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TABLE of contents

Why Rebuild on Toxic, Sinking Ground?: The Challenges for Disaster Recovery in Southeast Louisiana 1

Jamie Lynn Chan

Yale College

Food Allergies and Living with Risk: Navigating Everyday Life at University When at Risk of Anaphylaxis 26

Megan Haslam

University of Exeter

Silent Struggles: Relative Energy Deficiency in Sport (REDs) in Female Athletes 45

Veronica Szygalowicz

Trinity College Dublin

The Politics of Property: Place-Making in Una, Saxon, and Arcadia 64

Sarah Buckmaster

Wofford College

The Journal for Undergraduate Ethnography

Why Rebuild on Toxic, Sinking Ground?: The Challenges for Disaster Recovery in Southeast Louisiana

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ABSTRACT

As southern Louisiana is experiencing one of the highest rates of sea level rise in the world, it is not uncommon for residents to hear that it is "too late" to save their homes from the impacts of climate change. Particularly, in the wake of disaster events such as hurricanes and oil spills, heavily damaged areas are often left behind in the recovery process as few developers are willing to take the capital risk to rebuild a sinking neighborhood. Still, some of these residents refuse to be moved and their resilient spirit is widely celebrated. Cultural resilience alone, however, is not enough to resist the onslaught of climate disasters nor counter systemic disinvestment in their communities. Through combining historical and ethnographic insights from the Black residents in Cancer Alley, the Vietnamese refugee community in New Orleans East, and the Indigenous tribal members of the Grand Bayou Village, this article argues that marginalized landscapes and livelihoods have been structurally made to become untenable within the economic bounds of disaster recovery. Under these circumstances, Louisiana's coastal communities continue to assert survivance within precarious environments, offering alternative narratives to blind optimism or defeatism for living in an age of climate crisis.

Keywords: disaster recovery, community resilience, sacrifice zones, climate change, Louisiana

In Louisiana, where flooding disasters are routine, a new change to the National Flood Insurance Program will raise premiums up to 129 percent for roughly half of insurance holders (Smith 2022). The updated pricing mechanism can be interpreted as part of a federal climate adaptation strategy to move people away from highly vulnerable floodplains (Peralta and Scott 2024). For many Louisianans, however, moving is not an option. Instead, many people, especially low-income homeowners already struggling to pay their mortgages, are dropping their insurance at a time when it is more important than ever to secure financial protection against natural disasters (Younes 2022). Ultimately, the insurance policy update reveals a harsh truth about Louisiana's coastal future: rebuilding a damaged home is getting costlier as storms become more frequent and severe. Living along the Gulf Coast is becoming increasingly unstable, unaffordable, and unsafe.

In this study, I am interested in understanding why certain communities in coastal Louisiana are choosing to remain in a landscape that is growing inhospitable, even when market economics and climate science are clearly to their disadvantage. The most obvious assumption is that people who remain are without a choice, as resettlement incurs significant financial investment and disrupts long-standing social networks. However, this explanation would be incomplete without considering the circumstances that have embedded certain communities so deeply in Louisiana's most vulnerable floodplains, which are anything but incidental.

This paper seeks to contextualize the current predicament of climate vulnerability facing the Black residents along the stretch of the Mississippi River infamously named "Cancer Alley," the Vietnamese refugee community in New Orleans East, and the Atakapa-Ishak/ Chawasha tribe of the Grand Bayou Village. These are communities who have ended up in the polluted, flood-prone land across Louisiana's margins as a result of a recurring pattern of dispossession. Today, they are asserting the right to their livelihood in the bayou in defiance of multiple disaster threats, including subsiding soil, sea level rise, and rapidly intensifying hurricanes. Others have characterized their stories as achievements of human resilience. I intend to complicate this narrative by drawing attention to the structural conditions that enshrine the resilience of certain populations as a cultural expectation instead of understanding their mobilization as a political strategy to rise above state neglect.

Each of these communities are products of distinct historical trajectories and are located in different parishes of Louisiana. My goal with this comparative study is not to flatten those differences for the sake of generalizing a cross-cultural claim about community resilience. Instead, I am adopting the approach of critical juxtaposition, which is "the deliberate bringing together of seemingly different historical events in an effort to reveal what would otherwise remain invisible" (Espiritu 2014, 21). Situating the Black, Vietnamese, and Indigenous communities as regional neighbors in the bayou serves the purpose of identifying a particular "logic of displacement" located at the intersection of colonization, transatlantic slavery, petrocapitalism, and neoliberal economics (Oslender 2007, 762).

Oftentimes, acute catastrophes like hurricanes eclipse the chronic disasters of instability and inequality that have been woven into the fabric of the mundane. This is the kind of "slow violence" that occurs "gradually and out of sight… dispersed across time and space" (Nixon 2011, 2). It is only by drawing these connections that we see how certain harms and choices, which appear inevitable, are designed to be that way. This requires a practice of seeing disasters in the multiple and avoiding dichotomies such as nature and culture, and start and end (Choi 2013). By stretching the temporal and spatial dimensions of disaster in southeast Louisiana, I aim to illustrate how certain landscapes and

livelihoods are structurally made to become unviable within the current triaging dilemma in climate adaptation: when resources to save everyone do not exist, who do we try saving and who do we let sink (Craig 2023)? Rebuilding on toxic, sinking ground can therefore be understood as resistance against a genealogy of dispossession imposed onto populations whose lives have been warped by a centuries-long project of natural resource exploitation.

Theoretical Contributions

Community Resilience and Disaster Recovery

In disaster management, resilience is the "ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events" (National Research Council 2012, 16). The concept of resilience has become ubiquitous in disaster scholarship because of its applicability across multiple levels, such as psychological, ecological, and institutional resilience (Cutter et al. 2008).

Community resilience refers to "a process linking a set of adaptive capacities to a positive trajectory of functioning and adaptation after a disturbance" (Norris et al. 2008, 130). This definition, which is one out of many across policy and academic literature, emphasizes that community resilience is a *process*, not an outcome nor an inherent characteristic, that leads to *adaptability*, not a return to pre-disaster stability. The core elements, or adaptive capacities, that constitute community resilience include community networks and relationships, communication, governance and leadership, preparedness, and mental outlook (Patel et al. 2017). Moreover, the process of social recovery is rarely linear and can be interrupted or stalled for extended periods (Tierney and Oliver-Smith 2012).

Central to recovery is the question of "rebuilding back to what?" (Barrios 2016, 30). The paradigm that understands resilience as "bouncing back" to a status quo ante privileges established social structures that have been shaped by unequal power relations and injustice, while closing off possibilities for systemic transformation (MacKinnon and Derickson 2013). Each disaster event is experienced by populations differently based on class, race, gender, disability, and geography. Recovery measures that do not interrogate the structural conditions of underdevelopment, endemic poverty, racism, gender inequality, and environmental degradation may risk reproducing uneven, socially created patterns of vulnerability. These patterns predispose certain communities to more severe disaster impacts than others, in addition to prolonging their quality and speed of recovery (Olshanky 2005).

Furthermore, depoliticized resilience discourses "figure disaster victims as the primary site of intervention," effectively placing the onus of recovery on affected communities to activate their capacities and resources for resilience (Barrios 2016). Co-opted resilience rhetoric promotes the resilience of the poor and disadvantaged in alignment with the principles of neoliberal self-governance (Humbert and Joseph 2019). Effectively, this induces adaptation to and regulation of conditions of deprivation. The mounting critique of resilience-thinking has led to the emergence of "anti-resilience" or "resilience justice," concepts that identify the roots of vulnerability inequality in systemic violence and maintain the pursuit of justice amid conditions of disturbance and change (Baker 2019; Arnold 2021).

Post-Katrina New Orleans has dominated the focus of disaster resilience studies in the region (Colten, Kates, and Laksa 2008; Gotham and Campanella 2013; Burton 2015). I aim to contribute to the understanding of the cumulative effect of repetitive disaster losses on community recovery, taking into account the range of disasters, and disastrous events, that have taken place before and after Hurricane Katrina in 2005.

Multiple Disasters Research

A disaster can be understood as a process of social and environmental change which occurs when hazards, or "forces, conditions or technologies that carry a potential for social, infrastructural, or environmental damage," fail to be mitigated, causing a disruption to the perceived social order (Hoffman and Oliver-Smith 2002, 4). In this context, a hazard can be a hurricane, an oil spill, a pandemic, or it could be a socioeconomic practice with unintended

negative consequences such as wetland dredging.

Increasing attention is being paid to the ways disaster impacts overlap with one another. Scholars have offered various terms to describe these phenomena, such as convergent disasters, cascading disasters, compound disasters, and recurrent disasters (Moseley 2019; Pescaroli and Alexander 2015; Cutter 2018; Machlis et al. 2022). Rather than categorizing the disasters that this paper will explore as one type or the other, I find it more fruitful to explore the indirect and interlocking factors that create landscapes in which disasters of various kinds proliferate. The human impacts of multiple disasters have primarily been studied as a public health issue (Adams, Van Hattum, and English 2009; Leppold et al. 2022). I aim to go beyond this scope to understand the ramifications of multiple disasters on intergenerational community formation. Social groups who have experienced successive, multi-generational disasters are in a constant state of emergence as a result of the politically and epistemically charged processes of multiple recoveries (Barrios 2014). This paper addresses how the legacies of past disasters came to influence current disaster responses.

Methodology

I spent June to August 2022 interning part-time with two non-profit organizations in New Orleans. The Water Collaborative identifies water management as a tool for social and economic liberation. Their programs in education, policy, and community development seek to improve water access, affordability, and quality, and strengthen climate resilience in the Greater New Orleans Region. I was involved in their floating planter box design competition and their Mississippi River water testing project through which I was able to visit the Grand Bayou Village and St. John the Baptist Parish where I conducted participant observation.

VAYLA was founded in the post-Katrina reconstruction period of New Orleans East to fight environmental racism. Since then, VAYLA has focused on building Asian American Pacific Islander youth leadership to address intersectional social inequities in New Orleans and beyond. During my time with VAYLA, I researched and produced content for their social media platforms and conducted semi-structured interviews with team members. My association with these groups opened up access to other local actors and organizations involved in disaster response.

Cancer Alley

Living with toxic water

Long, slender pipes rose from behind the levees, reaching above and over the road we were driving on, and planted their feet firmly within the gated facility on the other side of the Great River Road. This is where offshore oil reaches the shore, travelling through a network of undersea pipes from the oil rigs in the Gulf of Mexico, up the Mississippi River, and then to their first stop out of many in their processing journey: the refineries located along the Industrial Corridor of Louisiana. Alarmingly, this 85-mile stretch of riverfront land between Baton Rouge and New Orleans is colloquially known as Cancer Alley. This is the oil and gas core of the United States where over two hundred petrochemical complexes are interspersed around houses, schools, churches, and cemeteries. Cancer Alley residents are among the top five percent in the nation at risk for cancer from toxic air pollution (Terrell and St. Julian 2022).

In 2022, the Water Collaborative tested Mississippi River water samples for toxic chemicals with the aim of addressing the data gap in water quality monitoring (TWC 2022). While the government maintains an inventory for air pollution, there is no testing or reporting done for aquifers and riverways. We were at the community library in St. John the Baptist Parish to update residents on the study's progress.

Six chemical facilities are located within a 10-mile radius of St. John the Baptist (EPA 2013). The average annual wage in the parish is about $17,000, in contrast to the billions of dollars of profit generated by neighboring industrial activity. Around 90 percent of residents are African-American (Justiniano, Williamson, and Bathige 2021). The quality of drinking water is undermined by multiple threats: waste disposal from boats, chemical release from industry sources, and seepage of fertilizers and pesticides from agricultural production (Singer

2011). During the meeting, residents indicated that they no longer used tap water for drinking or cooking, instead opting for bottled water. While it was common knowledge that the groundwater was contaminated, there was a lack of information on which chemicals were present and in what quantities.

Despite the devastating reality of industrial pollution, there is limited epidemiological data linking cancer rates to environmental exposure (Singer 2011). Even less research has demonstrated the interactions between toxic exposure, health outcomes, poverty, and race, which has allowed state regulators and politicians to dismiss concerns regarding Louisiana's unequal pollution burden (Terrell and St. Julian 2022). Residents in St. John the Baptist, along with others in Cancer Alley, are living in a condition of "toxic uncertainty," caused by the "intrinsic complexity of environmental contamination" and the "labor of confusion performed by powerful actors" (Auyero and Swiston 2008, 374). From Natchez to New Orleans along the Mississippi River, the petrochemical industry has corrupted the possibilities for safe and secure livelihoods, all the while profiting from the oppressive economy of plantation slavery.

Figures 1 and 2: Cancer Alley is the heart of petrochemical production in the U.S. Photos by author.

From plantations to petroleum

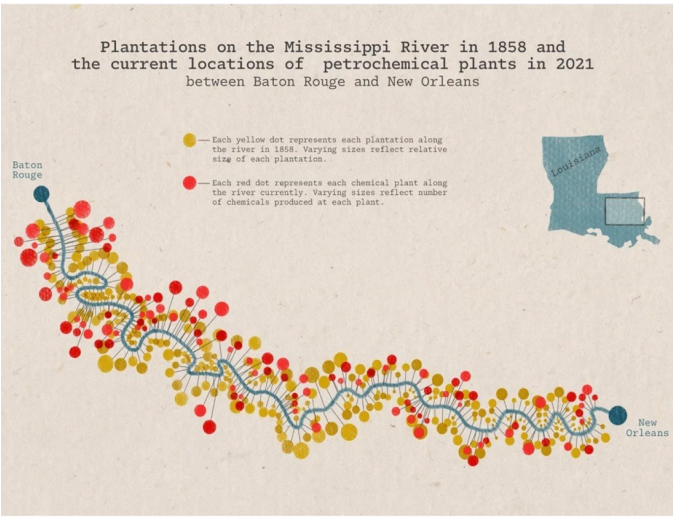
In the eighteenth century, fertile soils and river access made the Mississippi River banks ideal for plantation agriculture and the slave trade. The river supplied a source for both irrigation and imported African people and it allowed easy export for the lucrative cash crops cultivated by slave labor. By the eve of the Civil War in 1860, Louisiana produced one-sixth of all the cotton and almost all the sugar grown in the United States (Bardes 2023). At the same time, New Orleans was the largest slave market in the nation, serving as the site for the purchase and sale of more than 135,000 people (Rothman 2021). Sugar, cotton, and enslaved peoples propelled Louisiana's economy into the second-richest state per capita at a time when half of its residents lacked legal ownership of their bodies (Groner 2021).

Following the Civil War, the federal agency Freedmen's Bureau allocated parcels of plantation land to newly freed Black Americans. As a result, Black property ownership in Louisiana became much higher than other states, and many formerly enslaved persons remained on or near the same lands on which they had previously worked (Allen 2003).

The discovery of oil in Louisiana at the turn of the twentieth century attracted petroleum companies to plantation land along the Mississippi River. In 1914, the Mexican Petroleum Company was established on the Destrehan Plantation, which was then acquired by British Petroleum, now known as BP, in the mid-1950s. Shell Oil Company obtained 366 acres through a similar process (Richoux, Becnel and Friloux 2013). The cheap acreage of former plantations offered oil companies ample space to construct large oilfields while the proximity to the river gave them easy access to shipping lanes.

Since the 1950s, subsidies for offshore oil development and generous property tax exemptions have facilitated the accumulation of industrial wealth in Louisiana with a disregard for environmental and social integrity (Priest 2007). Today, despite ranking top in the nation

for crude oil refining, chemical production, and foreign direct investment, Louisiana consistently remains at the bottom of the list for poverty, reading scores, and life expectancy (Together Louisiana 2018). While the early days of offshore oil production brought investment in local community institutions, the wave of corporate financialization in the 1990s shifted oil companies' priority from ensuring workers' well-being to maximizing shareholder value, leaving southern Louisiana communities behind as no more than supply points for labor and services (Austin, McGuire, and Higgins 2006). The chemical facilities in Cancer Alley no longer support local employment as the majority of the community lacks the technical background required for the available roles (Allen 2003). Oil wealth has soared to the benefit of political elites and capitalists while everyday Louisianans



Figures 3: Plantations overlayed with chemical plants along the Mississippi River (Auerbach 2021).

have been locked out of socioeconomic development.

Resilience in a sacrifice zone

Through a 200-year process, Cancer Alley has been transformed into a sacrifice zone. In environmental justice literature, sacrifice zones refer to the communities living adjacent to heavy industry or military bases who are at the frontlines of toxic chemical exposure (Lerner 2010). Particularly, Cancer Alley is an *energy* sacrifice zone where the extraction of energy natural resources is valued over people's health and livelihood (Maldonado 2019). In the circular logic of sacrifice zones, historically exploited populations are ensnared in recurring patterns of exploitation because the persistent extraction of their labor and wealth has rendered their voices less powerful to defy industrial expansion. Evidence of this logic can be seen in Louisiana, where the number of toxic -releasing plants has increased by 25 percent over the past three decades, in contrast to the steady de-industrialization across the rest of the country (Baurick 2019).

Energy sacrifice zones are not simply neighborhoods that get "left behind," nor are they products of an illicit process. In fact, the creation of sacrifice zones is constitutive to the project of American prosperity. Through the enduring logic that premises profits over people, Cancer Alley became a legal, state-sanctioned sacrifice zone out of sight of the American public at large. This invisibility — contrived from absent data, forgotten histories, and peripheral geography — is precisely what perpetuates the system of recurring suffering. Today, the ever-present threat of climate disaster presents another layer of injustice for Cancer Alley residents. The concentration of hazardous industrial activity along the coast exacerbates the destruction caused by extreme climate events, such as in 2005, when Hurricanes Katrina and Rita damaged 13 offshore oil rigs, and 15 plants, and caused a 670,000-gallon crude oil spill in Meraux, Louisiana (Colten 2006).

What does community resilience look like in the context of a sacrifice zone? The resilience challenge in Cancer Alley involves overcoming the material adversity caused by pollution spills and storm surges while pushing back against structural unemployment, toxic entrenchment, and hyper-industrialization. The immensity of the challenge is not lost on its residents who are claiming their right to a safe, healthy livelihood. The Water Collaborative's water testing project produces scientific data and promotes systems knowledge as tools for self-advocacy. Executive Director Jessica Dandridge writes,

> Learning about our water systems, institutions, agencies, and quality… is also the most holistic gateway toward communal autonomy and self-governance. We are pushed toward radical change when we learn more about how water moves, and the levers

> that control it. When we better understand how corporate power and profiteering contaminate our waterways, which in-turn leads to ecological and human destruction, we are more prepared to seek out the correct answers and demand change (TWC 2022, 4).

When regulatory agencies fail to acknowledge the impacts of toxic contamination in Cancer Alley, community organizations are taking the initiative to test the Mississippi River for industrial chemicals, thus reclaiming the power to decide what constitutes livability on the terms set by residents themselves. Water literacy can equip those affected by water injustice with the scientific and political knowledge to make more informed decisions about their public health, as well as to make more informed demands of their elected leadership. In a context of toxic uncertainty, this project and others in the region are working towards disentangling the knotted motley of undefined and unknown chemicals that have infiltrated their waterways.

New Orleans East

A village called Versailles: seventeen years later

Across the highway from the Folgers coffee plant stands a cross-section of a red-tiled pagoda welcoming, without words, anyone who made the journey from the Mekong to the Mississippi. In the aftermath of the Vietnam War, one thousand refugees from southern Vietnam relocated to the Versailles Arms Apartments in New Orleans East, a federally subsidized housing complex which gives the neighborhood its colloquial name. By the 1990s, chain migration grew the Versailles population to five thousand (Leong et al. 2007).

Alternatively named Village de L'Est, the Versailles of New Orleans boasts a block of Vietnamese supermarkets, pharmacies, and beauty salons, behind which stand rows of single-story residences. Pushed up against the southern coast of Louisiana, these streets are the first to flood during storm surges.

When the levees breached after Hurricane Katrina's landfall in 2005, the Vietnamese population scattered to surrounding states (Leong et al. 2007). Remarkably, through the leadership of the Vietnamese Catholic church, 90 percent of Versailles residents returned by 2007 and took charge of cleaning up and rebuilding their homes when the city and state failed to provide adequate assistance (Leong et al. 2007). Father Vien Nguyen personally visited dispersed parish members to rally their return to New Orleans East, invoking the Vietnamese community's collective experience in migration and resettlement.

Versailles was able to recover so efficaciously after Katrina because of the group's faith-based cohesion, the strength of social networks, and the shared memory of war-induced displacement. The successful Vietnamese-led recovery garnered significant media attention, but instead of situating their recovery outcomes in the specific historical processes that facilitated Father Nguyen's leadership, their story was celebrated as a model minority achievement. The narrative exalted the self-sufficiency and hard work of the New Orleans Vietnamese refugees to overcome the sociopolitical disadvantages as marginalized peoples in the United States (Leong et al. 2007).

Seventeen years later, however, Village de L'Est hardly looks like a success model for rebound and recovery. Under display signs with missing characters, several storefronts along the main plaza were boarded up. People returned, but "businesses never really came back after Katrina" lamented Thuy Le, an environmental lawyer who grew up in New Orleans East. Insurers are pulling out of flood-prone areas, and without flood insurance, few developers are willing to take the capital risk to rebuild a sinking neighborhood. The financial crisis of 2008, the BP oil spill in 2010, and the COVID-19 pandemic only exacerbated economic insecurity. Young people are leaving to pursue opportunities elsewhere, and the first generation of Vietnamese remain insular due to language barriers. The situation has become so despairing that Thuy's father jokes about returning to Vietnam for retirement.

Even the refugees who fought to return in the wake of Katrina are now considering New Orleans East a lost cause. This is an act of refugee refusal. Thuy's father's desire to leave

suggests that refugeehood is a strive for livability, not bare life (Espiritu et al. 2022). Rather than take his refusal as a statement on the futility of sustaining Versailles' recovery beyond Katrina, I understand it as an indictment of the assumption that community recovery is possible by virtue of people's resilience alone. When disaster recovery does not yield the desired outcomes, it is often not because of an absence of adaptive capacities on the part of the affected populations, but the result of systemic violence that would undermine any community's ability to recover (Barrios 2016). As Marguerite Nguyen (2021) writes, "Vietnamese American New Orleans East attests not to the transcendent power of resilience but to the fact of ongoing precarious life and displacement trauma for many in Louisiana today." Community-driven recovery work may only be as effective as the institutional landscape allows it to be. The Louisiana government remembers the story of Katrina as "America's greatest recovery" from which Louisiana's "people, businesses, governments, organizations and entire communities are more resilient than ever before" (GOHSEP.com, n.d.). However, the fallacy of this narrative came to the forefront when Hurricane Ida struck Louisiana's coast exactly sixteen years after Hurricane Katrina made landfall.

Figures 4 and 5: Entrance to Versailles opposite the coffee factory. Photos by author.

Disaster recovery as a leaking bucket

On August 29, 2021, Hurricane Ida became the strongest hurricane ever to hit Louisiana. The Category 4 hurricane collapsed all eight transmission lines that delivered power to New Orleans, leaving more than a million people in blackout for up to three weeks in the sweltering Louisiana summer (Cohen 2021).

A year later, around twenty community members involved in hurricane evacuation and sheltering gathered to lay out their shared goals for the 2022 hurricane season. "No deaths," suggested someone, remembering the twenty-six lost lives in the wake of Ida (Louisiana Department of Health 2021). Another person added, "Nobody left behind," recognizing that many senior citizens, medically dependent, and disabled folks were unable to evacuate pre- and post-storm because of mobility issues.

Over the past few years, New Orleans has been through a slew of disasters. There was the record-breaking hurricane season in 2020, where two major storms, Hurricanes Laura and Cristobal, wrought severe damage across Louisiana, then the prolonged COVID-19 pandemic crisis, and most recently Hurricane Ida. Providing relief for basic necessities, such as food, shelter, and medical care, took priority to ensure survival against the compounded threats of flooding, forced relocation, and joblessness among others.

Being stuck in emergency response is also symptomatic of a disaster management system ill-equipped to mediate the escalation of storm potency in an era of climate crisis. Fueled by warmer oceans, Ida became a rapidly intensifying storm, defined as having wind speeds increase by at least 35 miles per hour within twenty-four hours. Ida strengthened that much in just six hours. Since 1980, the number of rapid intensification events has steadily increased (Fountain 2021).

Forecast models are less accurate when storms develop under such a short timeframe. On top of that, there is less lead time to prepare for the hurricane's arrival. The city issues a shelter-in-place order when storms are small enough to ride through, but larger storms invoke a mandatory evacuation order for residents' safety. Under this scenario, the City-wide Assisted Evacuation plan was developed to provide support to residents without the means to evacuate on their own. However, the plan depends on having at least 72 hours of lead time before landfall. While the strength of Ida warranted an evacuation order, the city was unable to do so because of insufficient time (Berlin and Parker 2022).

In disaster management, response efforts are characterized by urgency and an ad-hoc nature. In principle, the threat passes and people are able to take stock of the long-term actions needed to recoup losses, rebuild their homes, and restructure the systems that perpetuate vulnerability. However, the multiple disasters that have hit New Orleans in recent years have prevented the city from moving ahead in the disaster management cycle. To meet the needs gap left by ineffectual state-led disaster management, people's financial, labor, and emotional reserves have become depleted from consistently engaging in high-stakes emergency response. "It's like a leaking bucket," described Miriam Belblidia, one of the meeting's facilitators, "and we never have the chance to plug the hole because we're constantly trying to keep the water out." A proactive and justice-oriented approach to disaster management must attend to not only the day-to-day contingent needs of disaster response but also address the underlying systems of vulnerability.

Storytelling and transformative change at VAYLA

Returning to Versailles, by April 2006 the city-wide clean-up in Katrina's wake had produced between 2.6 and 6.5 million tons of potential toxic hurricane debris that had nowhere to go. To resolve the waste issue, the Louisiana Department of Environmental Quality authorized the opening of the Chef Menteur landfill less than two miles away from Village de L'Est (Weaver 2007). The proposed landfill threatened to unravel the progress of rebuilding Versailles that Father Nguyen had initiated only a short while ago. In response, a group of young Vietnamese organizers formed the Vietnamese American Young Leaders Association (VAYLA) to combat the environmental racism that was at the heart of the landfill siting decision. Their cross-cultural and intergenerational political organization successfully prevented the landfill from becoming operational.

Stopping the Chef Menteur landfill was a decisive victory for the Vietnamese community, although it should be understood as a moment of exception within the context of the systemic spatial marginalization of New Orleans East. Initially, the area was designed as a middle-class suburb for African-Americans during the 1930s. This vision failed to materialize as homeowners soon found their houses, sidewalks, and garages sinking unevenly due to soil subsidence along the surrounding wetlands (Nguyen 2015). Black families moved out and, in their absence, industrial activity expanded. By the time the Vietnamese arrived in the 1970s, New Orleans East had fallen victim to blight. Over the years, the Vietnamese arrivals cultivated garden plots, started vegetable co-operatives, and contributed significantly to the fishing industry (Airress and Clawson 1994).

In spite of the renewed vibrancy the Vietnamese brought to New Orleans East, the city's post-Katrina redevelopment commission deemed Village de L'Est, among other hardest hit, low-value neighborhoods, "unviable" for reconstruction, instead proposing that they were better suited as parks and green spaces (Lamb 2020). Although the infamous "green dot map" was eventually repealed due to public backlash, it revealed that the city-led recovery effort was premised on profit maximization rather than assisting the people most in need. When figured into the kind of disaster recovery economics premised on future returns, restoring the majority Vietnamese and Black neighborhood of New Orleans East was considered spatially and economically undesirable.

It is against this decades-long effort to undermine New Orleans East's survival that VAYLA continues to empower young Asian

American leaders to make their voices heard. While VAYLA initially began as an anti-landfill campaign, in the years since the organization has shifted towards an intersectional, anti-imperial, and identity-centered praxis for social change. Executive Director Jacqueline Thanh notes that "we don't live single-issue lives," reflecting on the turbulence that has afflicted the New Orleans East community since 2006. The BP oil spill in 2010 and the contested construction of a natural gas power plant in 2017 severely degraded the environment of New Orleans East (Sasser 2010; Dermansky 2018). The Vietnamese were also affected by the Trump administration's motion to deport all refugees in 2018 and by the surge of anti-Asian hate crimes in 2020 (Woodward 2018; Schioppo 2020). Through each hurdle, VAYLA and their collaborators helped maintain a culture of self-advocacy, political activation, and mutual aid among the community.

"To me, that's not true community work," Thanh says, "that's emergency work, that's survival work. And the shift in leading VAYLA, [for me,] has really been focused on how do we move away from reactivity and anchor this work in a place of pleasure and joy?" The shift, Thanh describes, aims to create space for intentional healing and community restoration in a disaster-prone landscape suffused with grief, trauma, and loss. Psychological distress in the aftermath of disasters tends to be understood as an individual phenomenon (Leppold et al. 2022). However, cataclysmic events also imprint themselves onto the social fabric of a community, influencing collective memory and group identity construction (Hirschberger 2018). The Versailles community carries suffering from multiple environmental disasters, as well as the intergenerational trauma of immigration, assimilation, and discrimination. Addressing these cumulative impacts requires a more creative, collaborative, and culturally grounded approach.

One of Thanh's earliest initiatives was organizing a Juneteenth celebration for elder Vietnamese residents and their African-American neighbors. Many first-generation Vietnamese were not aware of the significance of Juneteenth, a commemoration of the ending of slavery in America, despite living in a heavily Black neighborhood. The stories shared at the event reflected upon what the American promise of freedom meant for descendants of slaves, refugees, and immigrants alike. More recently, VAYLA released a zine centered on AAPI diasporic stories of family, food, and resilience titled "Ginger Roots." Alec Devaprasad, the Community Outreach Coordinator at VAYLA, reflects that "Ginger Roots has been so powerful because it is a celebration of our stories and our healing within a landscape that makes it feel like there is no room for it" (Kapoor 2023). Storytelling encourages people to cultivate a personal and collective narrative that makes sense of the disruption around them. "These stories are meant to affect actual change," Thanh emphasizes, through nurturing the inter- and intra-cultural relationships that have a stake in the future of New Orleans East. Strong community bonds help reduce disaster vulnerability. More fundamentally, these acts of placemaking in spite of dispossession and disruption insist on AAPI belonging to the past, present, and future of the bayou.

Grand Bayou

Flooding the bayou to save it

From downtown New Orleans, it takes less than an hour along the highway to reach Plaquemines Parish, located at the southern tip of Louisiana as the Mississippi River disperses into the Gulf of Mexico. The Water Collaborative team was visiting the Grand Bayou Village to understand their needs for food security. The Grand Bayou Village forms the ancestral lands of the Atakapa-Ishak/Chawasha and is now facing rapid land loss. The village is only accessible by boat. Each stilt house is surrounded by an expanse of open water and marshes with no boardwalk to connect them. As the land has become submerged over the years, the tribe's estimated four hundred members have relocated elsewhere (Yeoman 2020). About fourteen homes remain though several houses we passed were clearly abandoned. The resilient planter box competition is an initiative led by the Water Collaborative in search of planter designs that could be installed in the Grand Bayou village for communal use. The main design consideration was for the planter box to float on water in order to allow tribe members to continue

growing vegetables and medicinal herbs in their backyards.

"When I was a kid growing up, this was solid ground—you could walk in the marsh," recalled Mr. Benny, a retired pastor who moved back to the Grand Bayou eight years ago. "I remember when we used to be able to grow potatoes, carrots, and vegetables right here on the ground. You can't do that anymore." Since the 1930s, the Louisiana coastline has lost over 2,000 square miles of wetlands (USGS 2017). In 2013, 31 Plaquemines place names were removed from the official government map because they no longer exist above water (Horowitz 2020).

There are several drivers of land loss in the region. Due to climate change, sea levels in coastal Louisiana are expected to increase between 1.5–2 feet by 2050 (Schleifstein 2022). Climate-intensified hurricanes can also trigger drastic land loss events as Hurricane Ida did by wiping out 106 square miles of wetlands in only a matter of days (Schleifstein 2021).

The heavy engineering of the landscape also contributes to sinking ground. In the 1920s, the U.S. Army Corps of Engineers began construction on an extensive levee system along the Mississippi River to prevent flooding in riverine communities. However, building resilience against the river inadvertently made the delta region more vulnerable to intrusion from the sea. Historically, the Mississippi River replenished the surrounding wetlands every time it flooded by depositing sediment along its banks. For thousands of years, this process built the land that became Louisiana. The levee system obstructed routine flooding. River sediment gradually subsides as part of the delta cycle, and without new sediment to replenish this loss, soft wetland soil has been disappearing at an escalating rate. Carving thousands of miles of pipeline and navigation canals into these wetlands for oil and gas transport further opens the wetland up to saltwater intrusion and coastal erosion by boat traffic.

To counter the land loss crisis, the Louisiana Coastal Protection and Restoration Authority (CPRA) has proposed opening a two-mile gate along the Mississippi River levees in an effort to re-establish river flow into the delta. When fully operational, the Mid-Barataria Sediment Diversion (MBSD) program will reduce wetland loss by 17.4 percent (USACE 2022). The project began construction in November 2023 and will take an estimated five years to reach completion.

Wetland restoration is necessary to preserve the delta. However, large-scale sediment diversion will substantially affect the livelihoods and ecologies of the Barataria Basin. While the Orleans and St. Bernard Parishes will benefit from reduced storm surge, communities that lay outside of levee protection, such as Myrtle Grove and Grand Bayou, will face accelerated tidal flooding (Louisiana Trustees 2022). The severed connection between the river and the basin has made the estuary become more saline for almost a century. The sudden influx of freshwater through the MBSD is expected to dramatically reduce salinity and decline the abundance of key species such as dolphins,

Figures 6 and 7: Grand Bayou Village and the impacts of Hurricane Ida. Photos by author.

brown shrimp, and oysters that have moved further into the estuary (Le and Mastin 2021).

Coastal restoration as Indigenous dispossession and erasure

Ms. Rosina Philippe, a Tribal Elder of the Atakapa-Ishak/Chawasha, is adamantly opposed to the project, along with many coastal residents, commercial fishermen, shrimpers, oyster farmers, and crabbers. By drastically altering the habitats and landscapes of Plaquemine's Parish, the MBSD will upend parish members' place-based attachment and social identity (McCall and Greaves 2022). The current plan has limited accommodations for how the Grand Bayou and other Indigenous tribes will survive this transition. In the past, the community hunted muskrats, raccoons, and deer from the surrounding woodlands, but land loss has limited subsistence to marine sources. Already seafood stock has suffered severely since the BP oil spill released 134 million gallons of oil into the Gulf of Mexico in 2010 (NOAA, n.d.).

As Philippe explained how their village would be decimated by this plan, a project planner at the Coastal Protection Restoration Authority, who was swaying in the boat with us, appeared surprised to hear Philippe's indignation. Curiously, he appeared to be hearing about her opposition for the first time. Grand Bayou residents are facing displacement of their livelihood, culture, and economy, yet they have not been involved in the decision-making process.

Scholars in Indigenous climate change studies have heaped substantial criticism on climate adaptation projects which fail to consider the implications of habitat change, climate vulnerability, and climate-induced displacement for Indigenous self-determination (Whyte 2017). Daniel Wildcat (2009) argues that Indigenous climate relocation today is part of

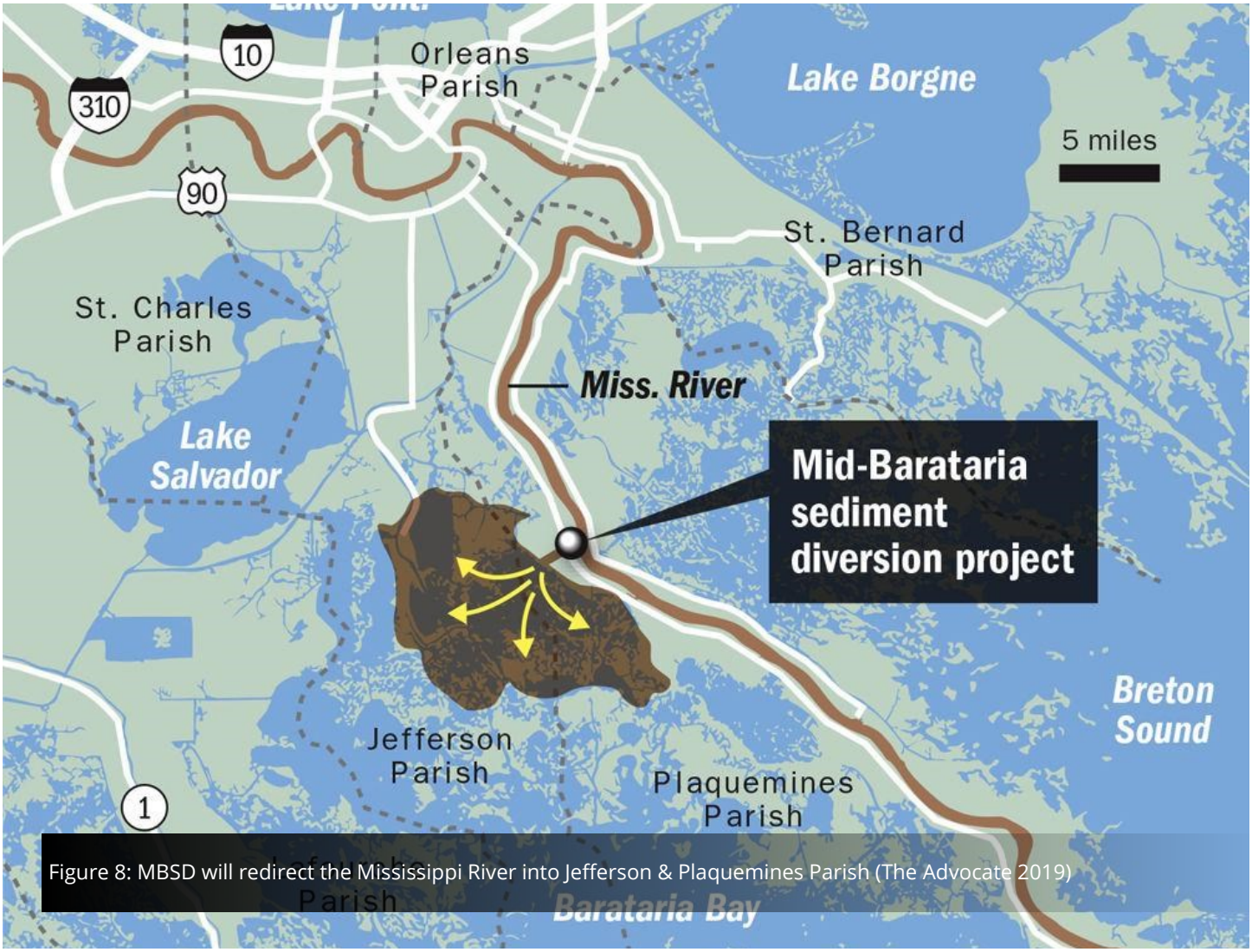


Figure 8: MBSD will redirect the Mississippi River into Jefferson & Plaquemines Parish (The Advocate 2019)

three removals occurring as part of U.S. colonial, capitalist, and industrial expansion. The first removal was geographic, involving the physical displacement into reservations. The second removal was social and psycho-cultural through removing children from their homes to boarding schools. Now, the impacts of melting ice sheets and eroding seacoasts are forcing Indigenous peoples to relocate once again as a consequence of the carbon-intensive energy base of the global economy.

Prior to French colonization, the Native American peoples living in present-day Louisiana could be distinguished into six linguistic and cultural groups: the Atakapa, the Caddo, the Tunica, the Natchez, the Muskhogean, and the Chitimacha (Wall and Rodrigue 2014). The Atakapa group included four major tribes and lived in the far southwest of Louisiana. In 1699, a group of French sailors and soldiers sailed into Biloxi Bay and declared the region French territory. Native nations in central Louisiana were forced to leave their land and ventured south to the lower reaches of coastal Louisiana where the density of cypress swamps proved effective at deterring colonial intrusion (Altemus-Williams 2018). As a result of this shared history of persecution and migration, the Grand Bayou Village, while primarily linked to the Atakapa-Ishak/ Chawasha, is home to a multitude of Native American communities (First People's Conservation Council 2013).

The history of the Atakapa-Ishak and the Chawasha becoming one originates from the 1730 Chawasha Massacre. In 1729, more than two hundred Frenchmen were attacked in a revolt led by Natchez Native Americans, sparking fear across the Louisiana colony of further uprisings (Ouchley 2014). To squash the fear of rebellions, the French governor sent Black slaves to attack the Chawasha village (Iberville 1991). "The history of New Orleans says that they were all murdered, that there were no survivors," recounts Philippe, "but there were survivors" (Ashe Cultural Arts Center, n.d.). Many Chawasha had escaped by crossing over from the east to the west side of the Mississippi River to join other Native tribes such as the Ishak, Houma, and Chitimacha (Iberville 1991).

The violence of colonization fractured Indigenous lineages but new associations were formed through dispersal. However, the lack of documentation on how separate and distinct tribes transformed has left some of Louisiana's original inhabitants unrecognized, such as the Atakapa-Ishak Nation, Avoyel-Taensa Tribe, and the Chahta Tribe among others (Norton 2023). Without federal recognition, the Atakapa-Ishak/ Chawasha are not eligible for hurricane recovery assistance. Without state recognition, the CPRA did not invite the Atakapa-Ishak/ Chawasha to their community focus groups on the MBSD plan (Yeoman 2020). Notwithstanding the prejudice faced by federally- and state-recognized tribes, gaining official tribal status is still a crucial step in affirming tribal sovereignty (Collins 2008).

The current restoration strategy for Louisiana safeguards environmentally viable urban centers along the coast. Structural protections for sparsely populated, remote coastal areas are considered untenable (Hemmerling, Barra, and Bond 2019). Decisions adhering to cost-benefit analyses must prioritize the majority over the costs to the minority. The context of colonial displacement and political disenfranchisement which produced minority populations has no room in this calculus. This logic denies Native American peoples, whose livelihoods are tethered to the coast, a place in the future, thereby consigning their lifeways to the past (Teuton 2018).

The Grand Bayou Village is testimony of Indigenous resistance to an imposed history of disappearance. Philippe stressed that their tribal presence will always remain in these ancestral homelands, even if only one person remains, to maintain their tradition of kinship with the land. The joining of the Atakapa-Ishak/ Chawasha, Ms. Rosina's persistence — these are acts of survivance which assert an "active sense of presence, the continuation of native stories, not a mere reaction, or a survivable name" (Vizenor 1999, vii).

Promise of a floating garden

During the planter box competition, the Water Collaborative team member Keree Blanks interviewed Ms. Rosina to ask her what she expected to see from the winning design. She stressed a few points: nontoxic materials to

ensure the plants are food-safe, accessibility for older folks in the village, resilience against the environmental extremities of the bayou, and community-centric design, for gardening collaboratively are the keys to success. Afterwards, Blanks told us how she expressed her deep gratitude for this partnership. "We hope that these floating boxes will help us to continue to give to the future, so it's that kind of innovation… we're looking to partner with," Philippe said (TWC 2022, 0:44).

The competition positions the Atakapa-Isha/Chawasha as collaborators for a community-led solution. Unlike the CPRA, the Water Collaborative is involving them from the first step to the last. Ultimately, this competition is not going to save the bayou — but neither is the MBSD, quite frankly, based on the modest predictions for restored wetland acreage. The planter box may be a limited intervention but it will promote food security, the preservation of native plants, and adaptation to a changing

Figure 9: Winning design for the edible planter box competition (Water Flows Forward 2022).

environment –addressing the community's needs for right now, even if not for good.

Conclusion

The communities in Cancer Alley, New Orleans East, and the Grand Bayou Village face localized challenges that are connected through a central logic of displacement. This logic naturalizes and even justifies the dislocation of marginalized peoples on the basis that they are "resilient" enough to weather the uprooting. Their stories do not offer a straightforward solution to the challenge of rebuilding on toxic, sinking ground. Instead, they depict the messy reality of living in landscapes enduring multiple disasters where the recovery challenge is three-fold. First, coastal Louisianans must overcome the unprecedented onslaught of climate-intensified hurricanes, a phenomenon that the current disaster management infrastructure is ill-equipped to handle. Second, marginalized communities have to resist the structural disinvestment and environmental racism that increases their social and physical vulnerability to climate disasters. Third, and perhaps most crucially, residents living in floodplains need to insist that recovery is possible and rebuilding is worthwhile, even when the logics of climate adaptation deem their livelihoods too remote, too peripheral, or too inconsequential to save from rapidly rising waters.

Throughout this essay, I have been captured by the idea of logics. Being logical is not the same as thinking (Tsing 2015). Logics are endemic to the status quo, which is marred by all types of anthropogenic violence resulting in logical conclusions that impinge on human dignity. Thinking within these logics also forecloses the possibilities for alternative solutions beyond the binary — to flourish or perish — when in reality, people in New Orleans are already living below sea level. There are ways to live amid environmental ruin that are neither grounded in disillusioned optimism nor consumed by the fear of imminent climate destruction. Instead, those who stay draw on a history of resistance in southeast Louisiana and continue to assert survivance in that spirit.

To end, I wish to share some insight from Keree Blanks who graduated from the University of New Orleans in 2021 and then joined the Water Collaborative as a Project Manager. While many of his peers have left New Orleans for jobs in Texas or Georgia, he has decided to stay in his hometown, at least for the meantime. As an environmental science major, Blanks is well informed about the accelerated changes happening along the Gulf Coast. "I'm twenty-three. I could buy a house five years from now and that house could be underwater in twenty years," he pondered, "why would anyone waste their time growing roots here if it's not going to be around in twenty years? Why would you invest in a place

that's not a good investment? It keeps me up all night."

The uncertainty embedded in Blanks' statement captures perfectly the challenges of placemaking in a place that is confronting its disappearance. Blanks and others I had the fortune to encounter during my research reject feel-good resilience narratives and recognize that multigenerational patterns of social exclusion, environmental degradation, and land dispossession maintain conditions of subjugation in which disaster inequities persist. In defiance, they are working to rebuild the sinking wetlands of Louisiana, not in naiveté, but with a conviction in alternative futures. It is a process marked by precarity but kept alive by possibility.

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Food allergies and Living with Risk: Navigating everyday life at university when at risk of anaphylaxis

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ABSTRACT

Life-threatening food allergies which put an individual at risk of anaphylaxis change the way that everyday life, and the spaces that constitute it, are experienced. Some research within geography has explored children's experiences of living with this risk, but few until now have explored the complexities of navigating life with a food allergy for young people at university. This research therefore seeks to address this gap by bringing to the fore the experiences of young people who have attended or currently attend university in the UK and live with a life-threatening food allergy. It reveals how their everyday lives and transition to university are made more complex by anaphylaxis risk. These ideas were explored via seven online in-depth, semi-structured interviews with current or recent university students who carry EpiPens and are at risk of anaphylaxis. Through a process of thematic coding, the spatial and relational dimensions of anaphylaxis risk were revealed within different university contexts. An exploration of the impacts of the COVID-19 pandemic on allergy management is also explored as a novel focus. The research calls for more attention to be paid to young people and students at risk of anaphylaxis and the mental health implications of living with allergies.

Keywords: anaphylaxis, food allergies, students, risk, space,

United Kingdom

Anaphylaxis, food allergies and geography

Allergies are the most prevalent chronic disease in Europe with several of them carrying the risk of death from anaphylactic shock (Allergy UK 2022). Anaphylaxis is defined as "an acute, usually rapidly developing, systemic allergic reaction and, among the various clinical forms of allergy, it is the most severe and potentially life-threatening" (Rossi, Lenti and Sabatino 2022, 5). Knowing when a person is at risk of anaphylaxis, however, is not always possible, given that this risk can present itself in various spaces and insert itself into everyday lives in unexpected ways (Gallagher et al. 2016). Those living with life-threatening allergies constantly reassess their surroundings and develop management strategies to help them live with this chronic condition. Geographical scholarship on risk has devoted attention to children and adolescents' everyday experiences of living with a life-threatening food allergy (Fenton, Elliot, and Clarke 2013; Gallagher et al. 2016). Gallagher et al. (2016) argue that anaphylaxis as a health risk can challenge traditional geographical understandings of risk. Despite presenting a unique and interesting case study in risk and risk management, there remains a dearth of geographical research in this area. This is particularly pertinent for young adults up to the age of 25 as current scholarship within geography has, so far, only focused on those between the ages of 8 and 19 (Fenton, Elliot, and Clarke 2013; Gallagher et al. 2016).

There has also been a lack of significant attention given to university students within geography despite calls within the discipline to prioritise student voices (Sykes 2017). It is for this reason that my research seeks to privilege the voices of students and 'older young people' in particular. I intend to explore how their everyday lives and geographies compare to those of the children and adolescents studied previously (Evans 2008). Having lived with a life-threatening peanut allergy since I was a young child, this research was sparked from my own experiences of living with the risk of anaphylaxis. Moving to university and away from my parents was particularly difficult for me as I was required to balance all the normal challenges of independent living *and* manage my allergy and anxiety at the same time. I knew I was not alone in my struggles, however, a fact which is clearly demonstrated by the participants who kindly shared their experiences of university life with me for this research. Alongside informing geographies of youth and risk, this work therefore also seeks to contribute to work on the geographies of students, adding to the body of knowledge regarding students' differing experiences of university life (Balfe 2007a; Balfe and Jackson 2007; Holton and Riley 2013; Sykes 2017).

It is important to note that, within this research project, I will be framing anaphylaxis in the same way as Gallagher and colleagues (2016) where participants do not *have* anaphylaxis but rather are *at risk* of anaphylaxis. As they explain, "anaphylaxis [is] a particular kind of event that associates itself with individual human bodies but is not intrinsic to them" and it is food allergies themselves that are the chronic condition experienced by the individual (Gallagher et al. 2016, 428).

Literature review

At first glance, it may seem puzzling that an article on food allergies would be considered geographical in nature. However, as demonstrated by Gallagher et al. (2016) in their paper "*Geography of Adolescent Anaphylaxis*," it is evident that geography has much to add to the study of this chronic health condition. By bringing attention to the spatial dimensions and relational nature of risk, alongside a focus on the body and experiences of everyday spaces, geographical scholarship has helped to demonstrate the complexities of living with the risk of anaphylaxis (Fenton, Elliot, and Clarke 2013; Gallagher et al. 2016).

The geographies of risk and anaphylaxis

Given the potentially grave consequences that can result from anaphylaxis, living with this risk and having to navigate the threat it poses can be a difficult task for those with allergies. The often-unpredictable nature of anaphylaxis can make everyday life and spaces stressful, and the creation of management strategies difficult as a result (Gallagher et al. 2016). Developing these strategies is no straightforward endeavour as anaphylaxis risk is ever-changing and often asserts itself into spaces in unexpected ways. Perceptions of and encounters with risk become contextually and spatiality contingent (Balfe 2007a; Fenton et al. 2010; Moyle and Coomber 2019; Stjerna 2015). In fact, Beck (1992) and Clayton, Crozier and Reay (2009) argue that risk and responses to it are always socially constructed and reproduced in relation to dynamic identities and spatial situations. Strategies to manage food allergies and their risks, therefore, often need to change to align with specific spatial and social contexts where risks to one's identity have to be balanced with physical health risks (Cardwell and Elliot 2019; Fenton et al. 2010; Morden, Jinks, and Ong 2012; Sykes 2017).

Allergy "risk materials" can be invisible and hard to avoid (Gallagher et al. 2016; Mandell et al. 2005). Although an anaphylactic shock itself is not usually a daily occurrence, the risk of anaphylaxis is still present in everyday spaces for those with allergies due to its nature as an ever-changing "invisible threat" (Fenton, Elliot, and Clarke 2013, 293; Gallagher et al. 2016). Everyday spaces, therefore, harbour the potential to become dangerous as a result, with previously safe and familiar places often needing to be reassessed for potential risks (Rous and Hunt 2004; Morden, Jinks, and Ong 2012; Stjerna et al. 2017). Anaphylaxis as a risk has the ability to "disrupt…conventional geographies of safety and danger" by generating what has been termed a "strange landscape of risk" that has to be navigated daily by individuals (Gallagher et al. 2016, 426). Part of what makes this risk landscape so complex is the inability to foresee encounters with allergens, particularly in public spaces where the individual has no control over the actions of others or their eating behaviours (Dean et al. 2015; Gallagher et al. 2016; Stjerna et al. 2017). This also demonstrates the relationality of risk and its social dimensions with the food-allergic individual often having to rely on the actions of others to reduce the risks posed to themselves (Fenton, Elliot, and Clarke 2013; Stjerna et al. 2017; Sykes 2017).

This is where anaphylaxis-inducing food allergies differ in terms of the risks they pose in comparison to other chronic conditions such as diabetes. Diabetes, for example, can often be made less 'risky' through actions and measures taken by the individual, such as the use of blood sugar testing kits (Balfe & Jackson 2007; Stjerna et al. 2017). The relational view of risk and recognition of the role of external actors is, however, particularly pertinent in relation to food allergies because of the ability of others to introduce food-related risks into social situations, alongside the risk posed by cross-contamination and unexpected allergen encounter (Dean et al. 2015; Stjerna et al. 2017). Navigating what have been termed "anaphylactic risk-scapes" is therefore no easy feat and involves a consideration of factors beyond just the individual at risk (Fenton, Elliot, and Clarke 2013, 281). In fact, one scholar has framed managing food allergies and the associated risks as a "social project," where there are both potential social impacts of taking (or not taking) particular allergy-related risks alongside a partial responsibility placed on others to aid in management (Stjerna 2015, 138).

Students, spatialities and the complexity of risk

Unlike Balfe's (2007a) work on diabetes, the demographic of university students has not yet been explored in relation to food allergies within geography, with current studies focusing only on those up to the age of 19 (Fenton, Elliot, and Clarke 2013; Gallagher et al. 2016). This research seeks to address this gap in the literature. University students' constantly changing environments and lack of spatial permanence makes for an interesting demographic to study in relation to anaphylaxis risk (Fenton, Elliot, and Clarke 2013; Stjerna 2015). Additionally, for food allergic individuals, the transition to university, and independence in general, has the potential to complicate previously learned risk-management strategies

and generate new risks (Barker & Galambos 2007; Gallagher et al. 2012; Mandell et al. 2005). Fenton et al. (2013, 288) contend that secondary school environments pose significant threats to food-allergic students given "the inconsistency and unpredictability of semester systems, common eating spaces, unsupervised lunch areas, and the sheer volume of students", elements which are arguably exemplified within a university environment.

Papers such as that by Ersig and Williams (2018), although not geographical in nature, demonstrate why students moving to and experiencing university are worthy of study in the realm of food allergies. This paper, however, lacks a "relational-spatial perspective" towards risk (Fenton, Elliot, and Clarke 2013, 282). This recognition of the social and spatial elements of risk is unique to geographical and social science research given that the healthcare literature is often characterised by a promotion of individual responsibility for health (Christensen & Mikkelsen 2008; Morden, Jinks, and Ong 2012). This promotion of 'self-management' for chronic conditions does not account for the dynamic and spatially contingent nature of risk or the role that other people can play (Stjerna 2015; Stjerna et al. 2017).

A common theme in the literature on chronic conditions such as food allergies, asthma, and diabetes has been that children and adolescents will often change their behaviour in order to "minimise the social 'risk' of being seen as abnormal or strange," potentially exacerbating health risks (Morden, Jinks, and Ong 2012, 91; see also Cardwell & Elliott 2019; Fenton, Elliot, and Clarke 2013). The desire to be perceived as 'normal' was a recurring theme in the work of Balfe (2007a; 2007b) on university students with diabetes wherein students adapted their risk management behaviours in order to convey a particular kind of student identity. For example, while it was found that public spaces were deemed more 'unsafe' than private spaces in relation to both health and social risk, this was not a fixed dualism (Balfe 2007a). Studies on food allergic children and adolescents found that participants felt considerably safer within the 'ordered space of home' and less safe in more public spaces outside of parental supervision, such as in school (Fenton, Elliot, and Clarke 2013; Stjerna 2015). However, these feelings of safety were never fixed for food-allergic individuals because of the ability of spaces to become dangerous at any moment (Gallagher et al. 2016). Viewing the lived experiences of food allergies from a geographical standpoint therefore emphasises the "situated nature of individuals" practical orientations towards risk' and the ambivalence that is inherent to living with the risk of anaphylaxis (Balfe 2007a, 244; see also Stjerna et al. 2017).

The need to study food allergic young people

Although a focus on children and their agency is necessary, as Gallagher et al. (2016) have demonstrated, it has been noted by some scholars that there has been a tendency to prioritise children over teenagers and young people up to the age of 25 (Evans 2008; Valentine 2003). Young people, like children, are important "social actors in their own right" and will inevitably have different lived experiences and spatialities to those of children and adults (Backett-Milburn et al. 2010, 305; see also Punch, McIntosh, and Emond 2010; Skelton 2017). Young people up to the age of 25 are "on the cusp of childhood and adulthood" and will often be navigating challenges that differ significantly from those faced by younger children who are likely to receive more parental support (Valentine 2003, 39; see also Stjerna et al. 2017).

In relation to food allergies specifically, it has been noted that the eating restrictions that a child experiences at a young age may change as they get older as they begin to rework these restrictions and perceptions of risk in different contexts outside of parental supervision (Fenton, Elliot, and Clarke 2013; Sykes 2017; Woolley et al. 2020). Despite this, the medical, sociological, and paediatrics literature is still widely child and parent-centred, often concerned with the impact on the wellbeing of the family and the parent or carer (Elghoudi & Narchi 2022; Dean et al. 2015; Quach & John 2018; Mandell et al. 2005). It is therefore necessary to seek the perspectives of young people in their own independent contexts as their interactions with various spaces and risk

management strategies are likely to differ outside the bounds of parental supervision (Backett-Milburn et al. 2010; Sykes 2017).

Methodology

For my research, it was necessary and appropriate to make use of semi-structured interviews as a research method. The interviews took this format in order to allow for sufficient flexibility in the way the interview played out, based on what participants wanted to discuss and in their preferred order (Legard, Keegan, and Ward 2003; Peters 2017).

Recruitment of participants and ethical considerations

Participants needed to be either current university students or recent graduates who were also EpiPen carriers at risk of anaphylaxis from food allergens. All participants were between the ages of 19 and 25 and moved away from home for university and into halls of residence or university housing. The main method of recruitment came in the form of a digital poster which was posted within the private Facebook '18-25 Support Group' created by the charity Anaphylaxis UK. To increase the likelihood of gaining participants, physical posters were also displayed around the University of Exeter. A total of seven participants were gained in total, five via the Facebook support group; one via posters displayed around the university and one via direct contact through LinkedIn. Interviews ranged between 30 minutes to 1 hour 45 minutes, with the average length being 1 hour and 15 minutes.

Being a member of the allergy community myself proved to be beneficial in that it gave me access to channels such as private social media groups where I could access participants. It also, arguably, benefitted the participants as it gave them the opportunity to talk to someone who may share their experiences which also helped in enhancing rapport and building trust (Lucherini 2017). I do acknowledge my positionality as an "insider" nonetheless and recognise that the narrative that I tell, including my interview questions, is only partial and inevitably contains some form of bias (Mullings 1999, 349; see also Peters 2017). I made sure, however, that I did not make assumptions as to what the participants felt or what their life experiences may have been and therefore made it clear that not all questions may be applicable to their situation. I ensured that, to the best of my ability, participants were represented fairly and ethically in my research, ensuring that I was impartial and honest in my communication of their experiences of living with the risk of anaphylaxis, whether these be positive or negative.

Interview format

Given that the research was not based locally and that participants came from a variety of locations across the UK, it proved to be more time and cost efficient to conduct the interviews online. This format also allowed the participants to conduct the interview wherever they felt most comfortable, and in terms of ethics, could be considered beneficial in its ability to allow participants to terminate the interview and withdraw consent more easily than in a face-to-face interview (Dunn 2021).

Prior to conducting the interviews, I ensured that I took the time to formulate an "interview guide" which included a list of questions split into broader themes and sub-themes which I could then refer to flexibly depending on the flow of the interview and the level of detail provided by the participant (Dunn 2021, 152; see also Cloke et al. 2004). As suggested by Longhurst (2016), I left the discussion of more sensitive or potentially challenging topics to the latter half of the interview to ensure that the participant felt more comfortable in the interview setting by this point. I also reminded them that they were not obligated to discuss potentially sensitive topics, such as accounts of previous allergic reactions. I also made clear that having a peanut allergy myself made me aware that, at times, this can be a difficult topic to discuss, so they were welcome to take a break at any time if needed.

The analysis process

The analysis of the interviews took the form of a combination of "memoing," concept mapping and coding. The concept mapping took the form of digital mind maps which brought some of the material from the various transcripts together into "thematic sets" (Legard, Keegan, and Ward 2003, 229). The creation of these maps started the process of organisation of the

data and allowed for links to be made between different participant's statements, alongside helping to highlight what might be worthy of further investigation (Cope 2021). Further organisation followed during the process of thematic coding and the generation of a coding structure and table (Cope 2021).

Table 1: Participant Information Table

Participant	University	Current Stage of Study	Allergy Details
Jasper	University of Exeter (Undergraduate)	3rd Year	Anaphylactic to **nuts, peanuts** Milder allergies to most **fruit**
Charlotte	University of Manchester (PhD) Royal Holloway University of London (Undergraduate/ master's)	PhD	Anaphylactic to **nuts, peanuts** Milder allergies to **milk, eggs**
Phoebe	University of Southampton (Undergraduate/ master's)	Master's	Anaphylactic to **peanuts**
Emma	University College London (Undergraduate)	2nd Year	Anaphylactic to **nuts, peanuts** Milder allergies to **fruit, coconut**
Sophia	University of Nottingham (Undergraduate/ master's)	Graduated	Anaphylactic to **nuts, peanuts** Milder allergies to **coconut, palm oil**
Owain	University of Exeter (Undergraduate)	Graduated	Anaphylactic to **peanuts, sesame** Milder allergies to **soy, coconut, natural flavourings**
Clara	University of Oxford (Undergraduate + Study Abroad)	Graduated	Anaphylactic to **eggs, milk** Milder allergies to **kiwi, sweet potato, banana**

Analytical chapters

A time of transition—moving to university

As discussed previously, food-allergic adolescents and children tend to contrast the safety of home spaces with more un-safe public spaces. This proved true for a number of participants in this research, whose transitions to university were made more difficult as they were required to move away from these safe spaces into more uncertain and potentially more dangerous ones. Several participants also noted that the people they lived with in these spaces also made a big difference as to how safe they felt:

> At home we have like my safe foods, and, like, my whole family will eat only foods that are safe for me, and it's always the same food… That's kind of what home is. It's my comfort (Phoebe).
>
> [University] was a new place with new people, you're in halls, I mean, I was in halls. I had been very comfortable with, you know, being with my family who understood allergies, who had them, who knew. You know, I understood that system, and then I was going into a place sharing a kitchen with people who might not understand that (Charlotte).

Both participants in these excerpts referenced home as being safe and certain — a place where they were supported by those around them who catered to their needs and did not put them at risk. Charlotte contrasted this with university halls of residence given the lack of control she had over the actions of other people in communal style living scenarios. These students may have no prior awareness or understanding of allergies, potentially putting her at greater risk of a reaction. The idea that university halls became places of "un-comfort" resonated with a number of participants who were interviewed, with the kitchen often proving to be the greatest challenge, as articulated by Clara:

> I had to have the vigilance in the kitchen because in my kitchen at home I know that even though there are eggs and milk at home a) it's not used as much, but also I know that if it is, my parents are completely- like, can wash and clean, and I know they will- like, the kitchen is a clean space, and so I think that was quite different [in uni].

Although the space was technically her own, the fact that it was shared with others meant that she did not experience the same feelings of safety than she would if it were just her, or her family, using the space. Emma referred to her halls of residence in first year as a "stressy" place which became a "nightmare" at times in regards to cleanliness. This often impacted her ability to safely prepare food without it being contaminated by potential allergens left by other people. Others contributed saying,

> I chose to do self-catering [halls]… but it did cause a lot of anxiety, I think, in the first two months of being like, 'Oh, my God! what happens if, you know, someone, through no fault of their own, has a peanut butter sandwich at 2am, and I then I come down to have breakfast and it's still there?! (Charlotte).
>
> Some of the other flatmates had left Nutella smeared on the tables and things like that which was very inconsiderate (Sophia).

Charlotte recognised that it was unlikely that the other students in her halls were intentionally trying to put her at risk, but they had not yet become accustomed to the requirements of her allergy so could still put her at risk. For Sophia, her flatmates consistently appeared not to take her allergies into consideration throughout her first year in halls.

Clara also contended that it was her flatmates that were often the ones putting her at risk. The degree to which she made use of the kitchen was determined by the level of consideration that the students she was sharing with showed towards her and her allergy:

> I cooked more in my final year than my second year because of who I was sharing kitchen with… the people I was with in the second year just used to leave the washing up in the sink a lot. And so, it means then like I need to wash up but—so it sounds really gross—but I

> actually did loads of washing up in my own room in my own sink.

The relational dimension of risk is clear in these examples as the people who occupied these living spaces alongside the allergic students often determined whether the space became risky. It is worth noting here that, although most participants chose self-catered, Owain chose catered halls in his first year and Clara had access to the catered facilities alongside a self-catered kitchen in her second and third year. For Clara, having the option of catered facilities provided her with the opportunity to get a meal outside of her often stressful, self-catered kitchen environment when she needed it. After first year, Charlotte, Phoebe, Emma and Sophia all decided to downsize the groups they lived with, choosing to live with closer friends in order to have more control over who could be bringing in potential risks:

> We moved to a house which I personally found a bit more manageable to be honest. It's less busy - less people coming and going… you just know it's safe … And I know the two people I've moved in with this year really well. And so, it's kind of a lot easier than halls, I'd say (Phoebe).

Making friends in university made participants feel safe and forming relationships with other students helped them to re-create the safe environment most of them had at home. These social networks brought some comfort and allowed the transition back to university every year easier; having these relationships also made participants feel more comfortable to make the necessary demands of people in order to keep themselves safe. Some noted that this was more difficult when starting out at university, especially due to the expectation from other students that at university, unlike secondary school, there were less rules governing what they could and could not do:

> You don't want to be like guys, okay, I'm going to stop you doing this, this and this but 'Welcome to university!' (Charlotte)

> People in general are like kind of less responsive to, like, other people telling them what to do at university… It's like, I'm at uni now, like I'm an adult like don't tell me what to do… So I found that, like, I couldn't really make demands of them. (Emma).

Both participants felt guilty impinging on other people's eating behaviours even if it was necessary for their own safety, particularly given the assumption that students should be free to do as they please under their new-found independence. However, controlling the actions of others within their vicinity is often a necessity for many allergic individuals.

Navigating everyday life at university when at risk of anaphylaxis

Unlike secondary school, university is much less structured and involves students managing and navigating encounters with different spaces on a daily basis, from residences and student houses to campus study spaces, lecture halls and libraries. In addition to finding particular living scenarios stressful, some participants also noted feeling uncomfortable and at risk in other spaces that were integral to university life. Sophia in particular noted that study spaces and lecture halls caused her to feel particularly uneasy due to the presence of crumbs and lack of restrictions on eating. The spatial structure and design of spaces such as lecture halls made them particularly troublesome as they do not always facilitate an easy exit in the event of a risk being present. As Gallagher et al. (2016, 431) explains, "anxiety thus becomes spatialised in particular ways." Certain places and spaces presented spatially particular risks and feelings of anxiety which demanded specific management strategies such as always sitting in "the end seats" — a choice that Sophia made in lectures so she could move easily if needed. These experiences contradict that of students in previous geographic research wherein campus was deemed a safe space which "create [d] a sense of invincibility against risk" (Sykes 2017, 172). This demonstrates the spatially disruptive nature of anaphylaxis and its ability to impact how spaces are experienced and contended with (Gallagher et al. 2016).

Other aspects that are arguably integral to university life were also disrupted by the experience of having a life-threatening allergy. The most commonly mentioned were university social events and nights out, which became

more difficult, not possible, or sometimes even dangerous. This was especially the case for events that revolved around food which were frequent at university, such as "socials," formal dinners, and end-of-year celebrations. Many participants missed out on key events because of the restrictions their allergy placed on them:

> I generally didn't go on socials that required food… I've definitely missed out on Christmas meals and socials because they don't go to restaurants that have allergy matrices and enough information to make me feel safe about it. Um, so definitely, missed out on that kind of stuff. (Phoebe).

> I'm not drinking alcohol and I can't eat a lot of the different food options and, like, obviously if you go to one of the big ones there's entertainment and stuff which is quite nice but really I'm just paying for an expensive party for my friends. (Clara).

As Clara explains, even if she did decide to go despite not being able to eat or drink, it never felt worth the money. Having an allergy in these contexts prevented the participants from being able to fully engage in the experiences that other students were able to, and sometimes even led to them having negative experiences. This proved true for other social events too, such as parties and meals out with friends, where the allergy related worries were so strong that what would normally be an enjoyable event became the opposite:

> Most people would view eating out as like a nice thing, like, we'll go out with our friends and we'll have a really chill time with some nice food and it will be all relaxing and stuff like that. But for me, it's the complete opposite. It's not a relaxing time, it's like mental hyper-vigilance. (Owain).

> If, say we were doing like a game of some description, and people will also like eating chocolate and touching the cards or something… I would be a little bit conscious that is the kind of thing that would make me feel a little uneasy, just because I would then worry about if it's something sticky, there is like that possibility of touch. (Clara).

> Everyone else was just kind of all sitting around and chatting and eating food, and I was like 'I need to make this safe first.' (Phoebe).

These excerpts demonstrate how these students experience particular spaces and events differently because of their allergy, as they are required to maintain a constant state of alertness which minimizes the positive aspects of the experience. They also demonstrate how allergy risk can assert itself into any situation at any time, even if the scenario is not a meal out or food oriented in itself, such as playing a game at a party, as is referenced in Clara's excerpt.

The "unpredictable geography of severe allergies" becomes very evident here, as it is not always obvious when the individual might be put at risk or when food might be introduced into a situation (Gallagher et al. 2016, 22). An allergy also demands that a space is *made* to be safe by the individual at risk, which often has to come *before* an activity can be enjoyed as intended. These attempts to control and minimise the risk and make spaces safe ended up taking a toll on many participants' health and ability to enjoy a normal life. Striking a balance between not letting the allergy govern their lives but not wanting to take too many risks proved difficult for a number of participants:

> Other things can make you safe like never going out for meals or never eating food somebody else has made or never eating but we can't live like that and have a healthy balanced life so there's always some level of a risk. (Sophia).

As Sophia explains here, the risk is always going to be present to some extent, no matter how many avoidance or management strategies are put in place. Whilst the risk can be minimised, it can never be totally removed. Given that, as Emma stated, "it could happen spontaneously", it becomes increasingly difficult to know what activities to engage in and what should be avoided. The risk therefore requires that the

allergic students construct their own ways of living with the risk which allows them to live a relatively normal life (Gallagher et al. 2016). This is evidently a complex task, however, as the risk is both spatially contingent and relational, changing and manifesting itself in different ways in different settings. Maintaining a certain level of vigilance at all times is necessary given the potentially severe consequences that can result from a reaction. This constant need for vigilance can become very tiring, both physically and mentally:

> This is exhausting, actually, like having to think about, just even like subconsciously always thinking about what is going on around me. What am I touching? Just having to like - constantly be really aware of like that kind of stuff. I think it is quite draining. (Emma).

Missing out on the 'university experience'

A number of participants also made reference to feeling like they were missing out on some of the 'traditions' that students engage in as part of the university culture, such getting a take away after a night out:

> There is that element of missing out especially when- just little things like people going to, like, Maccies after like a night out or something… A lot of like uni culture does revolve around food. And I feel like - like London as well is such a 'foodie' city — there's so much you can just, like, eat and experience. It is kind of like I feel like it's a shame that I can't participate in that. (Emma).

Although Emma refers to this as a "little thing", collectively, events revolved around food and drink are commonplace at university and make up a big part of the 'uni experience'. Having to miss out on an amalgamation of things because of an allergy had an impact on some of the participants' entire experience and understanding of what it meant to be a student. Food and food practices are also often a key part of many social interactions and encounters and can form the basis of new relationships, something that those with food allergies may miss out on (Fairbrother & Ellis 2016; Punch, McIntosh, and Emond 2010).

Many of the participants also chose not to drink because of their allergy and their desire to remain in full control of themselves and their surroundings. This is something that Balfe (2007a, 242) found in their research on students with diabetes wherein, although drinking alcohol may have helped the students to "identify with a normal 'student body", having this health condition added another layer of risk to engaging in alcohol consumption. The same can be said for allergies as Stjerna (2015) found that some adolescents under the age of 18 with food allergies worried about not being able to engage in alcohol-related activities when they got older. A total of four out of the seven participants in my research said they did not drink alcohol, with three of them avoiding it because of allergy-related concerns. A number of the participants who did drink, however, noted that they did not drink *much* because of a fear of not being able to look after themselves and make sound decisions in regard to their allergy:

> I don't like to be too drunk, I like to be in a state where I can look after myself and be cautious about what food I might eat afterwards. Because I think that's more of a risk than the actual alcohol because like a lot of people like to go to kebab shops and things. (Sophia).

> I think in order to stay safe I don't want to be drunk. And also in terms of the alcohol, some of it isn't actually safe, and I feel like, well, if I'm drunk, then I will not know… I need to be one hundred percent on it. And I think with an allergy like anything could happen at any point. (Phoebe).

Staying safe in an allergy sense required maintaining control over one's body and what was being consumed, with participants like Sophia and Phoebe demonstrating that drinking alcohol had the potential to disrupt these feelings of control and hence, safety. These findings therefore bring into question generalisations that see students as irresponsible and "alcohol-fueled" and young people in general as greater risk-takers (Holton & Riley 2013, 68; see also Christensen & Mikkelsen 2008; Dean et al. 2015).

These excerpts also, again, bring to the fore the unpredictability of anaphylaxis risk and the need for allergic individuals to maintain an awareness of their space and self. Fixations of wanting to retain a constant awareness of the surroundings were evident in a number of interviews:

> There's a part of me which never quite lets go. I always have this thing of, like, you've kind of always got be on alert, that sounds a bit strong but you kind of do, there is a certain part of you that's got to have that little like - you know protecting yourself. (Clara).

The demands made by an allergy to maintain an attentiveness to what is going on at all times hence impact how places are experienced by allergic students, forming unique and alternative experiences of everyday spaces. In referencing how she is responsible for protecting herself, Clara also demonstrates how the risk is often individualised and the responsibility is placed on her to manage it.

A number of participants noted that much of the responsibility for management of their allergy was shared with their parents before they came to university. This benefitted them as children, but appeared to make the transition to independent living more difficult *because* they suddenly lost this:

> By the time I went to university it went more entirely on me; there wasn't someone else back-up checking. (Sophia).

> Parents definitely helped, as in when I was younger, if we would eat out, they'd always make sure that the food didn't have nuts in. (Jasper).

> That's the thing I've- that's what I relied on my parents so much is advocating for me instead of doing it myself… Like, oh, I actually have to say, stand up and say something instead of someone doing it for me! (Phoebe).

Management of their allergy and advocating for themselves in a variety of contexts was now solely their responsibility and their own safety was now in their hands. While for the majority of participants this increased self-advocation was challenging, for Clara, living away from her parents provided her with the space she needed to increase her confidence in managing her allergy:

> I think that's something that I didn't really realise, but did develop across my time at uni, where I just got more confident in saying. And now, like I wouldn't even think about it if I was at a restaurant, saying 'Oh, I've got food allergies to eggs and milk.'

Clara also mentioned that a focus on what her *parents* could do to help her manage her allergy, rather than what *she* could do to help herself, was particularly evident when she was younger. University provided her with the opportunity to bring the emphasis back on herself, what she was required to do and her own experiences of living with an allergy. This was something she felt had been overshadowed to some extent with the common prioritisation of parents and their experiences of living with a child at risk of anaphylaxis:

> I kind of feel like quite a lot of the allergy stuff I say is very aimed at parents which I sometimes found and have found quite difficult, even though that sounds awful, because it's not that I don't sympathise with parents who — because it must be hard — but I'm also just like: but it's us? Like you don't have it… It's us that has it at the end of the day, why are you not talking about us?

University, therefore, gave Clara the space she needed to exert her agency over her food choices and construct her own ways of living with risk without influence from her parents (Fairbrother & Ellis 2016).

This new sense of agency was something also referenced by another participant, Emma, in reference to her living situation at home compared to university. In fact, she made reference to her university living space as actually giving her a greater sense of safety than her family home in some ways. This contrasted with most other participants but aligned with previous research done on food

allergic adolescents by Gallagher et al. (2016) who found that, although it was generally the case that the home was experienced as a safe space, anaphylaxis risk was not totally non-existent. They found that some adolescents had still experienced allergic reactions in their homes despite the fact that, on the whole, these spaces were perceived as safe and more protected against risk. While Emma did not mention having had a reaction at her family home, she explained that this space was not allergen-free and that "[her] parents eat nuts a lot at home." She then contrasted this family home-space with her current living situation at university in her second year:

> This year, I'm living just with two other people in a shared flat and it's perfect because, you know, the other guy has an allergy to nuts, which is not anaphylaxis but - and my friend, she's really great. She doesn't have nuts in the house either because of us both. So it's actually amazing, because I feel like this is the most relaxed I've ever been in terms of being at uni and being at home… I've been able to like, create my own environment that I'm comfortable in.

The presence of her allergen in the family home appeared to have caused her some feelings of anxiety, feelings which were reduced once she gained some autonomy and control over where she lived and with whom. The participants' risk-taking behaviours and feelings of being at risk were therefore not only spatial but also clearly relational, dependent on who was with them in that space at the time. Other people have the ability to make spaces unsafe or safe, risky or not risky, for individuals with allergies. This excerpt from Emma's interview also demonstrates the difference that various living scenarios can have on risk management and allergy-related anxiety. Additionally, both Clara's and Emma's experiences of independent university life illustrate how unique insights can be obtained about young people's everyday lives through researching them separately to their parents.

Balancing social risks with allergy risk

All participants, at some point, made reference to, in a variety of ways and circumstances, feeling different or worrying that they stood out amongst their peers because of their allergy. This is a prominent theme in previous geographic literature on experiences of living with the risk of anaphylaxis wherein allergic people often felt, and were perceived as, 'different' due to the adjustments they had to make to their lives because of their allergy (Fenton, Elliot, and Clarke 2013; Shakespeare 2022). Those living with food allergies were "inscribed with powerful socio-cultural categories such as 'peanut allergic kids,'" positioning them as different to other children (Fenton, Elliot, and Clarke 2013, 289). From my research, it was evident that some of these feelings remained in older young people and were not confined to childhood, as explained by Emma, a current second year student:

> I always find that at uni, like, having an allergy - or not even just at uni but generally just around like young people - having an allergy is like a bit embarrassing because it's kind of like, "Oh, you're the 'allergy kid.'"

This labelling of food-allergic individuals as abnormal often led to feelings of fear and embarrassment among participants who were reluctant to be open about their allergy because of the potential social consequences. While some participants continued to feel this way, however, several recognised that they had distanced themselves from their younger selves and their old management strategies and behaviours since their time at university. This is articulated by Owain, a recent graduate:

> When I was quite a lot younger, like early teenager, I would not tell people about it, and take much more risks. And, in hindsight, that was just from me partly, like, not wanting to be standing out, partly not feeling like confident enough to do it… But [now] I genuinely don't like- I really just don't care what people think about it… It's a case of I need to protect myself, and it does need to come down to that.

It is evident from this excerpt that the spatial and temporal transition through university and into 'adulthood' raised Owain's self-confidence

and changed how he viewed his allergy in relation to how others may perceive him.

Unlike Emma who is currently still in university, Owain was much less impacted by social 'labels' and no longer felt embarrassed about the condition, demonstrating that age and stage of life can make a difference when it comes to allergy management. The actions he took which others may perceive as strange were necessary to reduce the risk, and this no longer concerned him in a social sense. This is further demonstrated by Charlotte in reference to eating out at restaurants:

> If we like, we go out somewhere, say out with some of my friends, and I don't want to eat, I can just say I'm just gonna have a drink, you know. I'm happy to be here, but before I guess 18 year old me would have been like 'Oh, my God! If we go out, I have to leave. If I don't eat, I'm weird.'

Charlotte, a current PhD student, contrasts her choices in social settings now with how she viewed them when she was a first year student at the age of 18. At this age, she did not want to be seen as strange for choosing not to eat at a restaurant, even though it was to keep herself safe, in fear that she would be deemed 'weird' . These concerns continued to be felt by other younger participants however, as Emma explained, "I struggle in the sense that… You just feel like the odd one out when you go to a house party or something." University social occasions therefore demanded navigation of more than one risk, with participants needing to "balance threats to their personal safety with threats to their social identity" (Gallagher et al. 2016, 392).

Allergies and the pandemic

It was made clear by a number of participants that the COVID-19 pandemic had a somewhat significant impact on everyday allergy-life, an aspect not yet explored in geographic literature on anaphylaxis. In many ways, navigating the pandemic was easier having had experience of living with an allergy, but at the same time acted to worsen anxieties for some:

> I never like struggled with sort of any of that kind of like worrying about things [in relation to COVID-19] like 'Oh so now we have to worry about cross contamination and stuff' — that's just business as usual for me… In your head, you're always like thinking about where cross contamination could come from like - it's almost like I can picture nut particles on surfaces. (Emma).

Public places and spaces which became newly anxiety inducing for many remained the same for many people with allergies given that they were already attuned to, and practised in, minimising cross contamination risks and being aware of their surroundings. Sophia also noted that, because of the lockdowns that were introduced as a result of COVID-19, many places such as restaurants were closed, relieving some of the pressure she felt to partake in common activities like eating out. On the other hand, for some participants, their existing worries were exacerbated further by the pandemic, its associated messaging, and the habits developed as a result:

> In some ways like COVID was great for allergies, because there was less focus on eating out. But then, in other ways, it's like added health anxiety and stresses of access to food, like what I was worried about was hands being clean… Like, you know that period when everyone was washing their shopping as it was coming in? That then made me aware of how many times people touch things and now I'm like- I'm trying to get it out of my head like people touching nuts and then touching the packaging… Like none of this is the same thing as what 15 year old me was worried about.

For Sophia, her health and allergy anxiety were compounded by the pandemic through its calls for an increasing emphasis on potential contamination of everyday spaces with the virus; aspects she was already aware of in relation to the spreading of allergens, but not to the same extent. At the same time, this excerpt demonstrates the ever-changing nature of anaphylaxis risk and its ability to change both spatially and temporally. Sophia's allergy-related concerns were context-dependent and changed depending on what was going on

internally within herself and externally within her wider environment.

Similar concerns were raised by Owain in related to the pandemic and an increased feeling of concern and need for vigilance:

> I wasn't even worried about COVID, but from the things it highlighted to me, for example, you could catch COVID particles from sitting in the room with someone and thinking, so if someone has just eaten a bunch of peanuts, am I then inhaling these particles that I could catch COVID from? And also like the thing of like "you can't see it so wash your hands and be careful." Once again it made it clear that you can't see traces of allergens and stuff like that.

This excerpt further demonstrates how the COVID-19 pandemic escalated allergy-related anxieties for some students through its focus on virus particles which made allergic-people reassess the risk and their previously learned risk minimisation strategies. In addition to this, it also exhibited how anaphylaxis risk is often invisible in nature, given that allergens are not always visibly present.

Conclusion

This research project has demonstrated how the lived experiences of students at risk of anaphylaxis are both similar and different from children and adolescents previously studied. University as a specific place of focus presented the allergic individuals with unique challenges, risks and spatial configurations that were not encountered before moving away from home. Spaces encountered on a daily basis as part of the university 'risk-scape' had the potential to become stress-inducing at any time given their unregulated nature. The management of anaphylaxis risk is governed by a range of competing factors that the individual must contend with simultaneously. The findings speak back to wider geographical literature which present risks and their management as both relational and spatially contingent. At the same time, however, studying anaphylaxis risk in particular challenges our conventional understandings of risk due to its ability to act as "a chaotic force that disrupts the modernist fantasy of regulated, orderly space" (Gallagher et al. 2016, 441).

This paper has addressed an absence of research in two main areas. Firstly, it has addressed the lack of research on young adults within geography; specifically in relation to those with food allergies, being the first research to focus on the everyday geographies of those over the age of 19 at risk of anaphylaxis. Secondly, it has added to the limited body of literature on university students within geography.

Suggestions for future research

It is evident that there is much to be gained from research conducted into the lived experiences of older young people at risk of anaphylaxis. Of particular interest would be those gaining increased independence but who do not attend university, yet are still required to navigate other spaces such as workplaces and their associated risks. Future research could also expand on this project by investigating the experiences of students with food allergies who commute to university from home and do not live in university halls or housing. It would also be beneficial to see how the COVID-19 pandemic has impacted the lives of allergic people of all ages. The mental health dimensions of living with anaphylaxis risk are undoubtedly also worthy of further research attention, given the impact that allergy-related anxiety can have on everyday life.

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Silent Struggles: Relative Energy Deficiency in Sport (REDs) in Female Athletes

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ABSTRACT

Relative Energy Deficiency in Sport (REDs) is a condition caused by prolonged periods of reduced energy intake relative to expenditure, specifically in sport. Although estimates of prevalence vary, most of the athletic population likely suffers from REDs. This interview-based project examined the state of REDs knowledge, awareness, and practices in female athletes and those working with them. Female athletes were the primary focus given their relative absence from existing research. Results from this project suggest that most cases of REDs are caused by unintentional nutrient restriction with parents, society, and social media spreading poor nutrition information and behaviors that athletes eventually adopt. Identifying and treating REDs is complicated by the need for cooperation from athletes, who may be unaware of their inadequate fueling practices or are intentionally hiding their restrictive behaviors. Obtaining an official diagnosis is often a complex and lengthy process, with many healthcare professionals working together to exclude other potential medical conditions. Overall, this study suggests that at-large REDs education is necessary for athletes and those working with them. Additionally, implementing REDs screening practices, employing dietitians, and making support and similar resources available at sports institutions may decrease the prevalence of REDs and expedite the identification and treatment process.

Keywords: relative energy deficiency in sport, energy availability, female athletes, nutrition, sports medicine

Relative Energy Deficiency in Sport (REDs) describes a condition of impaired physiological functioning in an athlete resulting from prolonged low energy intake relative to expenditure. The International Olympic Committee (IOC) introduced this term in 2014 as an extension of the Female Athlete Triad, a "triad" of menstrual dysfunction and bone issues caused by inadequate calorie intake and, often, an eating disorder (Mountjoy et al. 2014, 1). Unlike the Triad, REDs can occur in both males and females and affects the normal functioning of nearly every bodily system. With this expanded definition to include males and a greater range of symptoms, more individuals can be diagnosed and treated. In fact, Rogers and colleagues (2021) found that 80% of surveyed athletes had one symptom associated with REDs and 37% had at least two. However, the estimated number of athletes with this condition varies greatly among studies, with estimates between 23% and 79.5% in females and between 15% and 70% in males (Mountjoy et al. 2023, 1073). Thus, more research is required to better understand exactly how widespread this condition is.

Special consideration was given to female athletes in this project given their relative absence from existing research. Although the number of studies with female or female athlete participants is increasing, they still make up only a small fraction of all research subjects (Cowley et al. 2021, 146). Females also have some notable differences in physiology compared to males, and the ability to use menstrual regularity to assess physiological function presents unique characteristics best considered separately. Finally, there are some gender differences influencing REDs onset, as well as challenges with treatment and identification, that primarily exist among women. Although sex and gender are separate categories, for the purposes of this project, females and women will be conflated. In discussing the menstrual cycle and other similar factors exclusive to female physiology, "female" refers exclusively to sex. However, in discussions about social norms, pressures, and other variables affecting women, "female athlete" refers to gender expression.

This project was intended to gauge current awareness, knowledge, and practices surrounding REDs, specifically in the context of those working with female athletes, such as coaches, athletic trainers, and dietitians at the high school, collegiate, and amateur levels. A focus was placed on the causes of REDs, the roles specific individuals play in the identification, diagnosis and treatment process, and challenges hindering identification and treatment of the condition. In this paper, I will discuss how most cases of REDs are unintentional in nature as well as participant perceptions of these causes. I will then describe the difficulties with identification and diagnosis of REDs, which prevents many athletes from receiving the care they need. Finally, I will conclude with the need for REDs education at large, especially for coaches, athletic trainers, and parents.

Background

REDs results from a prolonged period of Low Energy Availability (LEA) in the body. As an individual enters a prolonged state of expending more energy than is taken in, the body redirects energy away from processes regarded as unnecessary for immediate survival (Mountjoy et al. 2023, 1074). Eventually, this energy deficit becomes so great that LEA becomes problematic and overall health and well-being are affected, at which point the condition is called REDs (Mountjoy et al. 2023, 1074–75). Prolonged or problematic LEA can result in reproductive, skeletal, cardiovascular, gastrointestinal, endocrine, neurological, metabolic, and immune issues, as well as increased fatigue, pain interference, weakness, and thermoregulatory issues (Kroshus et al. 2018, 51-2; Langbein et al. 2021, 1559; Mountjoy et al. 2018, 688-91; Sims et al. 2023, 398). Females often present with menstrual

dysfunction or amenorrhea — a loss of menstrual cycles altogether — and many athletes experience a decrease in overall performance or training capacity. If not addressed, REDs has major implications for an athlete's health and their longevity in sport.

Athletes are predisposed to REDs due to their competitive nature and desire to improve in sport. Optimizing performance often includes attempts to modify nutrition and body composition, which can result in an athlete entering a relative energy deficient state. Social pressures may also contribute to desires to look a certain way or eat certain foods, thereby influencing nutritional behaviors that leave an athlete without adequate fuel for their endeavors. Overall, REDs awareness in athletes and those who work with them is necessary for identification and prevention of the condition.

Because REDs is a relatively new concept, it is not surprising that there is a widespread lack of knowledge and awareness of the condition (Kroshus et al. 2018, 54). In the last five years, however, there have been about 200 original research studies published on LEA/REDs and REDs knowledge among those working with athletes has increased (Lodge et al. 2022, 387-88; Mountjoy et al. 2023, 1073). This accelerated pace of research is promising, but there is still work to be done, especially in terms of education for those not in the research community.

Methodology

This project was designed to investigate issues I noticed as a female athlete competing at the high school and collegiate levels. Many of my teammates and competitors, as well as professional athletes and similar public figures, have struggled with REDs. These individuals suffered from injuries, burnout, and mental health issues, and too many quit the sport they loved because they had so many health and performance issues that seemed unexplainable. Only recently, with an increased focus on REDs in media and literature, has awareness of this condition and its prevalence begun to grow. In hopes of learning more about and emphasizing the need for REDs education, I chose to focus on this topic for my senior capstone project.

Seven participants were interviewed for this project: an athletic trainer at a college in western NY, a track and field coach at a college in Ohio, an assistant softball coach and eating disorder mentor at a college in western NY, three registered dietitians in western NY, and a sports medicine physician based in Massachusetts who works primarily with female athletes and conducted athlete-related research. All participants were female except for the track and field coach. Four of the interviews took place in person, and three were conducted virtually due to distance constraints. Three out of the four in-person interviews were conducted in the office where the individual worked, and the fourth interview took place in a reserved conference room at the library of the college where the dietitian lectured.

One participant was introduced to me in person through a contact at my institution, two individuals were referred to me via a shared email, and most other individuals were referred to me by participants in this project. One participant was contacted via information provided from a research paper she co-authored on female athletes and REDs. All participants not recruited in person were first contacted via email, and all communication regarding project information was also sent via email. At the time, no participants were affiliated with my institution or were individuals I had worked with in the past.

Each participant received one questionnaire via email after they had agreed to partake in an interview. This questionnaire consisted of five questions: a description of their occupation, the length of time they had worked at their current location, how their job put them into contact with female athletes, whether they had heard about REDs prior to this project, and if they had any additional questions or comments for me. Participants were informed that the questionnaire and all questions were optional; the length of their responses was also for them to decide. Three participants did not send in questionnaires with two saying they had forgotten to send them back.

Each interview was semi-structured, the most common qualitative interview style in health-related research (DeJonckheere and Vaughn 2019, 1). This structure allowed for an

adherence to desired themes while allowing for flexibility and adaptability depending on participants' responses (Ruslin et al. 2022, 2). Semi-structured interviews were also chosen because they are the preferred method for investigating the unique thoughts, beliefs, and experiences of individuals, the primary goal of this project (Adeoye-Olatunde and Olenik 2021, 1360; DeJonckheere and Vaughn 2019, 1). A short interview guide was developed and memorized prior to starting the interviews to ensure the desired topics were discussed with each participant.

Each interview addressed several common themes: a more detailed explanation of the job and responsibilities, estimated prevalence of REDs in athletes that participants work or interact with, what the participant recognized as REDs symptoms and related behaviors, familiarity with treatment, difficulties that could arise during the identification and treatment process, and resources available to athletes that directly or indirectly related to REDs. Each participant was also asked questions specific to their field, such as coaches and REDs risk among athletes, dietitians and nutrition myths and difficulties dispelling them, and the sports medicine physician and medical questions about the diagnostic and treatment process for REDs. Ultimately, the goal was to develop a general understanding of the awareness of different professionals about REDs, their thoughts on their diagnosis and treatment, and why some athletes struggle with the condition. Subsequently, I hoped to be able to recognize any patterns between participants' experiences and compare this to existing literature. The semi-structured interview structure allowed new ideas and themes to emerge and to adapt for participants who did not want to address certain topics or were unfamiliar with them.

Following the interviews, each conversation was summarized, transcribed, and sorted according to major topics: participant REDs knowledge, prevalence, diagnosis, treatment, nutrition, and other common issues. All participant responses to the prepared questions were summarized, and the most relevant quotations were extracted and listed below the topic. Following analysis of individual interviews, participants were grouped according to occupation to analyze trends in major themes, with comparisons made within and across occupations. Then, the themes themselves were analyzed for patterns or inconsistencies and compared to information found in the literature.

Missing from the project are direct perspectives from female athletes who have REDs or have experienced it in the past. This demographic proved particularly difficult to find and recruit, as individuals needed to be open and vocal about their condition. Instead, recruited participants were asked to recount what they had been told by female athletes to try to address this shortcoming.

Fieldwork and Findings

Unintentional Nutrient Restriction

Nearly all participants agreed that most cases of REDs developed from unintentional nutrient restriction. Participants were asked whether they thought most cases of REDs or poor nutritional behaviors were intentional or unintentional, and there was a unanimous consensus that many of their athletes were misinformed or unaware of their nutritional needs.

Sports medicine physician Dr. Wiley explained that many of the female athletes she sees exhibit a "lack of knowledge of how to eat for sport, and once they get the proper knowledge, they kind of recover really quickly." Most of this knowledge comes from social media, which provides information that is often false or misleading and rarely evidence based. This misinformation eventually contributes to energy imbalances and physical issues in athletes.

Both coaches agreed that many of their athletes do not understand their nutritional needs and frequently fail to meet them. When asked about his experiences with athletes, Robert, a collegiate track and field coach at a Division III university, said, "I would even say more people are restricting calories in a damaging way unintentionally than intentionally, but there is absolutely an intentional calorie restriction group who I have to pay closer attention to." Assistant softball coach Taylor, who also works at a division III college and who mentors female athletes with eating disorders, believes that many athletes

fail to eat enough unintentionally. She explained, "I don't think a lot of people understand that we all need adequate fats, proteins, carbohydrates, and I think, with athletes especially, they don't realize how much their bodies are burning, calorie-wise… it doesn't always have to be this 'pure,' 'clean' food." Athletes often try to eat a healthy diet, although a preoccupation with eating the "right" foods may be detrimental because of how difficult it can be to obtain sufficient calories from high-fiber items such as fruits, vegetables, and whole grains.

Jamie, an assistant athletic trainer and eating disorder mentor, presented her own thoughts on why most cases of REDs in female athletes are unintentional: "they just don't understand how to eat properly because their parents pretty much have done everything for them," and sometimes "they just forget to eat or forget to pack stuff for them throughout the day." Many of these athletes improve their nutrition behavior and, by extension, their REDs symptoms, once someone brings awareness to their inadequate fueling practices.

All three dietitians echoed these ideas of poor nutrition knowledge and related misconceptions, saying that many of their clients need to be educated on their specific nutritional needs as female athletes. Aubrey, a registered dietitian working at a larger orthopedic clinic, discussed the impact of social media on nutrition misinformation: "coming from the world of TikTok, there is so many… at least anecdotal evidence of, 'oh, if you eat this way, these are the results.' That's not how it works for all bodies." Kara, a registered dietitian for over 23 years who recently opened her own practice, discussed female athletes comparing themselves to "standards in the media" regarding what they should be eating. These individuals are "just not aware of how much they really need," and many of them consequently develop REDs.

Similarly, Emma, a registered dietitian with a female athlete-focused business, discussed how social media influences poor nutrition behaviors. Many clients "emulate professional athletes," trying to both look and train like them, which can be problematic because "there's the pressures to be like them if you want to perform well, but you also don't know what's going on behind the scenes." These snapshots of a successful athlete's life may motivate others to train and eat like that individual, but this does not mean that a celebrity's lifestyle should be copied: "some bodies are going to be more resilient to stress than others, and they'll be able to run 80-mile weeks and not eat enough for a longer time because they have some genetic predispositions to have more resiliency." For many athletes, especially those still developing, adopting this high volume of training while limiting food intake can lead to severe health consequences. Following what others are doing on social media also contributes to the issue of how "people aren't taught to listen to their body's feedback," which frequently results in undereating.

An individual's environment and misinformation from family members also contribute to poor nutritional intake and unfamiliarity with one's nutritional needs. Some common issues in Aubrey's clients include dieting messages from parents, grandparents, and overall society. There is a prevalent misconception that as female athletes, "we've got to be thin. We've got to be lean […] the less we eat, the less we weigh. The less we weigh, the faster we are, the more fit and more healthy we are." Sometimes, parents are dieting or have done so for a prolonged period, and this habit of restrictive eating often becomes instilled in their children. Emma explained that parents' relationships with food and culture contribute to food choices, and Kara described how many parents are focused on feeding their children "clean, healthy eating and organic foods and things like that that it can certainly predispose kids to wanting to focus on that so much that they're just really not even able to get the energy that they need." Not only is this problematic for growing, active children or adolescents, but once these individuals leave home or must feed themselves, they often model their nutrition on childhood patterns. In collegiate athletes, this may further predispose them to REDs, if they have not already developed the condition. Thus, even well-intentioned parents may adversely affect their children's health if they are not cognizant of their athletes' high energy requirements.

Sports-related pressures may also contribute to behaviors initially perceived as harmless ways to improve performance but that ultimately cause health issues and performance declines. When prompted to discuss some of the misunderstandings among athletes surrounding sport and nutrition, Robert described "the women's team who are under social pressures to be, 'smaller, smaller, smaller.'" This desire to be smaller can lead to restriction and potentially even an eating disorder, especially if others with problematic eating behaviors are used as models. Robert mentioned another "misconception that, 'oh, protein is taking care of all your recovery needs,'" further suggesting a lack of sports nutrition knowledge in athletes.

Taylor, another coach, explained that "sometimes, the pressures of sports themselves and the pressures that some coaches can put on athletes of performance" contribute to poor nutrition behaviors, usually in the form of calorie restriction. Restrictive behaviors are difficult to work with because distinguishing between the effects of poor nutrition knowledge and disordered eating patterns can be difficult, with the former sometimes causing the latter. Because of misinformation and pressures put on athletes by influential individuals, an athlete may follow others' recommendations with a false sense that what they are doing is healthy, or they may experience disordered eating thoughts. Determining what is contributing to inadequate food intake is complicated, especially since both types of problems can be present and act synergistically.

Deducing whether unintentional nutrient restriction, such as that caused by poor nutrition knowledge, is the reason for REDs often involves educating the athlete on proper fueling behaviors and subsequently following up to see if their symptoms have improved. Those who only lack knowledge are often easier to help and experience a more rapid recovery, but, according to Kara, "sometimes, if you're trying to work through more disordered eating patterns or some athletes might be fearful of what changes will happen if they do start adding more fuel," it can become a more complicated process. Dr. Wiley also explained that "individuals who have had REDs for a long amount of time have [an] underlying eating disorder or disordered eating associated with it or have more severe energy deficiency," and "sometimes, they need a lot of support." Duration should therefore also be considered when trying to figure out the cause(s) of REDs in an athlete. Because knowing whether an energy deficit has developed intentionally or unintentionally can lead to more effective treatment and faster recovery; it is advantageous to determine why an athlete is struggling with nutrition in the first place.

Finally, the possibility of food insecurity should be addressed. Aubrey brought this issue to my attention with her consideration of "does this person actually have access to food?" while working with under-fueled athletes. Financial or environmental constraints were not mentioned by other participants so this may not be a common issue in the female athlete population, at least in those individuals these participants encounter. However, those who cannot afford food or those with access to limited foods will deal with the same health consequences from REDs. Although these individuals will need different types of support, the possibility of food insecurity should be explored.

Difficulties with Identification and Diagnosis

Identifying athletes with REDs is difficult because, medically, it is a diagnosis of exclusion. Dr. Wiley offered some insight into the evaluation of an athlete with potential REDs: "laboratory testing to exclude a lot of different things and make sure that the labs look consistent with REDs. We usually get a DEXA scan to look at bone health, so bone mineral density, and then we look at body composition along with that." If results are consistent with another medical issue, additional testing is performed to determine whether that condition is responsible for the athlete's symptoms. Only once all other conditions are ruled out — anything from relatively common issues like polycystic ovarian syndrome to rare brain tumors — a physician may then diagnose an athlete with REDs. However, the possibility of overtraining remains because "clinically, it's probably hard to distinguish one thing from the other thing clearly." At this point, a registered

dietitian usually gets involved given that "you have to rule out REDs to say, 'okay, we think this is overtraining,' because you need to exclude that people are under-fueling."

By the time an athlete has received an official diagnosis, they will likely have seen multiple health professionals and spent a fair amount of time and money. With the diagnosis process being so complex and lengthy, initially consulting with a dietitian to prevent or identify REDs may be a worthwhile decision, a statement most participants supported. Aubrey suggested that, for athletes suspected of having REDs, it is "best to refer to a dietitian because they're more adept at assessing" for this energy deficiency. Kara expanded on this idea, saying, "I'm not really sure that a lot of physicians yet would pick up on it as well as we would as dietitians because we are so focused on what you're eating and kind of crunching the numbers to see if it makes sense based on your workload." Both dietitians proposed that others take advantage of their knowledge and training, which focuses on assessing an individual's nutrition status, comparing it to their needs, and then educating and guiding them towards meeting their goals. That way, an athlete can more quickly discover if they are in a relative energy deficit, regardless of their symptom severity.

Dietitians are also vital additions to collaborative care teams which Aubrey regarded as necessary for best patient outcomes. She described the potential of such an integrative team, saying, "after my first encounter with someone who's either struggling with relative energy deficiency or disordered eating or even a diagnosed eating disorder, I try to make it a point to [...] call their primary care and say, 'hey, here's who I am. Here's what we're working on.'" Throughout our conversation, she repeatedly emphasized the value of collaborating with other health professionals, especially with those with the insight a registered dietitian could provide, "if I thought it was more of like an anorexia nervosa or an OSFED situation, I would collaborate with their doctor a little bit more to actually get that diagnosis, because that allows us to, if needed, further their care." Dietitians can supply a patient's care team with important information, which may improve that individual's care and expedite diagnosis. In Aubrey's opinion, "being integrative, I think, is the way to go and I think gives doctors a little break too." Dr. Wiley presented a similar idea. Registered dietitians, especially sport dietitians, are well-equipped to analyze nutrition status, and making them part of medical care teams, at least for REDs diagnosis, can save everyone valuable resources and time.

Kara, similarly, does not hesitate to refer athletes out to other professionals if she suspects that a client requires care she cannot adequately provide. For her, "a lot of injuries, the period stuff, and mood and things like that, and just- like I said, just struggling to kind of follow through on suggestions. Those would be things that would spur me to ask for more help from others." Such symptoms are usually associated with more pressing health concerns and may indicate the presence of other health conditions, whether related to REDs or not. Regardless, early recognition of these warning signs will lead to faster recovery and better prognosis for the athlete. Consequently, even if medical professionals are not in continuous communication with a dietitian, having an athlete consult with one can lead to earlier identification and treatment of health issues such as REDs.

Some athletes actively hide problematic behaviors, further hindering identification of REDs. Emma described how some athletes "hide certain behaviors or hide issues that they're struggling with that they might not be open about." There are different reasons for this, many motivated by fear of change or of speaking to others about their concerns. "Are you going to tell a male coach that you don't have your period? Hit or miss. Are you going to tell a male coach, or even a female coach, that you're struggling with disordered thoughts or a full-blown eating disorder?" Such questions expose potential difficulties faced by athletes, with power dynamics dissuading them from talking about their personal struggles to authority figures such as coaches. Emma's point also brings awareness to how female athletes may feel less comfortable speaking to male coaches, who occupy most coaching positions. Overall, refusing to acknowledge or speak

about psychological and/or physiological issues results from a lack of "willingness and readiness to make changes because, if there's any resistance and they're not there, it doesn't matter if it's the best dietitian or doctor or coach; it's hard. You really can't force people to really make those changes."

Because of my conversation with Emma, I asked subsequent participants whether they experienced athletes hiding certain behaviors. Kara explained that some athletes have trouble implementing necessary changes to recover from REDs, complicating both identification and treatment. For such individuals, "maybe it's just that they don't want to gain weight or feel like they ate too much or feel bloated or… Yeah, just a whole host of things, I guess. And yeah, there can be hiding, for sure."

Jamie described how she approaches athletes who may have a fueling issue: "I have a lot of kids food-journal if I think that they're having a problem. And, usually, the kids that don't want to do it for me or the kids that I have to worry a little bit more about because they're actively, like, hiding what they're doing." Here, Jamie first raised the concern of athletes actively hiding their restrictive eating habits, further suggesting that this was a relatively common issue. Jamie offered a specific example of a female athlete who did not want to address her disordered eating behaviors. After a collaborative effort was made by the eating disorder committee to speak to the athlete, "she ended up transferring and it was just because she knew that there was going to be limitations on her, and she didn't want to deal with them." Prior to transferring, she had multiple severe stress fractures, "and when we put her in a walking boot for her one leg, I would go into our fitness center later in the day and I would see her studying on a stationary bike just so she could get some cardio in." Her psychological struggles contributed to a more severe case of REDs while also hindering treatment because of her refusal to discuss limiting thoughts and behaviors. Whether this resulted from a fear of having to stop or modify participation in sport or of what might happen if she started to eat more, such internal conflicts could make both identification and treatment difficult, especially when an athlete is not closely monitored.

There may also be gender differences for hiding behaviors or reasons why athletes hesitate to seek help. For Aubrey, "I think female athletes a lot of times, yes, there is that functional focus, but it's a little too internalized, right? Like, 'I won't be faster unless I'm thinner,' or 'I won't be this skilled unless I am like hyper-focused on my nutrition,'" whereas the focus for male athletes is "I want to be functioning better." This relates to societal pressures and expectations on women to be thinner, which can lead to an internalization of these ideas until an athlete eventually fears confronting this narrative. Jamie described similar experiences, "I definitely have just little offhanded comments, especially by some of my females that are just, 'Oh, well, so and so's so pretty, she's so skinny,' and 'Blah blah blah, well, I'm so fat, so I'm just not going to eat for the day.'" She also mentioned that male athletes express less such internalized behavior.

Conversely, Kara noticed that hiding-related behavior in her clients is "highly individualized." She explained, "I've had girls kind of come to me and I think they see it in themselves, but they're also very open to kind of talking about it and getting help." Generally, many of her clients are willing to work on changing their behaviors, but there are "some that are a little bit more… I think they recognize that it's an issue, but don't necessarily- are afraid and really scared to do what's necessary to kind of start to get them through the other side of that." Those actively seeking help may be more willing to share their internal struggles than someone who was reluctantly brought in which may explain some of the differences.

Weight stigma in healthcare providers also needs to be addressed as it prevents certain individuals from receiving the care they need. Dr. Wiley emphasized that "you don't have to look thin or look undernourished to have relative energy deficiency in sport." She acknowledged that "there used to be a lot of thought that if someone looked a normal weight or had a normal body mass index, or BMI — which is one way of assessing someone's in a normal weight range — that if that was normal, there's no way they could have this and that's just not true." Aubrey also noted the issue of "weight bias still in our medical system." As

part of her work, "I do a lot of counseling for people who, based on their weight and height, their BMI, would be classified as obese, right? So, a lot of times our first assumption is, 'oh, that person is overeating.' And I would say probably 80% of the time, that is absolutely not the case." Although this example is not specific to female athletes, it does highlight the importance of not judging someone based on their size. Aubrey further explained that "maybe that person has dieted so many times, or maybe they've just been told 'Oh, you're overweight, so you should eat less,' right? And now they're eating so much less that their metabolism can't even respond right to nutrition," leaving them suffering with the effects of both REDs and weight stigma. Kara commented that beyond medical professionals, most "would associate REDs based on what people read the clinical signs and symptoms are to be in a very young or underweight athlete, which is not always the case for sure." Consequently, care should be taken to avoid dismissing a REDs diagnosis based solely on an athlete's weight, as all body types can be affected by nutrient restriction.

With so many barriers hindering REDs identification and diagnosis, a protocol for diagnosing athletes would be helpful. In addressing this point, Dr. Wiley mentioned that "there's a new RED-S [*sic*] CAT2. And so, the REDs CAT2 is a clinical assessment tool to help screen for REDs, and it talks about how to do that at each level." This tool has been praised for providing more distinct criteria regarding REDs diagnosis and is promising even to dietitians. Emma was particularly excited about its potential, talking about how "the new paper and having a little bit more firm diagnostic criteria is going to be helpful to spot it in more individuals than just triathletes or runners." She further explained that "the 'green, yellow, red' kind of arrow is very helpful," referring to its REDs risk/severity categorization. The new screening protocol will likely help with identifying REDs in a greater number and variety of athletes while also providing recommendations for treatment and training modifications. However, Emma noted that "there still needs to be an MD on the team, which I think makes it challenging, like, because there's not a lot of sports MDs, there's not a lot who understand what a lot of sports dietitians do, at least in this area or who are collaborative." The need for a physician to consult with an athlete and be familiar with the diagnostic protocol can stall diagnosis, although Emma remarked that the CAT2 is "a very useful tool for, like, sports teams or maybe higher performing athletes." Although official diagnosis of REDs can only be given by a physician, and for good reason, the IOC REDs CAT2 may help others identify and refer potential REDs cases sooner.

Education is Essential

Overall, there is a general lack of knowledge on REDs. From what Dr. Wiley has seen in practice and in the research, "REDs is, we think, not well understood, often incorrectly treated, and so we're trying to create awareness within the medical community as well as the sports community." From my own fieldwork, I have also found there to be many misconceptions about REDs, both in participants and in their stories about others.

One participant was largely unfamiliar with the condition. When I asked Taylor about REDs symptoms she saw in athletes, she replied, "Because REDs- what does it stand for again?" After explaining the acronym to her, she asked, "and that used to be the Female Athlete Triad, right?" She then proceeded to explain, "so, I think that things I have been told is loss of period, lack of energy, had, like, cramping in their muscles when they were doing activities… What else…? Brain fog, tiredness… That's about it, all I can think of." From this brief exchange, it was clear that awareness of REDs was not universal, even among individuals who were well versed in eating disorders like Taylor. I then asked her why REDs may have been unfamiliar to her to which she replied, "I don't think there's been education. I don't think there's education about the Female Athlete Triad. I think unless you are interested in it, you're not going to know about it."

Taylor's lack of knowledge and subsequent reasoning was interesting because it reflected the concerns of other participants. Based on Kara's experiences, "I think that, professionally, people are more knowledgeable about it, but I think as parents and as athletes themselves, not so much." She talked specifically about the

lack of knowledge among high school coaches, likely because "many of them are volunteering, or they're doing it because their kids are playing and they're just not- might not have the time to be as up to speed on all of those other topics." Aubrey offered another possible reason for this knowledge deficit: "we get so inundated with messages for dieting that even a lot of adults don't really know how to fuel themselves," which can then lead to poor nutritional behaviors in athletes. In Jamie's opinion, particularly "with our older coaches, I don't think they understand it. And I don't think it's necessarily that they don't want to understand it, I just don't think that they get- especially, they don't understand the whole pressure of social media and stuff like that because they never grew up with it." A pressing need for REDs knowledge was also demonstrated by Dr. Wiley, who described common misconceptions about REDs:

> So, if your menstrual cycles look different than they once did, if they're spacing out, […] if your flow is decreasing, if you're missing menstrual cycles here or there, that's really something that should have a clinical evaluation. Again, there's a lot of different reasons that can occur, but REDs is one of them, and so, I think a lot of athletes, and potentially coaches, misunderstand that. And then there's been some really good research that people don't understand the association with bone health, which is one of the other things that is poorly misunderstood.

Thus, both in practice and in research, it appears that those who may benefit greatly from REDs knowledge — athletes, coaches, and others working with athletes — are also often unfamiliar with the condition and its warning signs.

A lack of widespread REDs knowledge is concerning because athletic staff, especially athletic trainers and coaches, are in a prime position to notice symptoms or changes in athletes suggestive of the condition. Kara inferred that "athletic trainers, or something like that, that are noticing a lot of injuries and things like that, might be picking up on it before a physician." In fact, Aubrey provided an example of this in practice, explaining how she had "gotten a referral from one of our athletic trainers for a female athlete who they kind of had a hunch was struggling with their nutrition in some sort of way: chronic injuries, very low energy, and maybe wasn't performing to the same level they were the previous year." That individual did ultimately have REDs. Jamie also demonstrated the value of REDs awareness, explaining how athletes she sees with the condition "start off becoming very fatigued, low energy, and their practices — it almost, like, mimics a blood sugar drop." Because these symptoms can have multiple causes, "I start asking more questions on what their eating habits are and what they're doing throughout the day or throughout the week to kind of narrow in on what I actually think that it is." These examples show how valuable REDs-educated athletic trainers can be, identifying athletes with the condition during daily treatments and observations.

Coaches are equally important to the identification process. Robert, who is familiar with REDs and its symptoms, explained, "I think coaching gives you opportunity to notice some early warning signs because before- for most people, before you get to any sort of like amenorrhea or bone density effect, you're just going to see delayed responses to stimuli and training." Such awareness is beneficial to both coaches and athletes, as it can prevent injuries and performance plateaus while avoiding the development of more severe health issues. Robert also noted, "I try to notice when someone gets faster really quickly, and it appears to me that it's coming from a loss of mass." Rapid weight loss is usually a sign of under-fueling and viewing it as something unsustainable with long-term consequences is a healthy perspective. Robert explained that such physical changes are "pretty noticeable to someone paying close attention, which is my literal job." The one caveat with weight changes is that he sees them primarily in distance runners, whereas other track and field athletes usually have less visible physical changes. In most cases then, paying close attention to general trends in practices and competition may be best for noticing early signs of REDs.

Because of the potential for athletic staff to notice REDs symptoms, Emma called for "better screening, better diagnostic, more, education for, if there's not a dietitian on staff, coaches, trainers, parents to be able to see the signs." Similarly, Kara emphasized that "all of the people that come in contact with athletes" should be familiar with "some of the signs and symptoms and what are some pathways that we can look to kind of help them." The importance of REDs screening was also acknowledged by Dr. Wiley and Aubrey, especially since athletes are, according to Aubrey, "usually seeing an athletic trainer or a doctor first." Awareness of REDs and implementation of screening practices increase the probability that an athlete with REDs will be identified earlier and that more athletes will be diagnosed.

Parents familiar with the condition can also prevent and identify REDs and support athletes. Because of their critical role in children's health, Aubrey explained that she does "a lot of counseling with the parent too, to help them understand, 'this is how much your kiddo needs, and here's why.'" Additionally, "parents can be great support systems because they live with the patient, right? They're kind of monitoring their care, they're providing nutrition." Such support can help an athlete overcome disordered thoughts around food and "hold them accountable" for eating properly. Consequently, parents can influence REDs treatment outcomes, whether positively or negatively. Aubrey noted that without parental support, "for a collegiate athlete, that makes it really tough," leaving the athlete to deal with struggles on their own or seek support elsewhere.

With athletes spending so much time together, REDs awareness in this population can help with prevention, identification, and support. Increased awareness through social media can also be advantageous, as evidenced through Dr. Wiley's description of how "we have a lot of high-level female athletes speaking out about creating equity in sport and focusing on things like mental health and relative energy deficiency in sport, whereas before, I feel like they used to not speak out against that." Hopefully, this shift in dialogue will prompt greater REDs familiarity throughout the athletic world.

Employing dietitians at athletic institutions will also benefit athletes and athletic staff, given their extensive nutrition knowledge and ability to recognize nutritional shortfalls in athletes. Access to a dietitian diminishes the need for athletic staff to have thorough nutrition education, and it can quell misconceptions among athletes. Robert admitted that when his athletes ask him "anything that goes beyond nutrient timing and general needs, I'm going to say, 'go to the dietitian,'" because the dietitian can provide more accurate information. He further explained that if he is "starting to see that what I expect, progress-wise, isn't kind of following the level that they're working out to, the first place we go is a meeting with our team dietitian." Such meetings can help to identify potential under-fueling and/or REDs, among other concerns. Similarly, Jamie talked how having a nutritionist on staff can be helpful, even without the specialized training of a dietitian: "we do have certain teams that understand that their teams are more prone to having issues, and they often will schedule the nutritionist to come meet with them." That way, athletes are more aware of what they need to properly fuel their bodies, decreasing the chances they develop REDs. However, the main challenge with employing a dietitian, as Taylor brought up, is the cost, particularly at small or poorly funded universities. Yet, with some education, such institutions may be convinced that a dietitian on staff is a worthwhile investment.

Finally, for ideal REDs identification and treatment outcomes, there must be a continuous line of communication between staff. Dr. Wiley said it best: "we want to collaborate because sports at the end of the day are a team-based approach." Participants unanimously advocated for increased communication between staff or healthcare providers, particularly those working at universities or integrated clinics. Robert argued that a "unified sort of communication effort between the athletic training room and the coaches can make a big difference because the athletic trainers are another person who might have the opportunity to notice" symptoms.

Although HIPAA limits what can be said, general information, such as an athlete coming in more frequently for treatment or having visible issues, may alert staff about potential REDs. Jamie is in a unique position to help athletes because she is "on an eating concerns committee, so I have a very good relationship with our Health Center, and what I do is anybody that I am concerned about, I will reach out to our nutritionist on campus and the people that are in our counseling center and kind of figure out how to best approach it." Although she does not give out sensitive information, individuals with suspected REDs are flagged, allowing staff to notice symptoms that may otherwise be overlooked. Even generally, having others looking out for an athlete's well-being is important because, according to Jamie, "there have been times where I've had either teammates come to me with concerns about their eating or their coaches coming to me and saying, 'I've just noticed so and so is really struggling in practice, I'm just wondering how we can kind of deal with this.'" Thus, as Taylor concluded, "more open communication with athletes, coaches, athletic trainers, just having more awareness, having more education about it, I think would be really helpful."

Project Implications

Results suggest that most cases of REDs in female athletes result from unintentionally poor nutrition behaviors, a conclusion reached independently by all participants. Misconceptions about nutrition and sport spread through social media, parents, and society all contribute to improper knowledge about fueling practices and consequently adverse behaviors. REDs identification is further complicated by many hard-to-notice symptoms, challenges with assessing dietary intake, and hiding of restrictive dieting behaviors. Obtaining an official REDs diagnosis is also a lengthy and complex process given its status as a diagnosis of exclusion requiring the collaboration of multiple health professionals. However, the new IOC REDs CAT2, with its diagnostic criteria and risk assessment and treatment guidelines, may help to identify REDs more quickly and clearly. Finally, knowledge and awareness of REDs is still lacking, with participants and those working with athletes having varying degrees of knowledge about the condition and its symptoms. Implementation of widespread REDs education protocols will likely prompt earlier identification and prevention of the condition, especially if athletes and athletic staff are its primary targets.

Participants discussed many REDs identification challenges described by other studies. Receiving an official REDs diagnosis requires tests such as lab workups and a DEXA scan to rule out other possible conditions, which can be costly in terms of time and money. Additionally, participants referred to the lack of specific REDs biomarkers and the need for individualized attention, similar to diagnosis difficulties found by Hooper et al. (2021, 6).

No participants reported measuring exact energy balances in athletes, which may be reflective of difficulties surrounding the use of or access to such technologies (Bowler et al. 2022, 463). All registered dietitians said that they performed a nutrition assessment to determine if a patient or client had REDs, although no specific details regarding this dietary analysis were obtained. Jamie, an athletic trainer, discussed how she used food-journaling to better understand an athlete's energy intake relative to potential needs. Unlike Moore and colleagues (2022, 994)'s finding of many athletes underreporting energy intake in their food logs, the main issue in Jamie's athletes were that they deliberately hid their restrictive nutrition behaviors.

Four other participants — the three dietitians and the assistant coach — similarly described some athletes hiding restrictive thoughts or behaviors. REDs-related psychological struggles, such athletes refusing to implement recommended dietary changes, were described by Fahrenholtz and colleagues (2023, 1) and Riviere and colleagues (2021, 6). Struggles to acknowledge or change behaviors emerged from pressures to look or perform a certain way and the desire to maintain improved performance following unintentional weight loss, thereby agreeing with the literature (Langbein et al. 2021, 1558-1561; Sims et al. 2023, 398). However, one of the dietitians provided an additional reason: female athletes

are sometimes intimidated by speaking to athletic staff, especially to male coaches about menstrual issues, leading to the persistence of silent struggles.

Inadequate fueling practices are primarily caused by a poor understanding of athletes' nutritional requirements (Baker et al. 2014, 171; Klein et al. 2021, 10; Riviere et al. 2021, 7; Skinner et al. 2021, 135). Participants emphasized the influence of social media on spreading misconceptions about what or how much an athlete should be eating and what an athlete should look like, agreeing with the conclusions of Klein and colleagues (2021, 11) and Trakman and colleagues (2019, 432). The influence of the online world causes female athletes to internalize messages of eating less and being thinner, and it can cause athletes to model unhealthy eating behaviors on that of influencers, potentially developing restrictive eating behaviors in the process. Social media also promotes body standards that are unattainable and unhealthy for most and simultaneously subjects athletes to marketing ploys designed to prey on their desires to perform or look a certain way (Spencer et al., 2021, 1). Although not necessarily described by participants, such advertisement strategies can also perpetuate nutrition misconceptions and fad diets, reminders of the social pressures acting on female athletes.

Additionally, participants discussed the critical role of parents, grandparents, and one's social environment in teaching young athletes about how to approach food and nutrition. Generally, parents serve as models for dietary choices, timing, and behaviors in their children, with nonexistent or extreme restrictive behaviors strongly influencing food acceptance practices (Mahmood et al. 2021, 6). Participants similarly discussed this trend, describing how athletes who grew up in households with restrictive dieting or with only "clean" foods tended to adopt these same eating patterns, thereby setting them up for a greater risk of REDs. However, some athletes also grow up experiencing food insecurity, resulting in food restriction because of financial reasons.

The idea that closely monitoring and restricting food is a necessary component of the discipline surrounding sport is also intricately connected to many of the restrictive behaviors and thoughts and nutrition misconceptions surrounding REDs. With discipline perceived as an integral part of training and performing at a high level, it can be easy for athletes to assume that this strict approach should also be taken with food (Stoyel et al. 2021, 6). An obsession with controlling food can then lead to psychological troubles, such as an eating disorder (Stoyel et al. 2021, 6). Body image struggles rely on a similar concept with athletes believing that discipline and performance are connected to the "ideal" body, an often unrealistic and harmful endeavor (Stoyel et al. 2021).

Social constructs of femininity can be equally damaging to female athlete health and well-being, especially when athleticism contradicts typical traits associated with femininity. Generally, masculinity emphasizes competitiveness, strength, and aggressiveness, all of which are key components of athleticism (Wellard 2016, 4). Similarly, the ideal male body type in Western society is muscular, often synonymous with athletic, whereas women are more commonly praised for being thin (Stoyel et al. 2021, 2). Here, female athletes are forced to reconcile two seemingly opposing identities in terms of appearance: a woman and an athlete.

However, even for those striving for an athletic body type, there is an additional problem: the "ideal" athlete will look different depending on the sport (Stoyel et al. 2021, 2). Many elite female athletes in traditionally male sports struggle with their identity as a female athlete, being critiqued for their muscular, masculine look in social contexts because it contradicts the typical feminine look (Devonport et al. 2018, 1132; Turelli et al. 2023, 212). Unfortunately, this sometimes dissuades those same athletes from doing certain training exercises necessary to improve their performance, solely because of how it will make them look (Turelli et al. 2023, 213). Even when an athlete does prioritize performance over aesthetics, they often experience shifts in body positivity and confidence depending on whether they are at practice or in non-athletic settings (Devonport et al. 2018, 1132). To compensate, these individuals will attempt to

emphasize their femininity in other ways, such as through clothing, cosmetics, or dieting (Devonport et al. 2018, 1132). Thus, when these internal struggles and social pressures are compounded with a society that has researched and set health recommendations primarily using male data, it is easy to see how female athletes can fall victim to external influences encouraging maladaptive patterns and beliefs (Thorpe et al. 2023, 5).

Overall, knowledge on REDs seems to be improving, although many still have a limited understanding of the condition. All but one participant was familiar enough with the condition to discuss it, although this may be the result of selection bias in participants. Even those with knowledge had varying degrees of it. Whether current knowledge and awareness are similar to that being described in recent studies cannot be concluded because of the small sample size, high probability of bias, and overall design of this project (Lodge et al. 2022, 387-88). REDs knowledge among athletes, as reported by participants working with them, is also poor, although additional data from athletes themselves is required. Athletes' lack of awareness may cause them to ignore potential symptoms, preventing early identification and contributing to a worse prognosis for the individual (Langbein et al. 2021, 1558). Weight stigma in physicians may also hinder diagnosis, preventing larger-bodied athletes from receiving REDs treatment sooner. This issue, described by Langbein and colleagues (2021, 1561), appears to persist, although its awareness is spreading.

The value of dietitians in preventing, identifying, and treating REDs was described by others (Bowler et al. 2022, 463; Hull et al. 2016, 4; Langbein et al. 2021, 1561; Ritson et al. 2023, 2; Torres-McGehee et al. 2021, 999). Dietitians can aid in the distribution of accurate nutrition information to athletes and staff, decreasing the need for athletic staff to seek out this knowledge on their own. Sports dietitians are particularly adept at assessing an athlete's nutritional needs and whether those needs are being met. These experts can act as a valuable resource by identifying early signs of REDs, helping athletes overcome unhealthy habits and thoughts regarding food, and offering support to those struggling to eat well for their sport. Ultimately, understanding the major internal and external contributors of REDs is necessary for identification, treatment, and prevention of the condition in female athletes.

Conclusion

These findings suggest that most cases of REDs are unintentional and are caused by misunderstandings about what a female athlete needs to fuel her training. Many misconceptions and problematic practices are spread by parents, society, and social media. REDs identification and diagnosis are hindered by its less obvious warning signs, its overlap with symptoms of other conditions, and athletes hiding or refusing to acknowledge their restrictive behaviors or symptoms. Overall, further education is required for most individuals working with female athletes, as well as for athletes and their parents, as this will help with prevention and identification of REDs. Future work advancing this project should focus on recruiting and interviewing female athletes with REDs to better understand their experiences. Additional coaches, athletic trainers, and physicians should also be interviewed to determine any trends in knowledge, behaviors, and attitudes

To help alleviate some of the knowledge gaps and aid with identification, athletic institutions should consider employing dietitians. Widespread REDs screening practices are also necessary, as many institutions lack screening protocols and therefore miss a valuable opportunity to identify athletes at risk for or suffering from REDs. Finally, to ensure best health and performance outcomes for athletes, increasing communication between all those working with athletes is needed, both in medical and sports-related institutions. By collaborating with others and having conversations about REDs, we can work towards ensuring a better future for female athletes, where those succumbing to societal pressures and misinformation are far in between and athletes can live a healthy, fulfilling life in sport.

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The Politics of Property: Place-Making in Una, Saxon, and Arcadia

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ABSTRACT

Una, Saxon, and Arcadia are three neighborhoods in Spartanburg County, South Carolina undergoing an era of neighborhood re-organization, change, and development. As historic textile mill villages from the county's age of industrialization, the Una, Saxon, and Arcadia neighborhoods today are characterized by privately-owned, mid-century mill homes and a high population of renters. Neighbors are concerned about the dilapidated housing stock falling into disrepair and the resulting impacts of abandoned and condemned properties. To advocate alongside Una, Saxon, and Arcadia residents for equitable neighborhood investment, our research team conducted two years of mixed-method ethnographic research across the three neighborhoods to determine the impacts of abandoned and condemned properties on neighborhood wellness. Through our research collaborations, our team identified deeply personal and political associations between residents, their homes, and their stake in the Una, Saxon, and Arcadia community. Advocating for equity in Una, Saxon, and Arcadia cannot be simplified to one policy recommendation or development plan. Rather, collective organization and engagement amongst residents bolstered by key stakeholders, such as the county, may provide an equitable and inclusive path to reimagining neighborhood futures.

Keywords: neighborhood wellness, place, community, housing, grassroots organizing, sustainability, Spartanburg County

Home is where you lay your hat, an older man told me as I sat down at the table of the first community organizing meeting for the neighborhoods of Una, Saxon, and Arcadia. "This neighborhood is my home. Lived here, worked here, grew up here, raised children here…" he continued, fiddling with the fingerless gloves wrapped carefully around both hands. The gloves looked expensive, no visible wear or tear except for around the fingers which had obviously been intentionally cut. I stayed very still and quiet, unsure of whether the gentleman was talking to me or talking just to hear himself talk. Even if I had thought of a response it would not have been quick enough. Before I could blink, Daniel Atkins was telling me his life story.

Spartanburg born-and-raised, Mr. Atkins has lived in the Saxon neighborhood for all seventy-three years of his life. His neighborhood has been transformed by the creation and eventual dissolution of the textile industry; mill houses cover the small 5.9-mile radius of the neighborhood he grew up in. As industry grew, so did the neighborhood. Mr. Atkins recounted stories of his youth telling of locations he learned to play baseball, places where communities gathered, and the beauty of his once ideal neighborhood. But, when the textile industry left, it took just as much as it had given. The downturn of economic revenue led to the deterioration of the neighborhood's physical landscape, as well as the sense of community siting right within. With tears in his wrinkled brown eyes, Mr. Atkins explained to me the sadness he carries with him because of his neighborhood. He watched, year after year, as his neighborhood transformed into something he is ashamed of: a place lacking safety, community, infrastructure, and, most importantly to Mr. Atkins, peace. Five years ago, Mr. Atkins started advocating for change through local grassroots organizations. Two years ago, his family home burnt down. Seventy-one years of memories became nothing but ashes in an instant. Mr. Atkins burned his hands in the fire trying to recover his valuables before fleeing the flames. At seventy-three, Mr. Atkins is grieving, not for the loss of close friends or family members getting up there in age, but for his home. In the physical sense, Mr. Atkins grieves his belongings and the structure of the house that kept him safe for his entire life. But, in another way, Mr. Atkins is grieving the loss of what his community once was.

Bustling industry and life in the mill shaped neighborhoods like Una, Saxon, and Arcadia in the early 1900s. With neighborhood homes, grocery stores, churches, health clinics, and recreation all located within a comfortable walk from the workplace, textile mills, residents built tight-knit communities, known as mill villages, that decreased reliance on outside resources. The sustainability of such communities depended solely on the success of the textile industry, as local mill owners financed the development of mill village houses and infrastructure. Across counties like Spartanburg, and more broadly, the Southeastern US, textile mills and corresponding mill villages sprawled throughout rural geographies, transforming former farmland into small suburban neighborhoods.

The physical and cultural landscape of Una, Saxon, and Arcadia changed after the collapse and dissolution of the textile industry in the post-war era South. As textile mills were sold, repurposed, and sometimes even left to rust and rot, decades passed in mill village neighborhoods without investment, maintenance, or new development. Former mill villages within Spartanburg County, especially Una, Saxon, and Arcadia, now struggle to provide equitable housing, social resources, and safety to longstanding neighborhood residents in the face of gentrification, rapid population growth, and an ever-increasing demand for affordable housing. Resident committees and neighborhood associations across Una, Saxon, and Arcadia have actively requested additional county support since the early 2000s without acknowledgement—a

growing concern being the disproportionate density of abandoned and condemned properties in Una, Saxon, and Arcadia when compared to other neighborhoods in the County. Residents, much like Mr. Atkins, who have grown tired of waiting for investment from the county are now determined to create a sustainable neighborhood redevelopment plan leveraging grassroots community knowledge, experiences, and power.

Our interdisciplinary research team, comprised of nine undergraduate students and two professors, ethnographically analyzed neighborhood investment to determine the impacts of abandoned and condemned properties on neighborhood wellness. In this context, neighborhood wellness is defined and measured by the social, spiritual, physical, and economic well-being of a collective community. Educational institutions, social resources, housing stock, and community relations all play vital roles in a neighborhood's ability to thrive. Our team sought to become experts and partner with experts. This meant becoming knowledgeable in public policy and process, housing, and relevant theory, and intentionally partner with resident experts in local history and community experience. This also meant not only understanding but collaboratively analyzing neighborhood histories, positioning us in such a way that we can identify patterns or trends to help support local activist efforts, especially those of our partners in Una, Saxon, and Arcadia.

After eighteen months of community-based research in Una, Saxon, and Arcadia, property and place continue to be central to our understanding of neighborhood wellness and community investment. Through personalized neighborhood van tours, life-history interviews, participatory mapping workshops, and resident surveys, our mixed-methods ethnographic study analyzes the politics of place-making through a participatory action lens (Elwood et. al 2015; Fals-Borda and Rahman 1991). Anthropologist Tim Ingold (2011) describes the process of acquiring knowledge through movement, perception, and weathering through an environment. Navigating the cultural geography of Una, Saxon, and Arcadia through the eyes of residents was a powerful testament to the complexities and contradictions that define home. When individual livelihoods are tied directly to physical locations, the personal becomes the political. In this article, I argue that the politics of property in Una, Saxon, and Arcadia are deeply personal and inextricably linked to nostalgia, community sovereignty, and the concept of 'home.' The abandoned and condemned properties across Una, Saxon, and Arcadia demonstrate the complex challenges of centering equity and sustainability in local policy and practice.

Research Methodology

Before I was a student researching the impacts of abandoned properties, I was a ten-year-old living in a twenty-year-old trailer just an hour away from the Una, Saxon, and Arcadia neighborhoods, learning firsthand what living in substandard housing felt like. Whenever my research takes me to communities of mobile homes or properties with fallen-in structures in the backyard, I am reminded of home. Fortuitously, many of the streets and corridors that define the landscape of Una, Saxon, and Arcadia remind me of the homes I knew as a child. My personal entanglements with home, housing, and poverty drive me to search for sustainable, community-driven solutions to issues of housing insecurity in neighborhoods like those wherein I grew up. However, my experiences in childhood do not grant me immunity from the colonial dynamics that accompany the traditional role of 'researcher' and 'subject.' Our work in Una, Saxon, and Arcadia is framed by the pedagogies of participatory action research and popular education which both seek to decolonize the hierarchies of researcher-subject and teacher-student relationships (Freire, 2005; Fals-Borda and Rahman, 1991). In Paulo Freire (2005, 48)'s work, *The Pedagogy of the Oppressed*, the statement, "the pedagogy of the oppressed, a pedagogy which must be forged with, not for, the oppressed (whether individuals or peoples) in the incessant struggle to regain their humanity. This pedagogy makes oppression and its causes objects of reflection by the oppressed, and from that reflection will come their necessary engagement in the struggle for their liberation" encapsulates what it means to

create change with, rather than for, members of a community. Through establishing partnerships with community organizations such as the United Residents of Una, Saxon, and Arcadia (also known as the 'Una, Saxon, and Arcadia neighborhood association'), and the Una New Life Community Center, as well as with community leaders and activists, our team worked to learn from the community residents that know their history and needs best. This methodology required us as researchers to actively practice unlearning and relearning as it relates to the institutional dynamics that exist between Wofford College and the surrounding neighborhoods.

Furthermore, our research was rooted in a theoretical understanding of poverty, urbanization, gentrification, and equitable community development. While the American meritocratic myth that anyone can "pull themselves up by their bootstraps" and rise from poverty into the middle class is still widely believed, modern interdisciplinary scholars and ethnographers largely agree that American public policy and systemic racism have produced the modern housing crisis, encouraged gentrification, and influenced growing wealth disparities between neighborhoods or zip codes. Ethnographer Mathew Desmond (2016) explores American experiences with poverty, substandard housing, and eviction in his text *Evicted*, wherein Desmond (2016) historically analyzes the deterioration—first economically and then later physically—of American middle-class suburbs post-Great Recession. As our team would discover in Una, Saxon, and Arcadia, while the trope of greedy, profit-hungry "slumlords" prevails in neighborhoods in substandard conditions, there are compounding structural barriers that better explain the decades of disinvestment in low-income neighborhoods. Desmond (2016) points to the 'professionalization of property management,' or the process of turning housing into a business, as one explanation for the increased rate of evictions, transiency, and homelessness in the decades following 1970. Property owners are primarily concerned with maximizing profits through rent collection in an era where "affordable rental stock has been allowed to deteriorate and eventually disappear" and "vacancy rates for low-cost units have fallen to single digits" (Desmond 2016, 47); the high demand for affordable units lowers the incentive to forgive late payments, maintain cheap rent prices, and reinvest in the upkeep of property.

Race and urban sociologist Richard Rothstein, in his 2018 publication *The Color of Law,* adds nuance to Desmond (2016) as Rothstein (2018) crafts an argument of how unconstitutional neighborhood segregation has been codified in policy and practice on local, state, and national scales across the United States since the inception of public housing, thereby resulting in intentionally impoverished communities of color across our nation. In analyzing the origins of homeownership as a pillar of the American Dream, Rothstein (2018, 60) details how, in 1917, government officials believed "communism could be defeated" by increasing white homeownership, "the idea being that those who owned property would be invested in the capitalist system." In the Una, Saxon, and Arcadia mill villages, developed during the period of capitalist property politics described by Rothstein, property ownership was only an option for the wealthy, white elite of industry. Most textile workers in Una, Saxon, and Arcadia were renters, building no home equity or generational wealth; a truth still experienced by neighborhood residents to this day.

Renters and homeowners across the USA neighborhoods desire equitable, new housing and infrastructure investments that begin to reconcile their experienced disparities in neighborhood wellness; however, gentrification poses a real threat to the already diminished vitality of economically vulnerable communities. It should be noted that gentrification is not just a set of outcomes that happen to communities but is also an active process that is shaped by various stakeholders (Brown-Saracino 2009). Rothstein , 190) also contends that "actions of government in housing cannot be neutral about segregation;" therefore, incentives to build new housing in "already segregated neighborhoods in the hope (usually a vain one) that their projects will revitalize deteriorating areas" do not reverse segregation and racial wealth disparities but, in fact, exacerbate them. This exacerbation is exemplified in the impacts of

Urban Renewal policies on low-income communities of color where an estimated 1,600 neighborhoods were demolished (Thompson Fullilove 2004). As we understand the ways that people are "rooted to place," we can better address inequitable housing policies and practices by linking personal connections to place with data-informed political practice (Thompson Fullilove 2004).

Needing empirical data to frame the community's conversations of change to spur investment, the Community Revitalization Partnership Committee of Una, Saxon, and Arcadia (CRPCUSA) reached out to Wofford College researchers to support their endeavors. Because the Una, Saxon, and Arcadia neighborhood organizations had long since been advocating for change at the county level prior to the start of our research, we designed a mixed-methods study in which we could create dialogue between quantitative statistical data and existing qualitative neighborhood narratives. Storytelling, or the sharing of lived experiences and struggles, creates a contextual backdrop for using quantitative data as a tool for advocacy. Centering the voices of residents, our qualitative data collection methods include (1) surveys, (2) interviews with neighborhood residents, city/county officials, and housing experts, (3) van tours with neighborhood leaders and residents, employing participatory-storytelling methods (van leaders each chose locations central to a narrative that illustrated their relationship with the Una, Saxon, or Arcadia communities. Through van tours, we learned locations of unofficial neighborhood boundaries, historic structures that no longer exist, previous sites of community gathering, and sites of passed generational trauma), (4) archival research at the Spartanburg County Downtown Library, (5) participatory neighborhood workshops, or ' Community in Conversation' sessions with residents, and (6) participatory mapping workshops comparing youth and adult perspectives. Quantitatively, the data we obtained was analyzed and compared using cluster analysis and density maps created with ARCGIS Pro. In total, our research team surveyed over 500 homes in the Una, Saxon, and Arcadia neighborhoods, interviewed more than 30 individuals, and consistently drew crowds of fifteen to thirty or more individuals at neighborhood workshops.

Property of the Past

In 1902, John A. Law Sr., a northerner with an English background, was the sole owner and developer of Saxon Mill — a textile mill on the outside edge of Spartanburg's city limits. The mill village surrounding Saxon Mill became known solely as Saxon, a name reminiscent of Law's English roots. Once constructed, the mill structure had weaving rooms, a grade school, and mill village store. Polly Foster, a former employee of Saxon Mill recalled the wide dirt roads and weatherboarded houses covering the village (Leonard 1983). In 1910, it was reported that 87% of southern mill workers lived in mill villages, not necessarily by choice but because of the low wages provided by mill work (Teter 2002). Towards the latter half of World War I, Saxon residents documented the creation of "community organization, which called for monthly 'town meetings' where residents discussed subjects pertaining to the good of the community and appointed committees of residents to try to act upon the ideas" (Teter 2002). Historical records point to Saxon being a connected community (Leonard 1983; Teter 2002). Holidays were celebrated by backyard gatherings of neighbors and fruit, nuts, and candy provided by the Law family. Historian Michael Leonard (1983) describes the Law family frequently welcoming large families with children into the low-rent homes in the village. Neighbors gathered frequently on porches for prayer meetings and hymnals; people congregated, waiting for the church doors to open. Teter writes, "regardless of circumstance, it was the sheer act of visiting that bound mill villages together. As a retired Saxon worker later put it, 'we visited each other, we talked to each other, we were concerned about each other.'" This same nostalgia prevails today in the last remaining generation of mill village children living in the Una, Saxon, and Arcadia area.

During the same time, the Ligon family, originally from the midlands of South Carolina, were well-respected businessmen looking for further investments at the turn of the 20th century. Having already founded the American

National Bank in Spartanburg and dedicated much of his life to the profession of pharmacy, H. A. Ligon partnered with the Manning and Cleveland families to start the Arcadia textile mill in 1903. Ligon's wife is credited with naming the mill after the "undisturbed beauty," which reflects Arcadia's definition as a "region of simple and quiet pleasure" (Marriam-Webster 2022). The mill was quite successful, opening with an estimated 300 looms and 12,000 spindles. These numbers tripled before the year 1915. Within this 12-year period, 300 mill village houses were constructed in Arcadia, half of which were built in the era of the Mill's grand opening followed by a second wave of construction in 1920. Expansion of the mill to a secondary location, situated right across the street from the original plant, began in 1923. Both Arcadia and Saxon Mill produced profits well into the early 50s, with a short lull in cash flow signaled by the Great Depression.

While the mills projected continued profits, the textile industry declined, and with it, mill village life. In *Textile Town*, Teter (2002) submits both the Saxon and Arcadia Mills were sold to new investors a few decades after first opening; Saxon Mill, purchased by Reeves Brothers, and Arcadia Mills, purchased by Fred Dent, were never the same. Following the end of World War II, Dent made a move to sell the mill village houses to current employees and potential investors. In the fall of 1950, all 300 homes were inspected and reported to be in sub-standard condition. Almost every home required foundational and exterior work before it could be sold. Barely taking the inspection report into consideration, Dent sold the houses in the spring of 1951 (Teter, 2002). Many of the houses were purchased by current or former mill employees who rented the houses from Mayfair Mills, while the remainder were sold to investors as rental properties.

Una's neighborhood history is distinctly different from that of Saxon and Arcadia. Una, settled in the early 1900s, is a community situated between two major rail lines. Men in Una worked in the surrounding textile mills, railyards, and farms, while women stayed home to tend to children's education and family gardens. A common saying among its residents today is that 'Una' is an acronym for "U need anything?" While this may seem friendly and charitable, the slogan refers to Una being a haven for anyone interested in drugs, alcohol, or sex. Though residents state the neighborhood was not always this way, Spartanburg historian and *Textile Town* author, Betsy Teter (2002), states, "The community of Una was founded by immigrants from the mountains who worked at local mills but didn't like the rules associated with living in the villages. During the strikes of the 1930s, many blacklisted workers found refuge there." And, while a community opposing the norms of mill village life does not necessarily equate to the present-day prevalence of substance abuse and sex work in Una, it is interesting that even in the early days of its origin, Una was presented as a neighborhood that actively opposed traditional social conventions.

In more recent history, the Spartanburg County Consolidated Action Plan, published in 1998, outlines the specific budgets for projects across the county meant to increase the quality of life for all residents. Found under the 'Goals' section of the Consolidated Action Plan (1998), Spartanburg County states, "The prospects of a better for all, and a social and physical environment void of poverty is not only laudable, but attainable if it has the full support of the county" (1-26). Based on archival research and review of 100 years of Spartanburg County government records, reports, and histories, we determined Una was recognized, for the first and only time, as a priority area for neighborhood revitalization by the county. Recognizing a need for infrastructure improvements, $100,000 of the county's $1.6 million budget went toward the creation of sidewalks and repaving roads. Stop the Violence, a national non-profit with a branch located in Una, received $20,000 for the promotion of safety among Una residents. The revitalization plan directly recognized Una as a 'high crime community.' Although well-intentioned, the funds distributed in Una did very little to satisfy residents' needs. In an interview an employee of the County stated, "We were able to do a lot of work in Una. We built 2 new homes, did an extensive amount of housing rehabilitation, partnered with Habitat for Humanity, made improvements to roads, did sidewalk repair, built the Una Fire Station,

assisted non-profits in the Una area [monetarily], and held clean-up days." Contrastingly, in a neighborhood coalition meeting the week prior, neighborhood residents complained that the county "built a few sidewalks and left" in the early 2000s. In the same meeting, our research team learned of several different leadership groups that have been working in Una since the 90s, all focused on creating positive change in the spirit of the community. Spartanburg County had not again invested in the Una, Saxon, or Arcadia neighborhoods until the renovation at the Arcadia Mill — a project labeled as gentrification by many community residents.

With properties across the three neighborhoods falling into disrepair, one must consider both the historic and current investments made in the housing stock by both public and private ownership. Private ownership by textile mill companies created a neighborhood environment in which residents were reliant on the mills to fulfill community needs. As described by Teter (2002) and Leonard (1983), mill village residents looked to the mill for neighborhood grocery stores, churches, recreational and holiday gatherings, and even elementary education. When the textile industry owners sold their properties to private landlords, residents lost the vital heart of the community structure. Spartanburg County has invested in the neighborhoods when intervention was deemed necessary, like in the early 2000s during the Stop the Violence movement. However, County investment has done little to impact residents in tangible ways that progress neighborhood equity or upward economic mobility. Each new residential development project in Una, Saxon, and Arcadia , funded either publicly or privately, impacts property value, amongst other things, and changes the affordability for long-time residents. Thus, another reason why neighborhood leaders are interested in defining the future of housing and equity in Una, Saxon, and Arcadia.

Impacts of Abandoned and Condemned Properties

An interview with Spartanburg County Environmental Enforcement Officer clarifies the difference between homes labeled unfit versus those labeled as condemned — both 'unfit' and 'condemned' structures appear on the County's official condemnation list. 'Unfit' homes have no power or water, bug or rodent infestation, minor weather damage, or have been damaged in minor fires. While these properties are unfit conditions to support human life, the structure is not an imminent danger. Nelson explained these homes are easily repaired and quick to move off the condemnation list. Conversely, properties marked by the term 'condemned' are properties with structural damage and pose an imminent threat. In this circumstance, it is illegal to enter the property, unless you are permitted to rebuild the home. Whether officially condemned or perceived abandoned, survey data indicates that 78% of participants are negatively impacted by the substandard condition of structures in their neighborhood.

In August of 2022, Una, Saxon, and Arcadia had a combined total of 48 officially condemned structures. Within Spartanburg City limits, there were 118 condemned structures, while outside city limits there were 313. Una and Arcadia, being completely unincorporated, contributed 8 structures each to the county's total. Saxon, on the other hand, has land located both in and outside Spartanburg city limits. To avoid confusion, our findings refer to Saxon as two unique neighborhoods: Saxon-City and Saxon-County. Each division of Saxon had 16 condemned structures for a combined total of 32. 1.68% of the total land parcels in the Una, Saxon, and Arcadia neighborhoods are condemned whereas 2.55% of land parcels are condemned in Saxon alone. Because Una, Saxon, and Arcadia are geographically smaller when compared to other neighborhoods across Spartanburg, there were 7.75 condemned homes per square mile in the Una, Saxon, and Arcadia area combined. To put this in perspective, it takes the average person between 15 and 22 minutes to walk one mile. In high opportunity neighborhoods, or neighborhoods whose proximity to resources promotes economic mobility, it is unheard of to walk for 15 minutes and pass approximately 8 condemned structures, but in Una, Saxon, and Arcadia this is a daily reality (HUD 2020).

When houses across Una, Saxon, and Arcadia fell into disrepair slowly throughout the 90s and 2000s, community leaders made a push for the condemning of homes in unlivable conditions. However, we believe the count of condemnable properties to be underestimated. The process of condemning a home is vulnerable and exposing. In interviews, neighborhood residents report transience is high, with some landlords charging rent by the week. Neighborhood fire-fighters, community health workers, and residents all report the conditions of such rental properties to be substandard and hazardous. If you were to report your landlord for a safety violation, and your home becomes condemned, where do you go? How difficult will it be for you to quickly find a new home? The price of rent is not the only factor influencing a family's ability to find quality, affordable housing if their home is condemned. Proximity to job opportunity, transportation access, family stability, and access to neighborhood resources are all at stake. For Arcadia resident Darius who rents a mobile home by the week, he fears reporting his landlord for the large holes in the bathroom floor, leaving the house exposed to insects and rodents, would cost him his security deposit, his home, and potentially his connection to reliable transportation.

Residents attribute increased drug use, homelessness, and prostitution since the late 80s to the reality of living alongside deteriorating structures. These are just three of the many negative impacts 78% of research participants reported experiencing in relation to abandoned and condemned properties. One fire fighter in Una went as far as to say the station never refers to a structure as "unoccupied" because of the homeless population circulating through Una, Saxon, and Arcadia. In December of 2012, what was left of the abandoned Saxon Mill was burnt to the ground. Una Fire Department Chief Jeff Hadden, a lifelong Saxon resident and student at the mill's elementary school in the early 70s, was on duty when the mill caught fire. Newspaper headlines across Spartanburg speculated the cause of the fire, fought by an estimated 100 firefighters, was suspicious. While news outlets never published a cause of the fire, conversations with Chief Hadden reveal a long history of abandoned structures catching fire in Una, Saxon, and Arcadia as the homeless population tries to stay warm in the winter months. Some residents confirm accounts of individuals experiencing homelessness seeking shelter in vacant homes near their home address, while others believe the properties to be drug houses and hot spots for prostitution. Abandoned and condemned structures in Una, Saxon, and Arcadia are distinctly connected to illegal activity and vagrancy.

While only 35.6% of survey respondents mention crime, drug use, homelessness, or prostitution in their responses, resident interviews provided more insight into the true neighborhood culture cultivated by illegal activity and the availability of structures open to the public. In an interview with a former Stop the Violence community organizer in Una, the neighborhood in the late 90s is described as a place for individuals who "do not want to be told what to do" and crossing the train tracks into Una meant someone could live freely, could live as they pleased. This cultural narrative mirrors Teter (2002)'s, as she describes Una's creation by those who were unsatisfied with the rules of mill village life.

While Teter (2002) does not explicitly describe Una as a dangerous or undesirable neighborhood, her analysis alludes to a prevailing spirit of lawlessness that could not be found in the bordering mill village neighborhoods owned and regulated by the mill companies. Her analysis, written in the era of the Stop the Violence campaign and increased neighborhood poverty, arguably helps to shape public perception of Una as a 'lawless' neighborhood. In life history interviews with Una residents, individuals recall family members creating a home in Una because of the proximity to industrial job opportunities. These interviews also point to the late 80s and early 90s as the first years of increased crime in Una. One resident recalled, "I then moved to Cleveland Street [in the 90s]. We were surrounded by drug users and drug houses. There were many encounters where people would come to my door asking for *what I owed them*. When I opened the door with my gun, they realized I wasn't the person they were looking for. People were killed on the street

here. When it rained, blood would come up from the pavement." With violence and crime controlling the narrative of Una throughout most of the 90s, Una obtained a reputation amongst Spartanburg residents as an area where anything goes. Arguably, public perception of Una as a high-crime neighborhood does little to support community and county buy-in for necessary neighborhood investment.

Perhaps the nonconformist nature of Una is indicative of its historical origins, or perhaps, the perceived increase of homelessness and drug use over the past 40 years can be attributed to the hands-off nature of the county. The Environmental Enforcement Office describes their role as "compliance enforcement" and questions if it the local government's responsibility at all to better maintain neighborhoods. Arguing for residents to utilize partnerships to create change, the officer interviewed spoke of self-compliance as the best way to keep neighborhoods safe and clean. Residents of the Una, Saxon, and Arcadia neighborhoods actively oppose the policy and procedure of the Spartanburg County Environmental Enforcement Office. Participants of the first 'Community in Conversation3' session engaged in group discussion of distrust, county neglect, and under the counter deals speculated to occur between landlords and county officials. They described Environmental Enforcement's policies as apathetic and inaccessible, not conducive to transparency and clear lines of communication between residents and local officials. For community activists like Mary Sharp, calling the county to file a complaint becomes the start of a chain reaction of redirections and miscommunications. Despite county claims of investigating every potential code violation and preemptively inspecting mobile homes once a year, residents feel overlooked and forgotten. Our first participatory mapping workshop, hosted in Una, revealed the relationship between county officers and Una, Saxon, and Arcadia residents to often be hostile; one woman recounts the police laughing off her complaint of trespassing as they asked, "well, what do you expect? You live in Una." The state of the housing stock is attributed to the neglect of the county and the exploitation of tenants by property owners.

Property Ownership, Power, and Profit

Themes of ownership, investment, and value play a key role in understanding the geography of Una, Saxon, and Arcadia. As individuals acquire more land than is sufficient or necessary, they accumulate more authority over physical space and resources. Neighborhood landlords, for example, arguably own more land/housing units than John Locke and other political philosophers would describe as sufficient for one individual in the scope of the common good. Often called 'slum lords,' rental property owners in Una, Saxon, and Arcadia are perceived by residents as neglectful. During the first neighborhood 'Community in Conversation' session, conversations connected neighborhood landlords with narratives centering money, power, and greed. "They have all the power in this neighborhood," one resident said. Everyone clapped and audibly agreed. Residents, in this case, are referring to the power to dictate the neighborhood's standard of living. Sustainability scholars refer to this property conflict as "conflict between private interest and the public good" (Green and Haines 2016, 3). While it is in the interest of the public good to provide and maintain quality housing, private interest maintains that property owners should invest the smallest amount of money for the largest amount of gain possible. This is where the breakdown between our 'free market' capitalist society and the paradigm of community sustainability begins to breakdown. Profit outweighing the public good acts as a barrier to achieving socio-economic equity. Research in Una, Saxon, and Arcadia considers the implications of disparities in property ownership on the common good.

Through interviews with Spartanburg-based real estate professionals, we attained understanding about the motivations of property owners in low-income neighborhoods. Put simply, there will always be a need for cheap housing, and property owners can capitalize on the vulnerability of poverty. Affordable homes will always provide a return on investment, regardless of their quality or condition, because there will always be families in need of affordable housing that have limited

options for mobility outside of their neighborhood. And, while property owners may simply be trying to provide for families of their own, they perpetuate the cyclical nature of decreasing property value and devaluing investment in Una, Saxon, and Arcadia. If you know you can charge only $400 per month for rent and make a profit each time, what incentive do you have to invest in the maintenance and upkeep of the home? Even if a landlord wanted to renovate or update housing, this would increase the property value and therefore the property taxes associated with that home; anyone charging affordable, unsubsidized rent will likely not turn a profit if property taxes were to increase. Ownership comes with power, and there is not yet a sustainable solution to regulating abuses of power in property management.

As Una, Saxon, and Arcadia residents collaborate to envision just and equitable neighborhood futures, community leaders recognize rental property owners as key stakeholders in the discussion. Identifying prevalent rental property owners in the neighborhoods is the first step in getting all key stakeholders to the table to discuss how to promote equitable neighborhood change. Our research finds that Una has the greatest number of rental properties compared to Saxon and Arcadia, with one family owning most of these rental properties. C.D. Buff and his sons, Clifford and Ray Buff, are locals of Spartanburg. Between the family's two LLCs, Eye to Eye Rentals and Inman Realty, and the sons' individual property ownership, county tax assessor records show the Buff family owns a total of 175 land parcels in Una, Saxon, and Arcadia. Land parcels in Spartanburg County can potentially house multiple houses, structures, or mobile homes. In both Una and Saxon, the Buff family owns more land parcels than any other rental property owner in the neighborhoods, proving them to be an integral part of the neighborhood's social ecology with great influence over the neighborhoods' futures.

In 2001, Philadelphia researchers determined that physical distance between homes and condemned properties correlate to a net loss in property value (Bass et. al 2005). While property value decreases, the purchase and renovation cost of condemned homes increases, and there is no longer an incentive for independent landlords to purchase single-family homes. Gentrification then becomes an imminent threat to neighborhoods and their histories as it becomes much more profitable for property management companies to acquire condemned lots for future large-scale residential developments. Gentrification degrades the social geography of a community, which Sarah Judson (2014) describes as the linking of place to community identity. In Arcadia, the site of Mayfair Mills, after sitting abandoned for a decade, has been repurposed into luxury lofts and apartments. The Mayfair Lofts website lists a pool, off-leash dog park, grilling area, fire pits, parking garage, and community arts center as amenities available to its residents. Once a site of community, the Mayfair Lofts now sparks controversy among Spartanburg residents. While renters in Arcadia struggle to find both quality and affordable housing in the area, the Mayfair Lofts works to gentrify the area, outpricing the individuals who have lived there for years.

To combat gentrification, the City of Spartanburg requires a small percentage of all new residential builds to be designated as 'affordable housing,' as defined by HUD. These new developments have been labeled 'mixed income' housing. Though Una, Saxon, and Arcadia are located within the greater County footprint, the prospect of mixed-income housing developments is not out of the question for the neighborhoods. As a response to the affordable housing crisis of the 2000s, many scholars lean into the mixed-income model of housing developments as solutions to cyclical poverty (Kleit 2005; Kontokosta 2013; Tach 2009). Pauline Lipman (2009) argues mixed-income housing developments and policy are rooted in paternalism and perpetuate displacement, racial segregation, exclusion, and control. Specifically, Lipman (2009; see also Kleit 2005) draws upon the Hope VI pedagogy, or the idea that placing low-income families and students in proximity to middle-class individuals will raise poor individuals to a higher social status, to explain how hierarchical belief systems such as this give rise to exclusionary practices that continue racist and classist

segregation. Lipman (2009)'s biggest critique is that the creation of mixed-income developments in historically low-income neighborhoods is not done in collaboration with the individuals being displaced. Through our research in Una, Saxon, and Arcadia and across Spartanburg's neighborhoods, we have heard community leaders and residents criticize development that is done *to* their communities as opposed to *with* their communities. What outsiders see as a new apartment complex and economic opportunity, community members view as an imposition on their community sovereignty. Certainly, this critique of mixed income urban development is necessary to consider as many new developments in Spartanburg are advertised as 'mixed-income.'

With discourse of revitalization, renewal, and master plans sweeping through Spartanburg's neighborhoods, it is important to center residents' desires in all development choices. In a meeting hosted by Spartanburg's Northside Voyagers, a group of community residents who act as the steering committee for redevelopment in the Northside, one voyager recommends that all renewal with neighborhoods and their residents should be done with them, not to them. The Northside neighborhood, sharing a border with Saxon, experienced community-led revitalization over the past ten years. According to an interview with staff at the Northside Development Group, "There was a 50% vacancy rate in homes because of all the condemned and abandoned properties that were uninhabitable." Today, the east side of the neighborhood's percentage of parcels with condemned homes is less than one percent. The Northside succeeded in preserving the neighborhood's history and bringing visibility back to the once forgotten because of strategic investment and resident-driven redevelopment. Many community leaders in Una, Saxon, and Arcadia view the Northside as a model for community-driven redevelopment and hope to redefine property ownership across the neighborhood through similar strategies.

Following the elimination of abandoned and condemned properties, residents are interested in improving the existing market for affordable rental properties across Una, Saxon, and Arcadia. Many attribute the neighborhood's overall decline to the poor management of rental properties after being sold by the mill corporations. Specifically, long-term residents believe neighborhood property owners to be "slumlords," with no interest in providing quality housing to neighborhood tenants. Referred to by a Una, Saxon, and Arcadia neighborhood resident as "the last heaven of affordable housing left in Spartanburg," rental property owners in Una, Saxon, and Arcadia have slim profit margins and little incentive to reinvest in their rental properties. This leads to a cycle of neglect in both the aesthetic and structural upkeep of the property. With decades of neglect by both property owners and tenants alike in Una, Saxon, and Arcadia, residents across the neighborhood are, at best, experiencing a decline in their property value and, at worst, residents are living, playing, and raising families in substandard conditions with limited options for relocation. Alongside advocating for the removal of condemned structures, Una, Saxon, and Arcadia residents identified quality affordable housing, affordable home upkeep, and lawn maintenance as valuable resources in the larger conversation on adverse landlord-tenant practices.

Envisioning Ideal Futures: Linking the Personal to Place

Her words, like a time machine, transformed the quiet streets of Saxon into a living memoir of her past. There on Pioneer Place I listened in awe as she painted pictures of her childhood through storytelling. The place she learned to ride her bike, the route the school bus took on the way to school, the woods where she heard the local Klan chapter gather at night in the 70s — each are physical landmarks of distant memories now kept alive through nothing but experience. Angelia Edwards, a community health worker born in Saxon, South Carolina, continues to invest in her birthright community even after moving away from the neighborhood. In June of 2022, Angelia led our research team on a guided tour of Saxon, describing the neighborhood as she knows it. Despite her family's experiences of racism and systemic injustice in Una, Saxon, and Arcadia , Angelia will forever refer to Saxon as home. As the Co-Chair of the College Park Neighborhood

Association, a subdivision within the Saxon neighborhood boundary, she advocates for resident-driven and informed neighborhood change and collaboration.

Like Angelia, many residents with generational ties to the mill-village communities in Una, Saxon, and Arcadia find themselves remembering the days of years past. Community nostalgia has played a powerful role in shaping the narrative surrounding steps forward in Una, Saxon, and Arcadia . Individual life-history interviews with generational homeowners and participatory mapping workshops with current residents illuminated a collective narrative held in the community conscious in Una, Saxon, and Arcadia. To residents, the 60s and 70s represent idyllic decades of neighborhood pride, community engagement, safety, and opportunity. Residents of the time recall sleeping with their windows open and doors unlocked, a stark contrast to life in Una, Saxon, and Arcadia in the 90s. When asked why he returned to Saxon in the 90s after leaving for a successful career in the Navy, local firefighter Tim Brown replied, "I came back because my mom was afraid to live alone. The neighborhood was a little different when I returned. It didn't fit the picture of the place where I grew up." Violent crimes in the neighborhoods were at an all-time high (Spartanburg County Consolidation Plan 1998).

The question remains: how can Una, Saxon, and Arcadia residents take pride in their homes, neighborhoods, and communities when so much of the neighborhoods' landscapes are entangled in complex dynamics of property, ownership, and governance? Through monthly neighborhood association meetings and additional topic-specific committees, neighborhood leaders and residents are engaged in the process of place-based organizing to envision and establish ideal neighborhood futures. Often, these meetings bring about discussions of community nostalgia, identifying experiences that allow residents to remember the streets of Una, Saxon, and Arcadia as lively, vibrant neighborhoods. The recent allocation of $1 million in federal ARP funds from Spartanburg County for the demolition of condemned structures in Una, Saxon, and Arcadia has neighborhood leaders eager to continue to advocate for housing equity in their neighborhoods.

Neighborhood investment has a profound impact on the housing stock, identity, and well-being of a community. In Una, Saxon, and Arcadia investment, or lack thereof, correlates to an abundance of abandoned and condemned structures. Residents express feeling unsafe in relation to condemned properties and are fearful of drug use, homelessness, and prostitution growing. Although it is difficult to pinpoint a singular cause or entity responsible for the state of disrepair and disconnection in Una, Saxon, and Arcadia, everyone has a part to play in reshaping the future. Meaningful partnerships committed to achieving population-level goals in terms of creating intentional, place-based community development are necessary for building a sustainable Una, Saxon, and Arcadia. Residents' voices must be centered and amplified to truly recapture the neighborhood identity so many feel has been lost. Creating a sustainable future requires innovative solutions to complex problems. The work in Una, Saxon, and Arcadia is far from over; I would argue it is just beginning.

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