-8 year old girls wished they were thinner (Collins 1991), 81% of 10 year old children were scared of being fat (McNutt, et al. 1997), and 46% of 9-11 year old children tried various diets to lose weight (Gustafson-Larson and Terry 1992). These numbers are particularly relevant given the findings in this study that the age group with the largest proportion of disordered eating were those between 30-39 – or those who would have been 6-11 years old in the early 1990s. Additionally, those in this age group were more likely to be parents. Pregnancy often causes changes to body image (in both partners) and disruptions to eating patterns. Body image and eating patterns were doubtlessly altered for parents during 2020 and 2021, when children were learning from home due to the Covid-19 pandemic.

Table 5: Chi-Square Analysis; association between key variables and disordered eating (EAT-26 over 20)

Variable	value	df	p value	phi
Gender	14.202a	1	<.0001*	-0.28
Full Time Employment	.236a	1	0.627	-0.036
Diabetes	1.567a	1	0.211	0.093
High Blood Pressure	.018a	1	0.893	-0.01
Kids in the House	3.053a	1	0.081	0.13
Married	2.204a	1	0.138	0.111
Income (>/< $40k)	.143a	1	0.705	0.028
	a 0 cells (0.0%) have expected count less than 5. * shows statistical significance p<0.05			

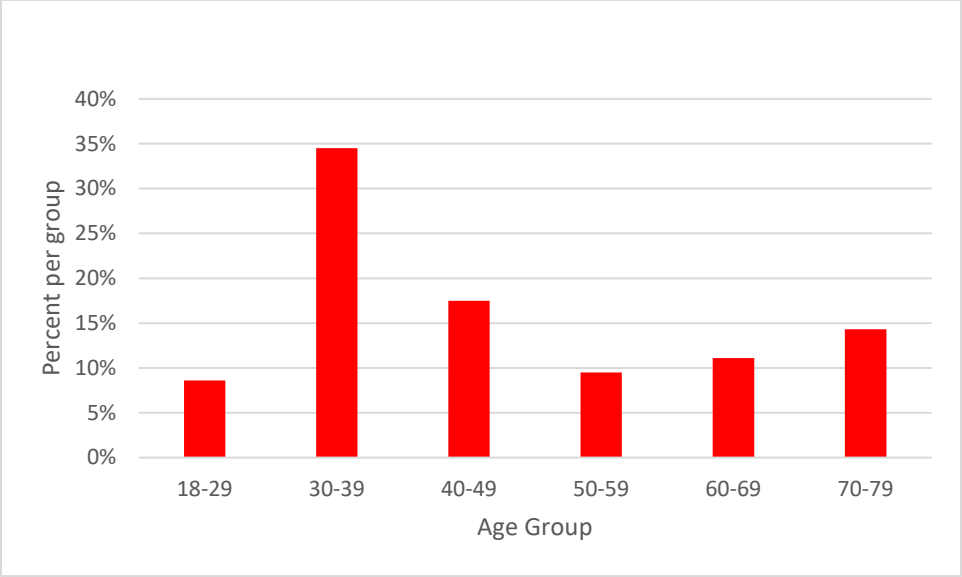

Figure 18: Percent within each Age Group with a Score over 20.

The largest differences in scores were by gender (p=0.0001). Men were significantly more likely to have high overall scores (p=0.003). Figures 19 and 20 present data by self-reported gender from June 2020. The x-axis shows scores on the EAT-26, color coded with green to show no or low disordered eating, orange moderate or subclinical, and red high engagement with disordered eating thoughts and behaviors. Approximately 13% of women and 36% of men scored a 20 or higher. Furthermore, men were significantly more likely to engage in specific disordered eating thoughts and behaviors. A star on graph 21 indicates a statistically significant difference in that variable between men and women. Specifically, men were statistically more likely to: avoid eating when hungry (p=0.021); go on eating binges where they felt unable to stop (p=0.001); avoid carbohydrates (p=0.02); feel that others wish they would eat more (p=0.012); purge after eating (p=0.0001); feel extremely guilty after eating (p=0.032); believe others think they are too thin (0.003); avoid sugar (p=0.0001); eat diet foods (p=0.001); feel that food controls their life (p=0.014); engage in dieting behavior

(p=0.009); and feel the impulse to purge after eating (p=0.0001). One major limitation of this study is a lack of interview data pertaining to binging and purging behavior. Due to the often delicate and hidden nature of these behaviors, they were not readily discussed, and it is plausible that, given interview participants were mostly women, they were unaware of these behaviors among the men in their lives.

What could explain this significant difference between men and women, particularly given previous research that shows women are more likely to experience disordered eating? Within the entire sample, women and men were just as likely to be diagnosed with an eating disorder – four women reported a diagnosis of anorexia, one bulimia, one eating disorder not otherwise specified (EDNOS); no men reported a diagnosis of anorexia, one bulimia, and four EDNOS. Given such similarities in reported diagnoses, it does not seem likely to me that there was self-selection bias, particularly among men, who elected to participate. This cannot be proven, but I would expect to see more reported diagnoses of eating disorders among men than women if this was the case. An alternative explanation is the development of disordered eating in response to a medical diagnosis. This was a common theme among interview participants as they discussed the way an individual medical diagnosis, particularly of a husband or father, changed the diets of multiple people.

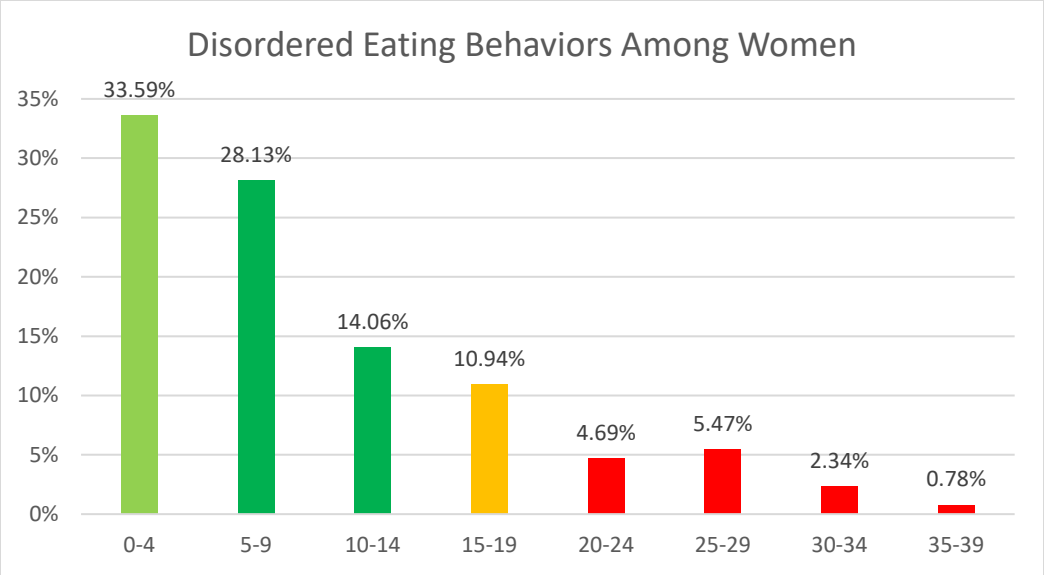

Figure 19: Percentage of Disordered Eating Scores Among Women: any score over a 20 is considered clinically significant

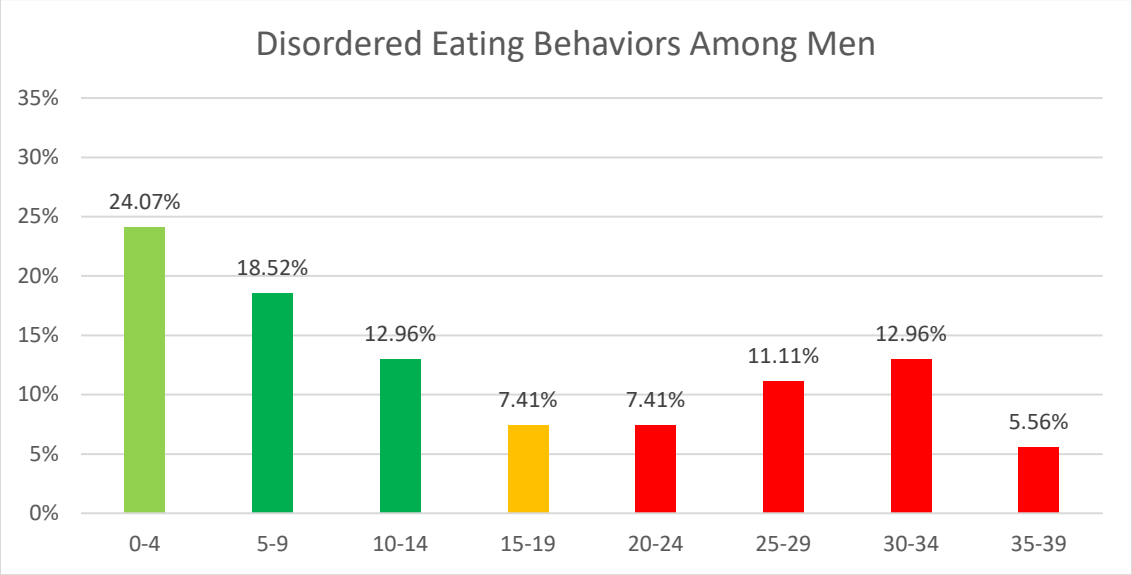

Figure 20: Percentage of Disordered Eating Scores Among Men; any score over a 20 is considered clinically significant

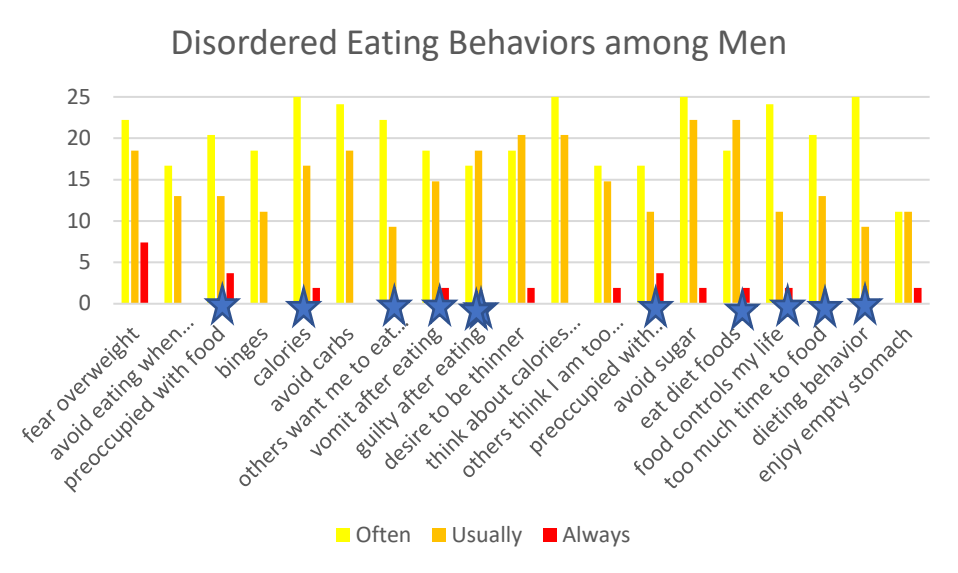

Figure 21: Individual Disordered Eating Behaviors Among Men

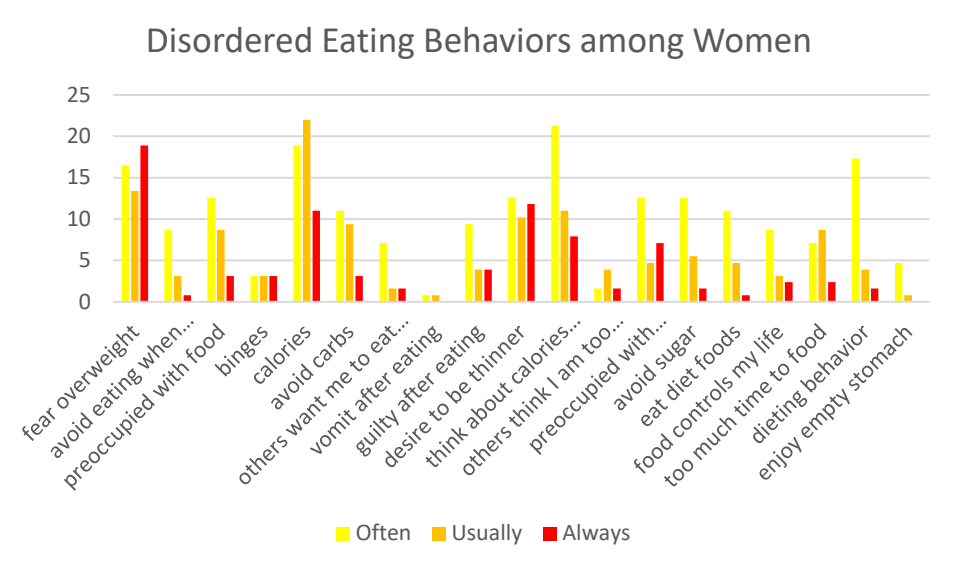

Figure 22: Individual Disordered Eating Behaviors Among Women

Stories of Disordered Eating

Ivey is forty-two years old and lives with her husband and two children. In response to a question about dieting and disordered eating, Ivey cut me off – "yes," she

laughed sharply, “I’ve known one hundred people [who cut out food groups or skip meals].” She launched into her husband’s recent dieting history, sharing that he ate vegan (no animal or seafood) in early 2020, but slowly started introducing fish back into his meals around June (a pattern of eating, called “seagan” that has recently gained traction (Cramer and McComsey 2016)). He was recently diagnosed with ulcerative colitis, so, she said, “[His reason] is medical….He feels a lot better when he doesn’t eat red meat or dairy.” In comparison, Ivey’s brother-in-law, after losing a kidney, started experimenting with the keto diet (low carbohydrate, moderate protein, high fat (Harvard Medical School 2020).) “I’m like I don’t think it’s healthy for you to do this. But he’s always like I’m just trying to get into ketosis. I’m like you got one kidney. I think you should give it a break.” While there are obvious differences between medical risks and eating patterns, Ivey (who has no medical training) was quick to label her husband’s seagan diet as “medical” (or healthy) and her brother-in-law’s keto diet as “unhealthy” despite their common roots in medical diagnoses.

About her own experience Ivey said “I mostly know middle aged women. We all like to eat. And we all like sweets.” This comment can be viewed in multiple ways; her adamant proclamation “we all like sweets” is push back to both the seagan and keto diets. Most sweets contain dairy – off limits for those following a seagan plan – as well as a high carbohydrate content, in the form of sugar and/or carbohydrate – which would not fit within the strict limits of the keto diet. Furthermore, her comment “we all like to eat” is odd in its need to be spoken aloud. Ivey is clearly implying that the men in her life

do *not* like to eat – what does it mean to not like to eat, or give the impression of not liking to eat? Is this how her husband and brother-in-law feel, or is it the only way Ivey can make sense of their limited diets? Most women I interviewed expressed a similar sentiment – "I like sweets" or "I like to eat" – and they described their eating behaviors in more positive terms. For example, rather than cutting out food groups, many women specifically mentioned following Weight Watchers – where you add up points for the food you eat each day – or eating healthy by trying to eat more vegetables.

What is perhaps most noteworthy is the way these gendered patterns do or do not track with the questions on the EAT-26. The thoughts and behaviors that men were more likely to engage in reflect restrictive dieting that the questionnaire addresses – avoiding carbohydrates or sugar, for example. The eating patterns women shared with me would not necessarily fit – the story of Rosie that opened this chapter exemplifies this. The EAT-26 does not ask about avoiding fats and only asks about guilt and shame *after* consuming food – it does not ask about all the time leading up to the moment one sits before the food. It is also acutely focused on the individual, as if we eat in a vacuum. Monica was, arguably, preoccupied with a desire to be thinner – but was *she*? Or was her husband preoccupied with a desire for her to be thinner? Was she afraid of gaining weight? Or of her husband? How would one even begin to disentangle such a social relation from an engagement with food? The concept of sociality will be taken up later.

In March 2021, 54% of respondents reported having ever gone on a diet; over one third (38%) listed Weight Watchers as their means to achieve their goal. The EAT-26

only asks about counting calories – not points as in Weight Watchers. In short, there exists a range of dieting and disordered eating behaviors which do not translate well into a quantified survey. This reflects robust research that critiques "the categories, variables, and taxonomies at the heart of survey design for failing to acknowledge the diversity and dynamism of cultural contexts and definitions" (Biruk 2018). It is also interesting to note that Weight Watchers has recently rebranded itself to "WW" to reflect the masking of weight loss efforts as "wellness." In this way, anyone following a Weight Watchers plan is made to believe that they are not following a diet, but a lifestyle that emphasizes "wellness" – and the EAT-26 doesn't ask about lifestyle. Lifestyle changes – such as eating more fruits and vegetables or getting more exercise – are commonly prescribed in public health efforts, but can often translate into rigid and disordered behaviors.

Disordered eating does not always fit within commonly understood definitions of dieting. A brief look at Melissa's story illustrates the various lifelong entanglements that contribute to unrecognized disordered eating. Melissa explained how she grew up visiting her grandmother in a Northeastern city and how clearly she remembers her pink Weight Watchers cookbook.

> "My sister…was always chubby and overweight and the whole time growing up mom was always on her about losing weight….Mom would make me go on the same diets that she put [my sister] on….We had to eat from that pink Weight Watcher's cookbook….It was the whole time I was growing up, my whole life, it's that you know you have to be thin, you have to be thin, we have to be thin and I can remember mom riding my sister and I look back at, it's like, why didn't she just shut up, you

know? And it's just I feel like that genetically that's just how my sister is and she has struggled her whole life."

Having heard her entire life that being thin was a requirement, when Melissa was in her early twenties she moved to a large Mid-Western city with the hopes of becoming a model. She worked as an administrative assistant during the day and attended modeling classes at night. With the goal of learning the self-confidence and bodily assertiveness she felt she was denied for most of her life, Melissa was, instead, told to lose thirty-five pounds. After losing twenty pounds, the women she worked with approached her.

"And I can remember one of the women telling me – if you don't quit losing weight we're going to call your mom. Because they could see how thin I was. And I don't think I could have [lost more weight] and lived through that. And so I quit the modeling school because I was starving myself to death."

Melissa regained her lost weight, got married, and moved with her husband to eastern Kentucky, where she gave birth to her son.

"After I had my son, I wanted to lose some weight. So no matter what I fixed everybody else for supper, and I had my sister's three kids here for a while, took care of them, I ate cereal. I'd have a bowl or two of cereal and I lost all my weight. But you know what, I wasn't healthy because I wasn't getting like the protein and things I needed. I noticed my hair looked really bad and stuff…but that was a horrible thing for me to do to myself was just to eat cereal and milk all the time because I was really neglecting my health."

Once again Melissa regained her lost weight and, at the time I spoke with her, she was struggling with the history of her body while asserting that she did not currently diet or manipulate her eating to lose weight.

> "According to my BMI I'm obese. And that really upsets me in a lot of ways, but I can stay [at this weight] fairly easily. Now if I work at it and work at it and think about it and kind of deprive myself and don't eat junk and stuff, I could lose weight. But that would be all I'd be doing would be thinking about I can't have this, I can't have this. But I do think, I mean, I don't feel like I'm unhealthy, but according to my BMI I'm obese….But I don't think an extra ten pounds is going to – or fifteen pounds – is hurting people."

These comments clearly exemplify the ways in which Melissa grapples with her "obese" and fat body (a distinction taken up below). Her doctor has labeled her obese – which upsets her – but at the same time she does not feel unhealthy and does not think an additional few pounds hurts. This resonates with recent findings suggesting that concern over weight gain of five to ten pounds could be an indicator of disordered eating, particularly feelings and thoughts of shame and guilt (Smith and Rugless 2020).

When I asked her about her current eating patterns Melissa reflected,

> "I can't diet. If I tried to count calories or think about how many points something has, I just want to eat all the time because my mind is focused on 'well I could eat this,' and 'I could eat that' because this is only 100 calories and that's only 120 and I would find myself just eating stuff because I'm thinking about food."

Throughout the conversation Melissa repeated the phrase "I can't diet" multiple times. Yet her eating style could only be understood as "abnormal, disturbed, or exaggerated" (Kashubeck-West, et al. 2001). She will regularly eat over a dozen homemade cookies left over from baking with her grandson or an entire bag of candies then, in an effort to give her body "a chance to process all that junk," will not eat at all for prolonged periods of time – anywhere from twelve to twenty-four hours. Given Melissa's past of dieting through solidarity with her sister or to lose weight to model, her current eating patterns do not fit within popular "dieting" strategies. She did not participate in a specific diet – such as Weight Watchers or keto – but her eating pattern was clearly disconnected from both internal cues of hunger or fullness and shared socio-cultural practices. Melissa swayed back and forth between consuming large amounts of sweets and not eating at all, a reflection of the deeply individualized approach to eating in the United States today, and a disconnect from the family and coworkers who had previously influenced what, when, and how she ate. In other words, this illustrates the inherent tension between individualized choices/diagnoses and how such choices/diagnoses are shaped by the relationships and processes in which they are embedded. Additionally, the people in Melissa's story were all women – her grandmother, mother, sister, and coworkers influenced her history of eating more than any singular man did, at least in her telling. The unseen character is often the most influential – in this case the male gaze and the white patriarchal norms that created standard body norms as outlined above.

Sharing Food, Sharing Embodied

Anthropologists and social scientists have long been fascinated by food sharing behaviors. Both evolutionary and contemporary ethnographies analyze the role of kinship and social relations in who gives and who receives food in particular contexts. Food sharing reaches across and within social networks, as some studies find associations between households in small-scale societies (Koster and Leckie 2014) and others within households (Ziker and Schnegg 2003) including the concurrent sharing of food and values between mother and children (Barlow 2010).

The most common framework for analyzing food sharing incorporates the language and concepts of economics (Bird and Bird 1997; Quandt, et al. 2000; Schnegg 2016). In a critique of the economic approach usually adopted to explain food sharing, Thomas Widlok writes that "sharing does involve objects that are valued and desired but in contradistinction to gift-exchange it cannot be fully explained by the rule of reciprocity and in contradistinction to market exchange it cannot be fully explained in terms of values established through measuring objects against one another" (Widlok 2013). Furthermore, Widlok points to bodily presence itself as both a demand for acknowledgement (especially when in need) and a way in which humans can understand one another's needs and react to those needs. He points to food sharing as "a complex form of interactions" that "rely on cultural practices that are recognized as appropriate actions that make a difference, and are recognized by providers and takers but also by the bystanders for whom each act of sharing adds to the shared system of

value." In short, it is not only the food that is shared, but the affective bodily experience of (not) eating.

Widlok's inclusion of the (not) eating body into his conceptualization of food sharing articulates with a model of the eating body that "engages with both the materiality and the meaning of food" (Abbots 2017). A model of the eating body, in which "the sharing of substance creates a material connection between human bodies" (Abbots 2017) raises the question of what counts as eating, and what is shared beyond just food. Multiple senses beyond taste are involved in deriving pleasure (or other benefits) from food. For example, sweets in Japan are rarely consumed and hardly craved, yet are sold seemingly everywhere, purchased in abundance, and ubiquitously gifted (Holtzman 2016). "The significance of food goes far beyond its qualities as an object of ingestion" as people take pleasure in looking at sweets (Holtzman 2016). Furthermore, in her exploration of young women with anorexia, Anna Lavis outlines touch, smell, sight, and cooking for another as forms of eating (Lavis 2016). "Food may be swallowed by one body, tasted by another, and smelled by yet another," Lavis explains, "with all of these signifying forms of eating that affectively conjoin bodies through a slippage between visuality and viscerality." This, then, begs the question of how disordered eating may be materially and meaningfully shared, affecting relationships and community. How do boundaries between bodies shift as once enjoyed foods are no longer consumed or evoke emotional reactions, as in Rosie's story that opened this piece? "Til this day it makes me *sick* that we didn't insist that she eat a little

bite of that cake," Rosie's daughter said. Sick in a way that, through her tone, I knew to be literal.

The theory of affect offers a glimpse into this movement between bodies. Affect largely defies direct translation into words, as it is a deeply felt phenomenon: "affect is found in those intensities that pass body to body" (Gregg and Seigworth 2010). Food carries affect; it literally passes into and between bodies through carefully negotiated materialities and relationships. The power of affect is in its potentiality, "a body's capacity to affect and be affected." The following examples attempt to trace such power through and between bodies as they learn their bodies are obese and require intervention, enfolding family members and coworkers into the gravity of their eating body.

Bodies are affected and change in response to each other. Doctors told Sylvia's husband in 2019 that he was pre-diabetic, obese, and had sleep apnea. They prescribed him a C-PAP machine (Continuous Positive Airway Pressure; it delivers constant air pressure to alleviate snoring and obstructive sleep apnea (Mayo Clinic Staff 2018)) and the generic advice to lose weight. One of his friends tried the Atkins diet (high protein, low carbohydrate) decades ago and lost over 150 pounds (he has since gained it back). A second friend was currently following a keto diet and also lost over one hundred pounds. "So [my husband] talked a lot [to his friends] and decided [the keto diet] was a way that he could eat…like he felt like that was something he can do." As a result, Sylvia and her children are also eating differently – they find it difficult to eat out at

restaurants with him so Sylvia cooks more, but differently. Their diet has shifted heavily to focus on meat, cheese, and carbohydrate substitutes made out of vegetables (ie cauliflower rice, zucchini noodles). Due to the shrinking bodies of two men and the vague health advice of a third, Sylvia's bodily practices of cooking, eating, and feeding her family were altered.

Even when food consumption itself is not altered, the dieting practices of one person may fundamentally alter the social and material environment of another. Isabella explained that her boss "would do like keto diet, he did paleo diet, then there was low carb…then he had the nutritional substitutes…it was too much to deal with." Isabella found herself eating lunch, alone, in her car rather than the shared company space with her coworkers. "He didn't want you eating what you normally eat if he wasn't eating it that week," she said. There is an obvious power dynamic at play here. While her boss holds power over her paycheck, he cannot hold power over what she eats. Isabella felt more comfortable breaking social norms and eating by herself than changing what she ate to accommodate an ever-shifting expectation. The stress associated with separating herself from the social group in order to engage in a deeply social behavior – eating – may have real physiological consequences (Flinn 2008). Such gendered stories also beg the question of how disordered eating behaviors are shared and how they are the products of and affect particular power relations.

Medical diagnoses were a common catalyst for adopting disordered eating behaviors; one of the primary relationships of power that emerged from the data was

that between doctor and patient. Doctors are experts of particular types of bodily knowledges, but many other knowledges elude them. Not only do non-Western and Indigenous knowledges not fit within the biomedical world of healthcare, but even deeply Westernized disciplines – such as nutrition – largely remain black boxes to many physicians (McCullough and Hardin 2013; Sanabria and Yates-Doerr 2015; Yates-Doerr 2015). In the United States, power and authority are granted to both scientists and doctors "as if 'expertise' is a real thing that a person or an institution can possess…and [we] conveniently forget that the practice, and the spirit, of science is best understood as trial and error, best guesses and fallibility" (Grinker 2021). "That's just a whole other thing about our healthcare system," a state food systems specialist told me in an interview. "These people who may be already [poor and sick] then go to the doctor because they're pre-diabetic…and they're getting diluted versions [of nutrition advice] from the nurse and the doctor….like they print it off or something and are like here!" Vague nutrition prescriptions open up spaces within patients' lives that often get filled with quick fixes, restrictive diets, and disordered eating.

Through conversations and interviews, I came to understand the body as shifting between two types, sometimes one more than the other. These two types, as I came to understand them, are the biomedicalized "obese" body that is pathologized and understood to be unhealthy and the lived-in fat body that is tied to identity, understandings of the self, and experiences in and of the world. Many people I spoke with lived in both bodies while understanding a disconnect between them, most

commonly expressed as "I don't *feel* obese." Their doctor diagnosed them with obesity, but they do not identify their fat bodies as diseased. Many participants also critiqued the "ideal" (lower) weight their doctor told them to aim for, claiming *that* thin "healthy" or "nondiseased" body, would – for them – be unhealthy.

Obesity is constructed through visits to healthcare professionals and public health messaging. Fat bodies are constructed through pregnancies, depression, the joy of eating, and unknown factors that have shaped the body from birth. It is the first body, the obese body, that leads to disconnection from the second body, the fat body, and often leads to the development of disordered eating thoughts and behaviors. The obese body leads to "self-starvation as self-care" as Anna Lavis put it in a creative commons talk in 2017. Although Lavis refers to individuals with diagnosed anorexia, "self-starvation as self-care" can be seen through numerous weight loss attempts, including keto diets, weight watchers, and calorie counting to restrict intake. Treating the obese body through self-starvation continues to disconnect the individual from their (personal and social) body. This also prioritizes physiological health – when losing weight is conflated with health, how one gets there doesn't matter. But how one gets there *does* matter, and many paths to weight loss – most paths to weight loss – are paved with disordered eating patterns and lead to poor (personal and social) health outcomes.

"Self-starvation as self-care" and the affect produced by the efforts undertaken to destroy the "obese" body is the product of power relations. This is not a biological or natural reality. It is just as possible and plausible that, given a different historical

precedent, there would be “self-stuffing as self-care.” Individuals and communities are not born with the desire to lose weight, to inhabit a particular body. They are taught this, but more, shamed into this, guilted into this, in deeply emotional, social, and affective ways. Moreover, bodies, already squeezed by capitalist forces of alienation and exploitation, are caught up in the profit-seeking weight loss promotion industries that seek to pull further revenue from the worker-consumer base.

Conclusion

Over the previous few decades rates of chronic disease – including diabetes and heart disease – have increased, paralleling and overlapping with the panic over rising waistlines. Communities have increasingly turned their attention to living by and through numbers – whether those numbers are rates of obesity and diabetes, individual weight gain, number of carbohydrates consumed, or calories eaten. One aspect of these behaviors – of disordered eating – that is often overlooked or unacknowledged is the pain and suffering that exists beneath the numbers. Rosie’s tears, Monica’s fears, Melissa’s preoccupation with food and her body – these are not abstract or apathetic. They are deeply felt, and not only by the individual, but by those in their social circles – the daughter who gets sick when she remembers the last Christmas with her mother, the aunt who wants to care for her terrified niece, even the anthropologist who never knew the lifelong struggles of self-confidence and self-worth an informant and friend struggles with *every day*.

In conclusion, I argue that disordered eating is produced by the "assumption that reality can be observed, measured, and counted accurately" (Biruk 2018) and organized around the perceived normality of the white, male body. Through the results of the EAT-26 I have painted a portrait of disordered eating in an eastern Kentucky community, the way it changed over time, and its gendered nature. The data counters negative stereotypes of rural residents as unmotivated, lazy, and uninterested in their own well-being. I have also shown how the "diversity and dynamism of cultural contexts and definitions" (Biruk 2018) evade quantification and the ways that disordered eating moves between and into bodies, particularly in gendered and expert power relations.

This chapter contributes to the food and fat studies literatures by engaging with eating bodies as they struggle through and develop their relationships with food. Food itself is a social object, imbued with affective qualities amassed over a lifetime of individual and social experiences. Food builds bodies through its nutritive composition as it affects emotional and mental states through its connection to one's environment. Disordered eating exemplifies the way that food breaks down the false barriers between mind, body, and environment. This chapter also expands what it means to share food as more than material exchange. Food sharing is an affective action; it pulls together multiple bodies, minds, and environments. Finally, the work of nutritional and biocultural anthropologists can be enhanced through attention to disordered eating patterns and the affective qualities of food intake. The biological health implications –

whether physiological, psychological, or both – of disordered eating rests at the juncture of bodies and culture as the co- and re-create one another.

Chapter 5: "People Around Here Like Their Fruits and Vegetables": Eating, Growing Food, and Food Sovereignty in Eastern Kentucky

> "Well, I think my children don't eat enough vegetables. I mean, I think it's just family-based a little bit…it depends on which family you're at. Because I see kids that will eat all these fruits and vegetables, you know. And then I see kids that are like, "No, I want chicken nuggets." But I think it's…I don't necessarily think it's just an eastern Kentucky thing. I think it's probably a much bigger thing." – Candace, 42 years old

> "I think that in this area, more people are eating more fruits and vegetables." – Elena, 63 years old

"Did we tell you the story about how we got canning supplies for the community center?" Violet was sitting on a couch, legs crossed, sunlight from a window spilling in to illuminate her smile. Edna, a short older woman standing to my right laughed. I shook my head and Violet continued, describing how some "young men" in their twenties or thirties from "some Ivy League or somewhere" wanted to come down to eastern Kentucky to teach people how to preserve vegetables. "THEY wanted to come here and teach US," Violet and Edna were laughing. "But they were nice and their heart was in the right place," Violet conceded. She told the men all about the cooking, canning, and preserving classes offered in the community and the generations of knowledge that went into each gathering. After a few more back and forths – the men seemed intent that they had some knowledge to share – they finally agreed to purchase canning supplies instead. Violet invited them down to attend a class, even offering to find them housing, but they never took her up on the offer.

Experiences like this with researchers and policy makers were not unheard of, they were even common. During a conversation about the multi-faceted nature of health and health discourses, Charlotte, a social worker in her early thirties, shared the following:

> "We're not smart enough to know how to eat well, we hear that a lot…People do lots of studies on us and tell us that….Whenever I read studies and stuff it always just seems like people come in and look at eastern Kentucky, or think they know why we are the way that we are, but then once they're done with the study they're just done. You know, like we found about eastern Kentucky that they either have a higher rate or they have this, this, and this and then the study's done and they're done."

This chapter explores the community-based food production and sharing practices in eastern Kentucky that are often obscured by the dominant neoliberal paradigms that orient nutrition and public health research. I begin with a discussion of food sovereignty, a political phrase and social movement that is "inherently a multidimensional concept" (Edelman, et al. 2014), a "uniform definition of [which] should be resisted" (Jarosz 2014), providing relevant examples from the literature to illustrate contemporary understandings of what constitutes food sovereignty. In this section I also explore how nutrition and public health research is oriented to food security and market-based solutions to hunger and food procurement. The underlying concepts of nutritionism and healthism are explored next, as they turn attention to the market for answers and individuals for responsibility. Through the presentation of ethnographic evidence from participant observation and in-depth, semi-structured interviews in eastern Kentucky, I

illustrate an extant "quiet food sovereignty" – community-based food production that is overlooked by institutions and unrecognized by practitioners as constituting food sovereignty (Visser, et al. 2015). This chapter dispels common misconceptions about food behavior in rural Central Appalachia and embraces the pluralism of food sovereignty efforts and practices (Edelman 2014b). Furthermore, I argue that any push to marketize growing, gathering, and/or hunting food in eastern Kentucky is not the solution to low income or poor health in that part of the state. As I will illustrate, small farming (or large farming, for that matter) is not an economically viable option in the United States. Instead, I argue for local and federal redistributive politics to best support community food sovereignty.

Food Sovereignty

I fundamentally agree with – and will later return to – Jarosz's call to resist a definition of food sovereignty. Definitions can create boundaries that limit imagination and possibility. Yet definitions also provide clarification and a starting point for conversation and action. In this vein, food sovereignty is defined by anthropologist Graeme MacRae as "the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems" (MacRae 2016a). Sociologist Henry Bernstein highlights three key components of food sovereignty work: a political bent that is anti-industrial agriculture, a restatement of the rights of peasants in a globalized world, and the production of a new food system founded on sustainable practices and social justice

(Bernstein 2014). These concepts are echoed by sociologist Philip McMichael's historical perspective, in which food sovereignty developed as "an alternative principle to food security anchored in a democratic rebuilding of domestic agricultures, where possible, to overcome processes of deepening food dependency and depeasantization inflicted by corporate marketing of cheapened 'food from nowhere'" (McMichael 2014). Food sovereignty – rooted, as these definitions suggest, in community resistance to largescale agriculture, destructive farming practices, and the violence of markets – provides a counter-orientation to the technocratic, market-based measures of food security (more about this below).

What, however, counts as a "community" (Bernstein 2014; Takeda, et al. 2016) and does food sovereignty necessitate a political and/or ecological predilection? (Edelman 2014a)? What "counts" as food sovereignty? Examples from the literature around food sovereignty suggest that it occurs at multiple scales and for explicitly political and nonpolitical reasons. On an individual level, African development researchers Mvuselelo Ngcoya and Narendran Kumarakulasingam describe the farming and food consumption practices of Granny Qho, a South African grandmother who "is adamant about trying to eat only what she grows" (Ngcoya and Kumarakulasingam 2017). For fourteen years granny Qho farmed two plots while caring for her grandchildren, as she wanted "to control what she grows and how she grows it, and to be independent of agro-industrial food." With the excess produce from her garden, she cooks traditional Swazi foods to sell at a local market, with varying success, as her main

competitors are Western fast-food restaurants. Granny Qho is able to cultivate personal food autonomy, inspired by a reorientation to nature and her ancestors (rather than growing for a market). Ngcoya and Kumarakulasingam argue that this constitutes food sovereignty, albeit on a small scale.

Conversely, food sovereignty can also exist on a larger scale, but without a political or ecological orientation like that of Granny Qho. For example, Latinx immigrant conventional commodity farmers brought small-scale food production practices with them to Western Oregon (Korsunsky 2020). Their extra work growing food for household consumption (rather than to sell) was grounded "in sunshine, thrift, and a proud work ethic" that allowed them to "stake a claim to belonging that exceeds legal citizenship and is rooted in labor on the land." While this growing practice demonstrates food sovereignty among immigrant commodity producers, Korsunsky argues that a strong tradition of gardening and growing food does not naturally direct one towards labor justice or sustainable agriculture. In fact, as her research demonstrates, farmers can engage in both largescale commodity agriculture – with all its chemical inputs – as well as small-scale sustainable production.

While food sovereignty has provided a "powerful mobilizing frame for social movements" since the mid-1990s, as exemplified by Via Campesina (Edelman 2014a), it can also exist in places where it is overlooked by government institutions and unrecognized among its practitioners (Visser, et al. 2015). Social scientist Oane Visser and colleagues identify a "quiet food sovereignty" in post-Soviet rural Russia that

"practically thrives without any organizations that could formulate outspoken discourses or coordinate actions. However, some of the actions and implicit ideas related to [food sovereignty] are widespread among the population and clearly emerge bottom up." Through careful attention to everyday practices such as gardening, raising animals, and food sharing and exchanging the research team identified relatively high-yield farming among rural residents using environmentally sustainable systems of agriculture. The majority of grown produce was consumed by the grower or exchanged with friends, family, or neighbors for other crops. Despite this self-reliance, rural residents had internalized the negative views of themselves held by public and private institutions. In other words, the stigmatization of living in a rural location prevented residents from realizing their food sovereignty practices and mobilizing or organizing for broader recognition or change.

Sidestepping the question of community or shared political/ecological ideology, food sovereignty may be, at its simplest, a set of on-the-ground practices. In the global North, this includes community gardens, food foraging networks, and land sharing (Ritchie 2016). In short, the varied ethnographic data in the food sovereignty literature – and my own ethnographic data presented below – suggest that pluralism in what "counts" as food sovereignty can be embraced, rather than answered with definitions or regulations. This is not to suggest that the struggle for food sovereignty can be "waged within urban gardens and produce stands alone," but rather, as will be argued more below and throughout this chapter, food sovereignty can be supported via the creation

of “new economic incentives and land use protections” while assuring that “jobs paying a living wage” are available (McClintock 2011).

Discussions of food sovereignty tend to circle around common themes that could, perhaps, constitute a definition of sorts. The projected definitions discussed above could help move conversations and research towards a common goal. The risk of a formal, singular definition is the desire to measure it, capture it, limit it. If a farmer chooses to use industrial inputs does that compromise how he fits into a food sovereignty system (Edelman, et al. 2014)? “The degree of tolerance for pluralism,” Edelman writes, “is one of the biggest and most challenging questions confronting food sovereignty practitioners and researchers.” Edelman goes on to problematize attempts at strictly defining and regulating food sovereignty. Rather than regulate (through policy and enforcement) the practices that “count” as food sovereignty, however, I will argue more fully below that food sovereignty is powerful in its pluralism and can be supported through changes to surrounding contexts and policies. For example, rethinking the relationship between farm surplus and subsidies, as well as land ownership and redistributive policies, could incite or invigorate efforts at food sovereignty (Graddy-Lovelace 2020; Graddy-Lovelace and Diamond 2017).

Food Security

Without a crystallized definition, how can food sovereignty be operationalized for researchers like the ones Violet and Charlotte encountered? Food sovereignty can be a guiding principle for public health and nutrition research through an orientation to

what it represents and strives for. Despite the extensive and robust academic literature on food sovereignty, a search of the journal of the Academy of Nutrition and Dietetics – the preeminent source for nutrition research and knowledge for dietitians and nutritionists – does not have a single mention of food sovereignty. The field instead is oriented to food security; a search of the terms "food security" and "food insecurity" yield hundreds of results each.

The term "food insecurity" is the product of bureaucratic and administrative sleight of hand that neutralizes the more politically salient term "hunger" (Page-Reeves 2014). As the definition of food insecurity crystallized, it also became diluted and the attention once paid to structural sources of hunger turned to emphasize individual lifestyle choices. Hunger as a physical sensation took a backseat to a quantifiable list of generalized questions available through the United States Department of Agriculture, all of which focus on purchasing and affording food (United States Department of Agriculture 2018). This shift to food insecurity was also part of a broader ideological narrative "designed to move away from the entitlement-based conceptualization of government responsibility" (Page-Reeves 2014). Policy naturally followed the movement away from structural and systemic issues to focus on individual level nutrition and caloric intake.

This orientation to food security emphasizes market solutions to the absence of food, prioritizing point-of-receipt interactions that are disconnected from the food system as a whole (Guthman 2008; Guthman and DuPuis 2016; Otero 2018). Food

insecurity is not “a static outcome but…a ‘managed process’ that may play out in unique ways in different settings” (Hadley and Crooks 2012). As previously stated, measurements of food insecurity tend to emphasize economic capacity to acquire food. Most importantly, these measures are easy to quantify and therefore compare across populations and geographies. Yet, as Vincanne Adams points out, “numbers are never intrinsically capable of proving anything, they must be made to speak in very specific ways about what they claim to represent” (Adams 2016a). Food security measures are made to speak about people and places as empty and debilitated, stories that are perceived as apolitical and absolute fact and often lead to land grabbing and stigmatization (Alkon, et al. 2013).

Furthermore, rather than encouraging community food production, increasing wages, or forgiving debt (for only a few examples), people with an absence of food receive outdated or donated foods, supplemented from the excesses of the industrialized food system. The charity framework of food aid depoliticizes the ways absences and excesses are made and maintained by political economic actors and forces (Riches 2018). In nutrition and public health work, an orientation to food security ignores the system of low wages and racial disparities in favor of increased market availability of fruits and vegetables through mobile groceries (Cueva, et al. 2018), farmer’s market incentive programs (Bowling, et al. 2016; Durward, et al. 2019), an increase in retail locations (Evans, et al. 2015), nutrition education (Dannefer, et al.

2015; Gardner 2014; Kegler, et al. 2012), and marketing (DeWitt, et al. 2017; Liu, et al. 2017).

Anthropologist Alyshia Galvez points out that "food security is a purely market-based concept" (Galvez 2018) that is "complicated by issues of governance and power" (Vel, et al. 2016). The neoliberal project of public health, underscored by individualist ideologies of healthism and nutritionism, to which I next turn, acts to obscure its political nature. Counter to the hegemonic notion of food security, food sovereignty re-politicizes food systems, emphasizes community ownership over food and agricultural processes, and can re-orient nutrition and public health research to community-centric food production.

Healthism and Nutritionism in eastern Kentucky

Communities within eastern Kentucky already and regularly celebrate excesses of garden produce and other regional foods. In the early 2010s local businesses and tourist boards prioritized food and drink as a financially feasible option for economic development (Forward 2014). A Bon Appetit guide directed visitors to try a range of diverse foods – from latkes to salsas to cornbread and beans – that re-spin Appalachian history as more than homogenous, stuck in the past, and deep fried. Tourism runs the risk of selling particular narratives about a place where visitors can see pieces of their (white) selves or dangerously other-ize certain populations. While visitors bring money with them into a community, they also bring expectations. One strategy to avoid falling into this pit has been taken up by the Hindman Settlement School in eastern Hindman,

Kentucky (Hindman Settlement School 2017). The East Kentucky Food and Dance Trail seeks to "highlight the area's venues that encourage community building, cross-generational learning, and entrepreneurship through our culinary and dance traditions." The emphasis remains on building opportunities in communities, for communities. While the goal is to strengthen networks across eastern Kentucky, this sharing of food and dance across a mapped space also allows for tourism, while keeping celebrated traditions firmly rooted in the hands of the community. Additionally, people within Appalachia have written beautifully about gardening (Black 2015; Brown 2019; Huggins 2019), seed saving (Best 2013; Best and Adams 2017), home cooking (Lundy 2016), foraging (Engelhardt 2011; Engelhardt 2018; Trozzo, et al. 2019), and canning (Christensen 2019).

The orientation to food security within nutrition and public health worlds described above overlooks many of these community-based practices. Additionally, healthism and nutritionism are overlapping and entangled ideologies of late capitalism that inform the ways in which nutrition and public health research approaches and understands communities. Gerardo Otero argues that "social structure and not individual choice is the locus where interventions should be made. The main foci should be ameliorating social inequality and reshaping the system of agri-food production" (Otero 2018). In other words, this approach of individual responsibility for health and food consumption obscures systemic injustices and conflates the solution (an increase in stores) with the problem.

Healthism refers to the "preoccupation with personal health as a primary – often *the* primary – focus for the definition and achievement of well-being" (Crawford 1980). While the term was coined in the 1980s to describe the emerging focus on individual responsibility within the holistic health movement of the 1970s, the role of the individual in the production of health has only intensified. Since the formalization of neoliberalism throughout United States society (Harvey 2005; Morgen and Gonzales 2008), the ideology of healthism has worked to further depoliticize health and undermine how it is anchored to and in political decisions from local politics to federal policy. The increased focus on individual responsibility for health contributes "to the protection of the social order from the examination, critique, and restructuring which would threaten those who benefit from the malaise, misery, and deaths of others" (Crawford 1980). When the locus is on the individual it is easy to justify reductions in social support for health, including affordable food, livable wages, housing, and healthcare.

By the early 21st century, a key component of healthism was nutritionism, or "a reductive focus on the nutrient composition of foods as the means for understanding their healthfulness, as well as by a reductive interpretation of the role of these nutrients in bodily health" (Scrinis 2013). Together, healthism and nutritionism place the burden of health squarely on individuals by equating the consumption of certain foods (such as fruits, vegetables, and whole grains) with health and other foods (such as sugar, fat, and packaged foods) with chronic disease. Nutritionism treats eating as a laboratory practice

wherein – given the "correct" information – inputs can be manipulated to produce the proper outcomes. Environmental factors – in their broadest conceptualization – are imagined out of the equation. As anthropologist Jennifer Meta Robinson and professor of public health James Farmer write, "food is inseparable from a host of social, environmental, and economic interactions" (Robinson and Farmer 2017). So too are the ways that bodies differentially absorb both nutrients and their affective contexts. "An analytic of absorption," anthropologist Harris Solomon writes, "understands a seemingly bounded body to be twisted inside out, because bodies already are….What is body and what is environment? Where does one end and the other begin" (Solomon 2016)? Absorption offers a counter to nutritionism by demonstrating the faulty logic inherent to reductive approaches to health and food.

The overlapping ideologies of healthism and nutritionism contribute to representations of eastern Kentucky as unhealthy (understood through low fruit and vegetable intake) and food insecure. "Appalachia tends to be dominated by fast food outlets," writes Aasha Hoogland and colleagues (Hoogland, et al. 2019). This statement is an example of "problem closure," similar to the ways in which geographical information systems (GIS) and spatial analysis are used to correlate specific definitions of what environmental features cause obesity to estimated rates of obesity within a certain area (Guthman 2013b). This relies "on available data to make these correlations – data which themselves lead to certain kinds of explanations and not others." In other words, the cause of obesity is defined "in relation to socially acceptable solutions" and

understandings of the built environment. When driving through certain towns in Appalachia or conjuring them on a computer screen or map database, the excess of fast-food restaurants is apparent. However, it takes a one-minute drive out of town to be hit by a different reality. Appalachia is also dominated by gardens.

In summary, depending on where – or perhaps more importantly, how – you look, Appalachia has an excess of fast-food restaurants and an absence of fresh fruits and vegetables or an excess of home gardened produce and an absence of enough people to eat all the gardened produce there is to share. Which is it? Where does one find the truth – or something that resembles the truth – amidst such contradictory evidence? I would argue that the trouble is more with the circulation of stories – constructed through an orientation to food security, healthism, and nutritionism – that only look in particular places and ask particular questions. The public health focus on market-based food insecurity works to obscure endemic food sovereignty via gardening and food sharing. To be clear, I am not arguing that hunger does not exist in eastern Kentucky, but rather that hunger will not be alleviated by food security discourses and policies. The rest of this chapter explores how people participate in non-market channels of produce sharing that complicate such narratives and offer potential alternatives.

Race, Community, and Cabbage

Isabella is a forty-five-year-old Black mother of three. “We’re a multiracial family,” she told me, “It’s been very challenging to us at times in this particular community….There’s a big problem about unity and embracing diversity.” Friends and family in neighboring counties did not seem to experience the same level of harassment Isabella and her family did during the summer of 2020, an uptick that she attributed to “political wars.” “There are some people that deny that there’s an issue, while others around them are suffering and they don’t care,” she said. “I think a lot of people – they kind of know [racial inequality and harassment] is true, but they don’t want to face the truth. And then others saying no it doesn’t happen. And it does.” All three of Isabella’s daughters were online for school due to Covid-19. Not only did bullying about the girls’ skin color and weight increase substantially due to the unmonitored online spaces, but other families were able to see into their home and even figure out where they lived. On one occasion someone showed up to Isabella’s house taunting and yelling racial slurs, an event that lingered past when the individual left as Isabella continued to fear further harassment at her own home.

Amidst an infuriating environment of racism and denial, Isabella continuously turned to the farmer’s market and local community center for community. While laughing, Isabella shared:

> “My favorite thing goes back to the farmer’s market. I feel like they’re extended family members…it becomes more of a community family. So

> that's probably the biggest thing that I like about this area is the community center, the community kitchen, the farmer's market. Those things that bring people together. Regardless of their backgrounds."

Even when discussing the community she found through various organizations, the exclusion and dismissal she felt due to racial discrimination was at the forefront of her mind.

Isabella grew up in eastern Kentucky and regularly visited her grandmother who "could can and preserve anything." Her grandfather worked in a large garden on the hill behind his house, where Isabella and her siblings and cousins would regularly help pull weeds and harvest vegetables. Children were never allowed in her grandmother's kitchen, though. This exclusion stoked Isabella's curiosity; in college she studied food and nutrition, finally learning how to cook. While she encouraged her own daughters to experiment in the kitchen, she didn't learn to can or preserve until the late 2010s.

> "It was toward the end of the farmer's market season…one of the vendors was actually not gonna be able to come back and he was like, 'you want this cabbage?' I was like 'yeah!' Well, he comes out with these two garbage bags full of cabbage!...You can only eat so much cabbage and so I wonder[ed] if there were any programs around here that would help me learn how to can because I really don't know how to do this. So I asked at the farmer's market and [was told that] the community center has some programs….So my [oldest] daughter and I went to one of them, and they were teaching how to can [saur]craut. But you know it's kind of like a community effort, because you see people there and everyone's helping everybody learn these new skills….The experience was wonderful because my daughter loved it as well. And it was something we could do together as a community, and as a family."

After learning how to can, Isabella invited her mother and sister over to turn the

garbage bags full of cabbage into canned sauerkraut. “And then we shared what we made with other family members and friends,” Isabella reflected. Everyone had such a good time – at the canning classes, preserving cabbage at home, and enjoying the finished product – that Isabella wished she had the time and land to garden. “We don’t really have a lot of gardening land here,” she sighed. “They have some plots of land that I could [garden] but…then I would have to go somewhere else and do the gardening and then come home and I’m not ready for that challenge yet.”

The stories Isabella shared exemplify how fresh vegetables move through multiple non-market channels to feed bellies and relationships. The garbage bags of cabbage became the means for fermenting both healthy bacteria and community. While the farmer’s market became a kind of “extended family” it also provided the means to bring together her own family over a shared activity. It is crucial to note that, although Isabella was engaged in “healthy” activities – accepting an abundance of fresh produce to turn into a healthy canned good – she did not conceptualize it as such. She did not accept the cabbage because it was a nutritionally “healthy” food, but because it reminded her of her grandmother and offered an opportunity to expand her network through canning classes and spending time with her mother and sister. Additionally, the farmer did not ask Isabella to pay for the cabbage and Isabella did not ask her friends and family to pay for the cans of sauerkraut she gave them. In this case the movement of material goods – of food – occurred in shared, non-market avenues. Such exchanges, I would argue, should – much like the cabbage – be allowed to ferment rather than be

financialized.

This example articulates with anthropological work on human cooperation and the sharing of food among kin or relational networks (Jaeggi and Gurven 2013; Jones 2007; Schiefenhövel 2014). Furthermore, it illustrates how food can reinforce social and familial relations as well as communities through the production of place or a sense of what a place is. Foods associated with particular places bind bodies together in intimate ways, both meaningful and material (Abbots 2017). This was markedly important to Isabella and her family as they navigated racism and denial and found a welcoming community through food-related spaces. While Isabella received and shared food without the expectation of payment beyond the continuation of social ties, others engaged in what could potentially be read as work-for-produce.

Working for Produce

No matter how long it had been since last I'd visited the farmer's market, Donald's voice could always be heard rising above the chattering voices and rustling bags. "Heeeeey!" he would shout, his long, low, booming drawl cutting through the din. Donald is an imposing figure, standing over six foot five with broad shoulders and an intensely friendly presence. He worked a full-time job out in the county before an accident left him disabled; he was moved to an office in town but started picking up odd jobs on the side due to a fear of being let go. Over the years I've lost track of the different jobs Donald picked up to make a few bucks – lawn mowing, transportation, and organizing for his church were his favorite to talk about. He participated in a few

programs to receive tokens to the farmer's market, but after his first year going to the market, more often than not he would be behind a table, bagging green beans or jokingly cajoling a customer to try something new. Yet this work was different; the farmers paid him in whatever was left over at the end of the day. "Jack Endill, he's been one of the best [farmers]. I've dealt with him a lot. That's the one I help at the market [the most] and he tells me anytime I need something, come over to his house and get whatever I want." Hannah, a single mother of two young teenagers, lives next door to Jack and often comes home from her work in the school system to find bags of fresh produce on her porch. One day Jack told her, "He said, I don't do this for everybody. He said, you're a single mom and you do real good and I have plenty and we just want you to have this." Both Don and Hannah "worked" for what Jack gave them – Don in a traditionally recognizable role of helping at the market and Hannah in the family care work that is not financially recognized in the United States.

Jack is a well-known figure in the community, at once kind and giving with a strict sense of how things should be run and a somewhat quiet, curmudgeonly nature. When I met him in August 2019 on his property, he had not sold at the farmer's market for a few weeks due to a disagreement with the market board. When an agreement could not be reached, he stuck to his values and told them he would not – did not need to – sell there anymore. "I do enough in on-farm sales," he said, "people around here like their fresh fruits and vegetables." While sipping on a Diet Coke and nibbling from a Snackwell cookie pack, Jack walked us around, pointing out tidy rows of tomatoes,

cucumbers, watermelon, flowers, and berries. He was excited to explain how he grew the "three sisters" – corn, beans, and squash – and how they worked so well together – the beans grew up the corn stalks and the squash helped the soil. "The Native Americans used to do it this way," he said, adding that he learned this technique from his parents when he was growing up.

Jack retired from a well-paying job in 2012 with a disability and enjoyed working in his garden but had a hard time with some of the crops – strawberries in particular. During the harvest seasons he pays people who live nearby who he "knows need help" to pick for him. Along with giving them fresh produce, he pays them $4 per bucket of berries during the height of the season and $7 when the pickings are slim. We paused at the foot of a dead tree where he was growing an experimental variety of bean. "There were some dope heads who was helping me for a while. I haven't seen them in a bit." As he said this, he pulled out his phone and, I can only imagine, texted them. Despite the harsh and stigmatizing phrase he used to describe people who struggled with addiction, there was no animosity or even judgement in his voice. "My wife saves seeds," he said looking up and pocketing his phone, "every year we plant a different variety of bean under this tree." If the plant grew well and the beans tasted good, they saved the seeds and planted rows of it the following year. If it didn't do well – in any number of ways – they let the vines die off and melt back into the soil.

Regardless of the nature of hard work – whether it was the three sisters supporting each other, saved seeds producing tasty beans, a helping hand at the

farmer's market or in the garden, or a single mother trying her best – Jack valued and rewarded it, often with fresh produce. He did not garden for the health benefits of the fruits and vegetables and he did not once mention the nutritional quality of what he grew. While he practiced non-certified organic farming (via crop rotation, cover cropping, etc.) and incorporated traditional indigenous practices, he did not once mention the broad environmental benefits or express an underlying political ideology. Furthermore, the value of his crops was not discovered in the market, but through conversation and community. In other words, while Jack exemplified many of the tenants of traditional understandings of food sovereignty, he did not articulate it as such.

Jack was, in part, successful not only because he enjoyed gardening, but because he was financially stable without relying on what he sold from his garden. Other farmers I met and spoke with were in similar situations – retired or in a partnership where one (or both) had a high enough paying job to keep the bills paid. At the farmer's market and on his property, people were happy to pay Jack for his produce when they could – to acknowledge the hard work and material inputs that it takes to grow food. And Jack was equally happy to pay others with his produce – to acknowledge their hard work, whether that work was in a market or home setting. Those who had a little extra exchanged it with Jack for produce; Jack had a little extra and exchanged it with others for their work keeping the community alive and running. This runs counter to the neoliberal ideology underscoring healthism and nutritionism. Moreover, food security

measures locate nutritional health and financial well-being in local markets; but what of the extra- or non-market exchanges detailed in this section? And what happens to this non-market system of food procurement when it is financialized and turned into a business?

Producing a Living

Laura grew up and single-handedly raised her two sons in the southern United States while working minimum wage restaurant jobs. She was constantly surrounded by food but stated that she "cooked to fill a hole – you ate because you were hungry" rather than for nutritional reasons or for the enjoyment of food. After thirty years of struggling to make ends meet, she finally got her hands on a car that would "make it out of town" and get her to visit friends in Kentucky. After a few visits "one day I just stayed," she said. She immediately jumped into volunteering with and working for food-related organizations, from food banks to community gardening. Decades of experience working in local food systems and food-related non-profits gave her a practical perspective, especially of groups and projects that did not originate in the community.

> "I'm guilty of it. I did it with the farmer's markets. I could say, you join the farmer's market you could make…I remember one guy that we had, one Mennonite family that made $32,000 one year in our farmer's market. They were huge, they had a couple farms that they were bringing product in, but I was trying to recruit farmers this way. So we have one farmer that brought $32,000 in last year! This guy heard $32,000, [he was a] laid off coal miner, [he] went and leased some land, decided he was going to grow food on it and he was going to make $30 some odd and he never grown anything before. So I gave him all of this – you can make this much money, it's going to be easy….And so he bought into that but the reality was, he didn't have the skills to do that or the resources to do that. And

> so he tried for a couple years, and then he just ended up walking away, but I gave him that false hope….And too often I hear those kind of stories, those kind of promises from the pulpit."

I share Laura's words in full to illustrate the way in which an excess of produce does not necessarily turn into an excess of funds. This is counterintuitive to neoliberal ideology which assumes stability and financial success can be found in markets. Laura also compared growing and selling garden produce to the history of tobacco sales in Kentucky. "It was enough to make the difference between poverty and working poor, maybe," she said. In that way "there's a lot of opportunities here for the local foods to generate some of that income [for school clothes and stuff]." National data suggests that most farms in the United States – particularly small farms – are not profitable; growing food, for some, can cost more than it brings in (Todd and Whitt 2020). Farming income since 1996 has been negative except for 2019, when the median household income from farming was $296. When broken into residence farming (the grower is retired or has a career other than farming) and intermediate farming (farming is the grower's main occupation) less than half (45%) of residence farms and just over half (53%) of intermediate farms make any positive income. Of these farms that turn a profit, residence farms contribute 6% and intermediate farms contribute 20% to household income. In short, national data supports Laura's misgivings about encouraging farming as a viable way to financially support one's household.

Colleen began gardening to supplement her family's diet with healthy vegetables. Over the course of a few years, she expanded acreage in production and variety of crops

to grow enough to continue feeding her family and to sell extra at numerous farmer's markets in her area. "It's hard for me," she told me, then went on:

> "because now that farming is my business I don't make money because I give everything away and I can't charge the appropriate price because I feel guilty because the family always taught us to share it and give it. And so it's just in my mind that it's awful to charge people for food. And so, you know, I always just charge enough to make our farm break even, instead of actually making…you know of course I don't get paid from the work that I do. I just put it back into the farm and then give everything away. It's terrible. It's great. But it's also terrible."

When we spoke in the fall of 2020, she was exploring options to sell canned goods online where she could sell them at "a more appropriate price and not feel guilty." Beyond the "false hope," as Laura put it, of making a livable income via farming, the normality of sharing or giving away produce contradicts previous research findings that focus almost exclusively on food security and food purchasing. How can so much produce be grown and given away when so few people reportedly consume more than one fruit or vegetable per day?

Don provides what is perhaps the obvious answer: seasonality. "Now when the farmer's market is over," he stated, "then my eating habits are not as good." Melissa, likewise, talked at length about her "salad garden" and how much she enjoyed eating out of it, but did not have the time to can or preserve for the winter months. While she had a few high tunnels to grow lettuce longer into the cold months, she did not have time to can or preserve her tomatoes, beans, or other crops. Local grocery stores carry produce at "affordable" prices, but the quality is so poor – particularly when out of

season – that most people cannot justify spending their money on it. In other words, the time of year is just as important as how people obtain food. In both formal and informal interviews multiple people have also stated that they have been "spoiled" by the plethora of fresh produce during the summer and home preserved foods; the store-bought stuff – whether fresh, frozen, or canned – just doesn't taste as good.

Like a lot of people I spoke with, gardening was, as Melissa put it, "a habit for a lot of people" or as Judy said, "dirt therapy." But the decision to garden requires more than a passion for growing food. While a few participants grew tomatoes, peppers, and herbs on their windowsills or in containers, access to land and other resources is required to grow a substantial amount of food. Charlotte is a social worker in her thirties who works with the lowest income families in a five-county area. When the topic of gardening came up, she grew frustrated with individuals and organizations who, in her experience, sold gardening as a simple solution to the hardships experienced by her clients.

> "Another thing is they can't go get the seeds they need, they can't afford the tiller to till the garden, they can't afford the supplies or they don't have the transportation to get what they need. I'm trying to think of other barriers, I mean…gardening, you think that's supposed to solve everything. But still, you have to get the items or the seeds or know someone to help you or educate you."

Undoubtedly many people, like Jack's wife, save seeds and have other means of acquiring the necessary inputs to successfully garden. But not everyone. Gardening, when possible, can supplement a family's diet and, if large enough, the diets of friends, family, and neighbors. But gardening as a solution to economic hardship may sound

more promising than it actually is.

The question of whether to sell produce is complex and nuanced. As an employee of a gardening non-profit pointed out, $10,000 means a lot more to a family in eastern Kentucky than it would in an urban center. Whether this is exactly true or not, the ability to access additional funds – however small – could mean the difference between paying the bills or not. On the other hand, an extension staff member I spoke with seemed less convinced.

> "What worries me is you have people taking their fruits and vegetables to market to sell to someone who can afford it, who has more income. They then turn around and use that extra money to buy whatever cheap food they can afford. It feels like it's just local-washing extractive capitalism. There are parallels to experiences of subsistence producers in developing countries who are encouraged to grow commodity crops for market."

Gardening, in summary, serves diverse roles in the lives of individuals and communities. It can build and reinforce social ties, provide a source of enjoyment or "dirt therapy," nourish families and friends, produce extra income, and obscure systemic power inequities. Given a system of broader support – access to land, healthcare, elder care, etc. – the "quiet food sovereignty" of eastern Kentucky could, perhaps, speak aloud.

So far, through Isabella's cabbages, I have illustrated how sharing farmer's market produce strengthens community at multiple scales as locally grown foods bind bodies together meaningfully and materially. Jack's garden is a small scale (anti-industrial

agriculture), sustainable operation that extends into the community, providing support, whether that support is in dollars or vegetables. Finally, growing garden produce for market sales illuminates the violence of market structures, as it is difficult for farmers like Colleen and not as financially rewarding as some community groups promise. It is also important to point out that growing and consuming fruits and vegetables was not undertaken as a means to optimize nutrition or health.

Saving Seed

Seed saving is an important piece of food sovereignty efforts (Langwick 2018; MacRae 2016b; Rock 2018). Seeds purchased from a multinational agribusiness are typically hybrid seeds, which are unfit for saving and replanting year to year (Kaiser and Ernst 2017), and often come with additional legal prescriptions preventing farmers from reusing or trading seeds they gather from their fields (Borowiak 2004). This not only undermines local networks of exchange and keeps farmers dependent on multinational seed companies but undermines local adaptations to changing landscapes – made ever more extreme and unpredictable by climate change (Finan and Rahman 2016). Farmers – enticed by the prospect of higher yields – spend money to purchase seed; money that they are often unable to recuperate (Borowiak 2004). While agribusinesses make profits off seed sales, farmers are buried in debt. Moreover, seeds are more than a "container for genes." They are also a "hybrid of sociocultural and biophysical components" that contribute to material and cultural heritage (Carolan 2007). Among indigenous American groups in particular, the cultural heritage encapsulated in seeds is

financialized without compensation (Breen 2015). In short, seed saving is more financially feasible while allowing farmers to adapt to changing local conditions and to preserve aspects of their cultural heritage.

Seed saving, however, requires skill, time, and equipment. As Michael Mascarenhas and Lawrence Busch explain

> "The seed must be selected based on the performance of the parent plants and knowledge regarding local biogeoclimatic conditions. Furthermore, the practice of saving seed is equally demanding. It requires storage facilities, cleaning and treatment equipment and labor-intensive practices. The seed must be prepared such that it is free of insects and diseases that might reduce or contaminate future yields. Additionally, seeds must be stored at the right temperature and moisture conditions to ensure proper germination in the following season" (Mascarenhas and Busch 2006).

Until somewhat recently seed saving was the only way one could farm – including large acres of land. Large commodity crop production largely relied on seed saving until the invention and marketing of genetically modified soybeans in 1996 (Mascarenhas and Busch 2006). Since then, seed saving has been the purview of smaller farms and residential gardeners. Seed saving on a smaller scale requires less equipment – usually a mason jar for cleaning and storing the seeds and a refrigerator to maintain a stable, cool temperature (MacKenzie and Grabowski 2018). While knowledge and skills are necessary for seed saving at any scale, equipment needs vary.

Seed saving is a tradition and ongoing practice in the mountains of eastern

Kentucky. The Appalachian Seed Swap is an annual event held in Pike Central High School in Pikeville, Kentucky. When I last attended in 2018, the cafeteria was lined with folding tables filled with sandwich bags of heirloom seeds for every imaginable kind of fruit and vegetable. People streamed in and out, haggling over seeds, exchanging varietals, or excitedly sharing their own experiences with a particular type of bean or tomato. Down a locker-lined hallway you could enter various classrooms to hear local and regional experts share information about growing practices, seed saving techniques, and other topics.

Due to Covid-19, the last Appalachian Seed Swap was held in 2019. The public Facebook group, however, provides an encouraging glimpse into the continued exchange of seeds, even during a global pandemic. People regularly post questions about a type of vegetable they grew up eating, asking if anyone knows the name or has seeds available for purchase. The group is active, with most questions receiving replies, some ranging into the dozens. For example, one woman in September 2021 shared what town she was from, who her grandparents were, and what type of beans she grew up eating. “I was wondering if anyone from this area has any seeds for sale,” she ended, “I sure would love to plant some this next year.” Almost immediately someone responded that they were from the same area, knew some of the woman’s relatives, and would be happy to send her the seeds. When she asked how much he would like her to pay him, he responded “I will share them with you and you can share them with someone else or maybe share back with me if I ever need them.” Seed saving is a key

piece of food sovereignty as it keeps the ownership of food in the community without the need to rely on multi-national corporations. As the Facebook group for the Appalachian Seed Swap shows, an excess of seeds and knowledge already exists, and is often overlooked since it exists outside largescale markets and eludes a focus on healthism, nutritionism, or the market-based understandings of food security. Participants, in other words, are not swapping seeds and growing produce to optimize their health or nutrition or to sell into a local market to make a living and "improve" their financial status. They are sharing a practice they love while ensuring their future success, as the quote above exemplifies – "I will share them with you…[and you can] share back with me if I ever need them." Or, in other words, "this was not simply self-sufficiency; it was communal sufficiency" (Franzen 2020). In this way, people are assuring – for themselves and others – sustainable mountain livelihoods.

The exchange of seeds and information lays the groundwork for food sovereignty in Appalachian Kentucky. However, as Jessica Hardin points out, "vegetables alone could not sate hunger" (Hardin 2021). Many of my visits in eastern Kentucky inevitably included tales of (or run ins with) mean roosters, talkative turkeys (Image 9 below), and freshly gathered eggs, all common sources of protein. Furthermore, the wooded environment of the mountains, with its many waterways and lakes, provide fertile grounds for hunting and fishing. "A friend of mine," fifty-year-old Kim told me, "he killed a deer and he canned the deer meat…and it was awesome! It tastes just like, if you put a little barbeque sauce on it, it tastes just like pulled pork." Despite the prevalent

opportunities to obtain meat from the natural environment, Kim was the only interview participant who discussed hunting. Furthermore, on a survey distributed in June 2020 to 181 residents in eastern Kentucky, hunting and fishing were not mentioned as common ways to get food. I do not bring this up to suggest that people are not hunting and fishing, but to point out a limitation to my own research – I did not specifically ask about these practices, and thus cannot comment on how widespread they actually are within my sample. What I can argue, however, is that hunting, fishing, and canning meat can further support food sovereignty efforts in Appalachia. A recent University of Kentucky Cooperative Extensive and Nutrition Education Program initiative called *Cook Wild* provides recipes for a variety of local game, including venison, duck, turtle, dove, rabbit, and frog (Kentucky NEP 2021). This provides not only recipes for Kentucky families, but further normalizes hunting and fishing as legitimate sources of food.

Image 9: Turkeys raised by a small family farm. Photograph by author, taken during a farm visit, 2019

Discussion

A common theme throughout this chapter is how readily people share food,

whether it's extra cabbages, garden produce, seeds, or canned meat. While some people obtain fruits and vegetables from farmer's markets, interview participants talked considerably more about the exchange of produce among friends, family, and neighbors. This, I argue, constitutes food sovereignty in eastern Kentucky that belies the neoliberal ideologies of healthism and nutritionism that keep nutrition and public health research – and their concomitant policy suggestions – narrowly focused on market-based solutions. This contributes to the interactions that opened this chapter, where researchers assume particular answers to particularly crafted problems.

Sarah Franzen, writing about a Black farming cooperative in Mississippi, states that their "alternative value system is neither a direct resistance to nor effort to compete within the dominant system. Rather, the alternative value system functions as an enclave of separation and self-making" (Franzen 2020). The alternative value system around gardening and food sharing in eastern Kentucky aligns more readily with a "quiet food sovereignty" rather than an outspoken movement composed of clearly articulated ecological and political motivations. Residents of eastern Kentucky do not, from what I have heard and observed, garden and food share to resist capitalism or compete with large agricultural production. Rather, they engage in these everyday food practices to reinforce social ties, provide for their families, or make a small amount of money to continue gardening. As one Cooperative Extension Agent told me:

> "[People who grow food and sell at the farmer's market] are not doing it just for the fun of it [but as] a kind of hobby or pastime…And so they're not trying to truly make money as much as it's just something they enjoy

> and it's a bonus that if – I know a lot of them, they're basically wanting to say well with this I'm paying to cover next year's seeds or I'm covering fertilizer and spray [costs]."

This is not to say that there are *no* growers who make a livable income farming. What it does point to is that this is not the goal for most people who grow. It also begs the question of how many more people would grow – and share – food if they had the time and resources. Isabella comes to mind – she works a full-time job, with three young teenage girls, and no land. Yet if given the opportunity she – and countless others like her – would plant their own gardens, can their own produce, and further contribute to existent food sovereignty networks.

It is outside the scope of this research to address the inevitable gaps in existent food sovereignty networks. Who is left out of these networks and why? How can those left out – accidentally or otherwise – be invited in? Such questions should be taken up within public health and nutrition research that explores fruit and vegetable intake and food security, rather than traditional approaches that prioritize market-based solutions. This type of research provides a natural trans-disciplinary partnership with social scientists who can lend their expertise in qualitative data collection and analysis as well as address further questions. For example, what sorts of boundaries and expectations exist around food sovereignty networks? What power dynamics construct and are inherent to such networks?

Conclusion

In this chapter, I argue that a quiet food sovereignty exists in eastern Kentucky. As national and ethnographic data illustrate, any push to marketize these efforts is not a viable solution to poverty or chronic disease. Nutrition and public health research – and their concomitant policy suggestions – can best support the health and well-being of people in eastern Kentucky by reorienting their efforts away from the technocratic and market-based solutions of food security and towards the community-driven efforts of food sovereignty. People cannot eat their way out of economic precarity, low wages, medical debt, student debt, trauma, racism, contaminated environments, lack of housing, or any other factor that contributes to hunger and chronic disease. These issues require deep and structural changes to federal policy, including the Intellectual Property Rights that interfere with communal seed saving and exchange (Borowiak 2004; Mascarenhas and Busch 2006) and a reassessment of government subsidies for largescale commodity crops in order to maintain a surplus (Graddy-Lovelace 2016; Graddy-Lovelace and Diamond 2017) that interferes with international local markets as it floods grocery stores and food pantries with cheap, low-nutrient foods (Galvez 2018; Otero 2018; Riches 2018).

The practice of gardening and food sharing in eastern Kentucky resists the neoliberal ideologies of healthism and nutritionism. The stated preference for fresh, locally grown and/or canned produce suggests that the consumption of fruits and vegetables is about more than achieving nutritional or physiological health or even

making money through market exchange. People enjoy consuming garden produce as a thing in and of itself, rather than as purely a 'cure' for ailing health. Previous nutrition and public health research on produce consumption in Appalachia, I would argue, is more concerned with enveloping gardening into neoliberal market mechanisms, rather than supporting food sovereignty efforts. I am not, to be clear, arguing against selling excess produce to those who have an absence of land or desire to grow food. What I am arguing against is the expectation that all those who grow food sell that food and the inherent assumption that this will lead to financial security and public health. I would argue in favor of state and federal policy initiatives that better support food sovereignty, such as land redistribution, medical care, a living wage, childcare, elder care, and other social supports. Basic needs – including medicine, housing, water, electricity, and internet – should be accounted for, in other words, to support the growing and sharing of food without the need for financial incentive.

Chapter 6: Conclusion

Summary and Final Thoughts

> "Like my grandchildren weren't in need of [the food boxes from the community kitchen] and I even talked to the people over it and said, if we're taking away from somebody else, we don't need it because they can afford food. And they said, no, they said it's one of those things where the more people participate, I guess, the more stuff they can get, the more money they can get. So it's almost like they wanted you to do it. But you know like there are times now that some of these programs are stopping…. They don't do that anymore, that program ended, the one that delivered it to the homes for two weeks at a time that stuff ended too." –Richard

At its foundation, this dissertation is a description of how members of one community receive, exchange, embody, and question outside aid, in the form of food boxes, nutrition programs, and medical advice while continuing to live their lives and construct their own identities, communal and individual, through practices such as gardening and food sharing. While the details and insights discussed in these chapters may be found elsewhere, they are not generalizable. What *is* broadly applicable is that communities put goods and knowledge to use in variable and unexpected ways. This is seen through the exchange of food from Covid-19 aid, tentative questions about the funding for one program over another or the end of funding (see Richard's statement above), and the dispersed, affective embodiment of medical and nutrition advice.

People are deeply tied to structures of politics, economy, and society in ways that are unpredictably absorbed by and incorporated into their bodies and lives. The Covid-19 food aid boxes were developed with an imagined, poor, autonomous household in mind; the food contained within each box meant to feed a family. In

reality, boxes went to households across the socio-economic strata – challenging the narrative that all of Appalachia is poor – and were deconstructed, torn apart, given away and exchanged, the foods moving through and across households. Such aid was – and always is – appreciated, much like the appreciation participants had for initiatives like the walking program. While participants enjoyed the program, they often wondered why it was feasible to fund (for a time at least) such a project but not others, or why a community was a site of interest for researchers implementing nutrition programs but not corporations who might bring jobs. The changing nature of the job market over the past few decades ushered in an increase in service sector jobs – mostly in public schools and healthcare. Health-related marketing and medical advice from doctors moved across relationships in deeply embodied ways, affecting the food intake and emotions of those around the recipient of the advice. Despite the individualist orientation of biomedicine – characterized by healthism and nutritionism – nutrition and diet advice is never self-contained; it moves, it spreads, it affects. As all these outside programs do.

Communities also maintain ties to their past, to each other, and to an imagined future that creates practices of care and continuity. Growing vegetables, hunting, fishing, and raising livestock were – and remain – ways for people to connect to their homes, themselves, and each other. Throughout this dissertation I push back against concepts such as food insecurity, biomedical individualism, and dietary advice – but I do not doubt that hunger, illness, and nutritional inadequacy exist in this community and throughout the United States. Rather, this dissertation points to a different set of solutions than those readily on offer. Solutions that are found in a multi-scalar

distributive politics that center the resources communities already have as much as those they lack.

In 2019 I attended a community celebration that included a multi-course meal, beautiful holiday decorations, and a combination of gratitude for the year past and excitement for the year to come (Image 10). As part of the event, local vendors and artists donated handmade goods for auction – jams and jellies, decorations, embroidery, and knit items, to name just a few. As a knitter myself I admired the craftsmanship of the blankets and wraps up for auction. When yarn is dyed by hand, the process is slow and thoughtful. Colors are added one at a time, in patterns or speckles, and the yarn soaks up the color, its very nature changed by an outside element. Colors often bleed together as they overlap and spread, creating new and unexpected shades. The entire process occurs in a clear bath of water and acid, without which the yarn would be tinted but not dyed. There seems to be a lesson in this, about the ways individuals and communities incorporate outside, structural elements in ways we cannot control or predict. Something you would expect to make a big difference – a bold flash of color – may in reality be muted or under-expressed. And the things we tend to see through – the liquid within which we are all submerged – remain a crucial element; it interacts with the colors in ways that cannot be seen. In other words, we are all influenced by structures – close and far, small and large – but the nature of that influence, the way it plays out in our lives, is far from predictable. This dissertation has afforded me the same slow, thoughtful care to consider how political economic and other societal elements color the lives of individuals and the community in new and unexpected ways.

In chapter two – *Covid-19 and Food Aid* – I describe three food aid programs that served households with children in eastern Kentucky. Participants were grateful for the food, but could not always use all the items – due to allergies and food preferences – and stored or shared food through new and already existing networks of care. Participants were also worried about elderly members of the community, as no food (or other) aid was directed towards households without children. This chapter argues that aid for children is necessary, but not enough. Furthermore, aid in the form of direct cash payments and strong social services and safety nets would better meet the needs of entire communities. Such public support was acutely needed during the Covid-19 pandemic, but remains chronically necessary.

In chapter three – *Metabolic Projects* – I present data analysis from twenty-five, three-year participants of the Tanglewood to Table walking program. Despite important limitations – most notably a small convenience sample – the data suggests promising patterns, improving biomarkers related to chronic disease, specifically heart disease and diabetes. The chapter ends by discussing the ways participants envision community problems and solutions, with a call for *both* redistributive politics *and* investment in public health programs such as T2T.

In chapter four – *Affective Political Ecology and the Sociality of Disordered Eating* – I describe the phenomenon of disordered eating and explore – through survey and interview data – the ways it develops and spreads from institutions and between individuals. I argue that increased attention must be paid to disordered eating patterns

and the affective qualities of food to better understand a range of human behaviors and diseases, including social gatherings, relationships, metabolic health, and mental health.

In chapter five – *Eating, Growing Food, and Food Sovereignty* – I share stories from interviews and fieldwork that counter common narratives of Appalachia as devoid of healthy food. I ask that public health and nutrition researchers turn their attention away from market-based solutions to hunger and towards the quiet food sovereignty that can be supported in places like eastern Kentucky, where people are already growing their own food, hunting, fishing, gathering, and preserving.

Together, these chapters demonstrate how communities – much like bodies – are "twisted inside out" and boundaryless (Solomon 2016), as what was outside becomes absorbed in unanticipated ways. This provides an opening, an opportunity for redistributive politics – including direct cash payments, elimination of medical and student debt, healthcare, elder care, and child care – to remake communities in new and self-directed ways.

Image 10: Community Celebration, December 2019. Photo by author

Directions for Future Research

Like most research projects, this one concludes with more questions than it started with, questions that would best be answered by "studying up, down, and sideways" (Stryker and Gonzalez 2016). For example, the Covid-19 food aid discussed in chapter two was unanticipated, building over the course of dozens of interviews,

illustrating how recipients of the aid viewed and valued it. How did professors and staff at Baylor University determine which United States locations would receive food aid? What data informed these calculations? What does this tell us about national representations of particular regions and places? How did the relationship between Baylor, McLane, and Pepsi Co start, unfold, and influence among those actually in the room? What does this tell us about the relationships between researchers and corporations – what role, in other words, does capitalist ideology play in the development and implementation of projects, whether for research or public health? Were nutrition assessments conducted on the boxed food? Were direct cash payments ever a topic of discussion? In other words, what was the nature of the connections "between powerful institutions…and relatively powerless individuals" (Stryker and Gonzalez 2016)?

Similar questions arose from the metabolic, anthropometric, and interview data gathered for and analyzed in chapter three. The walking program has not been funded since 2020, not for a lack of trying. What more evidence and data is required to convince non-profit and government organizations to fund such initiatives? From a biological and public health standpoint, how could an expansion and extension of the program benefit participants? Furthermore, there is something to be said for symbolic capital taking the place of actual investment. Throughout my years of working on this program, I have attended many community and professional lectures, meetings, and webinars where the walking program was lauded by people in power. But their praise fell short of direct, financial investment. How do programs such as the walking program

contribute to a narrative of care for places like eastern Kentucky that whitewash the continued extraction and exploitation that occurs through multiple forms of disease and debt? How do people in power, in other words, use the community work of others to pretend at investment? How do such weak, performative commitments influence community work and policy?

Disordered eating – as an individual but also, as I argue in chapter four, a deeply shared set of behaviors – develops through an affective political ecology that encompasses multiple scales, from social norms to health care advice. Despite receiving no formal training in eating disorders or disordered eating, most registered dietitians seem familiar with what disordered eating is – enough to nod knowingly when I bring it up. How do dietitians understand disordered eating and address it with their clients and patients? Where does this intuitive knowledge come from and is the intuitive diagnosing of disordered eating different from a more formal definition or diagnostic criteria? Does dietetics contribute to disordered eating as a phenomenon – much like panic – that it seeks to address? How is disordered eating used to market products, including businesses like therapy and counseling as well as books, yoga classes, clothing, and, of course, food? Anecdotally, the strongest online voices engaging in discussions about disordered eating have, over the past five or so years, increasingly marketized their efforts with sponsors ranging from on-demand therapy apps to McDonalds. Furthermore, what buffers prevent some people from developing disordered eating? Specifically in eastern Kentucky, how does Christianity influence the practice of particular disordered eating behaviors? One interview participant – who verbally

expressed multiple signs of severe disordered eating, including restriction and preoccupation with weight and food – shared that she regularly engages in multi-day prayer fasts to bring her closer to her faith. After a friend's husband died, she asked her friend to begin participating in prayer fasts with her. How common is this practice? How do religious fasts fit into patterns of disordered eating? What role do religious institutions play in the stigmatization of weight and eating patterns? For example, the Remnant Fellowship Church, founded by Gwen Shamblin Lara in Tennessee, reaches thousands of people across the world and explicitly preaches weight loss (Remnant Fellowship Church 2021). Other cross-denominational practices spread via the internet, such as the Daniel Fast, a Christian twenty-one day fast that avoids all animal products, added sugar, refined grains, processed foods, fried foods, solid fat, caffeine, and alcohol (Feola 2022). It is notable that the only foods one is allowed to consume while on this fast are the most likely to be non-commercialized and non-corporatized (although this is not a hard and fast case). What do religious fasts tell us about Christianity in a capitalist state? Are these fasts complicated by wider social norms that encourage and popularize highly gendered bodily and eating standards?

The gendered dynamics of gardening and farming in eastern Kentucky were diverse, as the ethnographic examples in chapter five illustrate. How do changing gender norms – due to a reduction in coal mining and an increase in service industry jobs – influence not only what is gardened, but what is eaten? Along with these changing gender norms, Alpha-Gal Syndrome is spreading throughout Kentucky. Alpha-Gal Syndrome is spread through tick bites and causes a potentially lethal allergic

reaction after consuming meat from pigs, cattle, rabbits, sheep, and deer, as well as products from these animals (such as gelatin and milk) (National Center for Emerging and Zoonotic Infectious Diseases 2021). Given the connection between masculinity and meat consumption that is common in the United States – and eastern Kentucky – how do men navigate a diagnosis of Alpha-Gal Syndrome? How does this change familial eating patterns? How do men in eastern Kentucky navigate such changes to two main sources of masculine identity – "bringing home the bacon" and consumption of that bacon? This also links to chapter four, where I found that, among my survey sample, men were more likely to engage in disordered eating behaviors. Furthermore, with the increased flooding in eastern Kentucky over the past few decades due to erosion and climate change, how will this impact the spread of insect-borne diseases such as Alpha-Gal, as well as current gardening and farming practices?

Potential Applications and Relevance for Scholars of Rural North America

> "My kids was brought up to can and do stuff but a lot of their friends, they don't even know how to can. I had a niece that's 45 – the same age as my middle daughter – she messaged me she was so proud that she had made Sauerkraut, and she had canned tomatoes and she'd never done [either] before. And I'm so proud of her and I said, 'mama' – that's my mother – I said, 'mama would be so proud of you for doing this' Because that's what my mother did all her life, you know, she canned food every year. And then she got her deep freeze. But, you know, we either canned it or before we got the deep freeze then if we got a hog or something, then we cured it in the smokehouse." -- Francis

This dissertation adds to studies of food by elucidating the social and affective qualities of eating. Food and nutrition knowledge move through and across scales of influence, from federal public health policy to the local doctor's office to the dining

room table, enveloping everyone into a tangled web of desire, guilt, pleasure, shame, and uncertainty. The emotional and affective qualities of food should be incorporated into studies of dietary choices, along with concurrent psychological and metabolic health. As the quotation above illustrates, food procurement and preparation are important topics of discussion as they tie people together across generations and households.

This dissertation also argues for federal policy change, for radical shifts towards a distributive politics that provide holistic care (for physical and mental health, childhood, elders, and differently abled), jobs guarantees, and economic stability. Anthropologists have written about such initiatives from South Africa (Ferguson 2015) to Cuba (Garth 2020) and called for similar changes to be implemented in the United States (Dickinson 2020; Giles 2021). As stated in the Introduction, throughout this dissertation I think through an unthinkable politics, or to at least make room for them, to "shake things up and create openings" (Mol 2021). Such openings encompass direct cash payments instead of "leftover food for left behind people" (Riches 2018), economic stability via jobs guarantees, universal basic incomes, or state ownership of resources, and free and universal healthcare, childcare, and eldercare. Other openings are presented in how we think about government subsidies for certain crops (wheat, corn, soy) over others (apples, beans, squash) and how this shapes the availability of certain foods over others. This research shakes up the dominance of capitalist framings of food consumption in rural North America, pointing to gardening, hunting, gathering, and fishing – practices that are often overlooked or assumed to no longer exist. While not everyone can – or

wants to – grow or raise their own food, there are plenty of people who *do* but lack the support and resources. Given the political economic system that values corporate profit over poverty alleviation, it does not seem an accident that small farmers struggle to remain financially afloat. This system can be shaken up, turned on its head, as illustrated throughout this dissertation as people manipulate what they are given and incorporate it in new ways that work better for them.

A common conversation I had with interview participants was how to address the problems they identified. Most responses reminded me of Jack, the farmer from chapter five. "I think if they put money into a place like the community kitchen and said, 'okay we're giving out this free food' everybody would be into it," Karen told me in response to a question about how to make sure more people are fed. When discussing lower income families and their access to food, a social worker stated that a solution "would have to be something that actually took the meals to the people, it would be something that provided transportation." I heard such comments again and again – much like Jack never mentioned food sovereignty, these comments were in no way categorized as anti-capitalist or revolutionary. They were simple suggestions – meet people where they are, give them what they need not only to survive, but to thrive, to make themselves healthy and therein make the community healthy.

Appendix: DSM-V Clinical Classifications of Eating Disorders (American Psychiatric Association 2013)

Acronym	Diagnosed Disorder and Characteristics	
ARFID	Avoidant-Restrictive Food Intake Disorder	
	An eating or feeding disturbance (e.g., apparent lack of interest in eating or food; avoidance based on the sensory characteristics of food; concern about aversive consequences of eating) associated with one (or more) of the following:	Significant weight loss
		Significant nutritional deficiency
		Dependence on enteral feeding or oral nutritional supplements
		Interference with psychosocial functioning
	The disturbance is not better explained by lack of available food or by an associated culturally sanctioned practice.	
	The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no evidence of a disturbance in the way in which one's body weight or shape is experienced.	
	The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder.	

AN	Anorexia Nervosa	
	Restriction of energy intake relative to requirements, leading to a significantly low body weight in the context of age, sex, developmental trajectory, and physical health. *Significantly low weight* is defined as a weight that is less than minimally normal or, for children and adolescents, less than that minimally expected.	
	Intense fear of gaining weight or of becoming fat, or persistent behavior that interferes with weight gain, even though at a significantly low weight.	
	Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or persistent lack of recognition of the seriousness of the current low body weight.	
BN	Bulimia Nervosa	
	Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:	Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances.
		A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or

		how much one is eating).
	Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as self-induced vomiting; misuse of laxatives, diuretics, or other medications; fasting; or excessive exercise.	
	The binge eating and inappropriate compensatory behaviors both occur, on average, at least once a week for 3 months.	
	Self-evaluation is unduly influenced by body shape and weight.	
	The disturbance does not occur exclusively during episodes of anorexia nervosa.	
OSFED	Other Specified Feeding or Eating Disorder	
	This category applies to presentations in which symptoms characteristic of a feeding and eating disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for any of the disorders in the feeding and eating disorders diagnostic class. The other specified feeding or eating disorder category is used in situations in which the clinician chooses to communicate the specific reason that the presentation does not meet the criteria for any specific feeding and eating disorder. This is done by recording “other specified feeding or eating disorder” followed by the specific reason (e.g., “bulimia nervosa of low frequency”).	

	Not listed: Pica, Rumination Disorder, Binge Eating Disorder	

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Education

2019-present	PhD Candidate, Anthropology	University of Kentucky
2018	M.A. in Applied Anthropology	University of Kentucky
2015	B.S. in Dietetics	University of Kentucky
2011	B.A. in History and Anthropology	West Chester University

Employment

August 2016-current	Program Manager, University of Kentucky Superfund Research Community Engagement Core; Growing Healthy Appalachia Partnership, Food Connection
2016-2017	Nutrition Instructor, Lexington Healing Arts Academy
2013-2015	Research Assistant, Department of Dietetics and Human Nutrition, University of Kentucky
2011-2013	Teaching Assistant, Department of Anthropology, University of Kentucky
2011-2013	Research Assistant, Behavioral Sciences, University of Kentucky

Publications

Koempel A, Jacobsen K, Clouser J, Vundi N, Li J, Williams M, Williams M, Brislen L. Growing Health: Building Partnerships in Healthcare and Local Food Systems for Improved Food Access in Appalachian Kentucky. *Submitted for review November 2021.*

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Honors and Awards

H. Russell Bernard Student Paper Prize, awarded Fall 2021
Research Activity Award, University of Kentucky, awarded Winter 2021
Bluegrass Academy of Nutrition and Dietetics Scholarship, awarded 2019
Staff Professional Development Fund, awarded 2018 and 2019