A LOOK AT HOW ZERO-WASTE DISCOURSE INTERACTS WITH LIVED EXPERIENCE: A SENSEMAKER® STUDY

by

MADISON WERNER

Under the Direction of J. Peter Brosius

ABSTRACT

Plastic waste is increasingly becoming a problem of global concern. In response to these concerns, individuals such as Bea Johnson and Lauren Singer have begun living zero-waste lives. I use Johnson's and Singer's TEDx Talks to deepen my analysis of how popular zero-waste discourse interacts with data on plastic pollution collected through SenseMaker®, a qualitative data analysis tool. Findings suggest that participants who felt empowered in the narratives they shared also felt that responsibility comes from individual action, while participants who felt restricted in their narratives tend to believe this was due to a lack of accessible alternatives. I use social science theory to argue that mainstream zero-waste narratives tend to ignore how zero-waste living is dependent on financial resources, thereby placing blame on under-resourced individuals for not being able to gain gratification and personal empowerment from the same systems that zero-wasters deliberately seek to undermine through daily actions.

INDEX WORDS: zero-waste, circular economy lifestyle, moral economy, SenseMaker®

A LOOK AT HOW ZERO-WASTE DISCOURSE INTERACTS WITH LIVED EXPERIENCE: A SENSEMAKER® STUDY

by

MADISON WERNER

BA, University of Georgia, 2021

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2022

A LOOK AT HOW ZERO-WASTE DISCOURSE INTERACTS WITH LIVED EXPERIENCE: A SENSEMAKER® STUDY

by

MADISON WERNER

Major Professor:	Peter J. Brosius
Committee:	Jenna R. Jambeck
	Bram Tucker

Electronic Version Approved:

Ron Walcott
Vice Provost for Graduate Education and Dean of the Graduate School
The University of Georgia
May 2022

DEDICATION

My thesis is dedicated to Bonnie Hill, Tammi Werner, Steve Werner, and Park Li, all of whom made immense sacrifices for me and deserve more praise and recognition than I can offer here.

ACKNOWLEDGEMENTS

I would like to thank my three committee members: Pete, for helping me realize my interest in research and love for tuak. Jenna, for always making me feel valued, supported, and heard. Bram, for inadvertently encouraging me to switch my major to anthropology after a very convincing lecture entitled “Why Anthropology is Important and Why You Should Not Drop This Class” in the introductory level anthropology course that I took as a freshman.

TABLE OF CONTENTS

Page

LIST OF FIGURES

Page

CHAPTER 1

INTRODUCTION

"What do you have to lose by embarking on a zero-waste lifestyle? Who knows what you might discover about yourselves! Maybe…absolute happiness [13:55]" (Talks, 2016).

This was the concluding statement of Bea Johnson's 2016 TEDx Talk entitled *Two Adults, Two Kids, Zero Waste*. Johnson, a popular zero waste influencer whose work has been featured in CNN, Forbes, National Geographic, and Vogue, among other notable platforms, has built a successful career on what she calls the "5Rs": refuse, reduce, reuse, recycle, rot. Her work inspired another zero-waste activist, Lauren Singer, who grew her platform after revealing a picture of herself holding a small jar full of trash that she produced over the course of a year. Zero-waste influencers such as Johnson and Singer have become increasingly common on social media, providing everyday people with their formulas on how to successfully live a zero-waste life. Yet there is often little conversation about *who* can practice this lifestyle as well as what barriers to access exist.

Zero-waste can be broadly defined as "the conservation of all resources by means of responsible production, consumption, reuse, and recovery of all products, packaging, and materials, without burning them, and without discharges to land, water, or air that threaten the environment or human health" (Zero Waste International Alliance, n.d.). Although the term "zero-waste" was originally intended for industry (Spiteri, 2021), the "circular economy" is now the more well-known term for enacting zero-waste principles on a corporate or institutional scale (Mah, 2021). The circular economy refers to guiding principles for the public and private sectors

that help encourage a move toward zero-waste practices (Franco-García et al., 2019). For the purposes of this thesis, zero-waste lifestyle refers to enacting zero-waste actions on an individual or household level, while the circular economy refers to the "business idea that promotes a circular rather than linear economy based on the aspirational idea of 'zero waste' through the reduction, recycling, and reuse of resources" (Mah, 2021, p. 122). In this thesis, zero-waste living is an individual endeavor, while the circular economy represents the potential for a holistic shift in industry practice that would then make it easier for previously under resourced individuals to participate in a zero-waste lifestyle and in the circular economy.

Many different materials, including plastic, aluminum, glass, and food waste, are encompassed through various zero-waste actions and circular economy principles. Most zero-waste discourse tends to focus on the elimination of single-use consumer plastics, as almost half of all plastics are discarded after one use (Mathalon & Hill, 2014) and single-use plastics tend to end up in the environment and along shorelines (Varkey et al., 2021). Because zero-waste discourse revolves around the elimination of plastic, and due to my own personal background and interest in the plastics circular economy, this thesis will primarily be concerned with plastic materials and a lack of access to plastic alternatives.

In this thesis, I argue if we are to move toward a zero-waste future whereby adhering to circular economy principles is ultimately necessary for the reduction of plastic pollution on a global scale (O'Neill, 2019), we must examine how the zero-waste lifestyle movement is both helpful *and* harmful. Abrahms-Kavuenko (2021) asserts that the discipline of anthropology must take a greater interest in how plastic pollution is related to ontologies, epistemologies, and violence. I contribute to this aim by arguing that through reducing complete lifestyle changes down to individuals and simple decision-making, mainstream zero-waste narratives blame under

resourced people for not being able to gain satisfaction and personal empowerment from the same systems that zero-wasters deliberately seek to undermine through daily actions. In doing so, I use the narratives provided through Johnson's and Singer's TEDx Talks to deepen the analysis of the data we collected on plastic pollution in Miami, Florida in May of 2021.

I provide context for this thesis by beginning with a summary of the current state of plastic pollution in the world today. I go on to explain the background, purpose, and goals of the Circularity Informatics Lab (CIL) and our Circularity Assessment Protocol (CAP) projects. I also explain why we chose to pilot SenseMaker, a qualitative data analysis software, during our CAP project in Miami, Florida, USA. I then provide a brief analysis of what mainstream zero-wasters proport to be about by summarizing and accessing the respective TEDx Talks given by Johnson and Singer. Next, I compare themes and ideas brought up by Johnson and Singer to the data collected through SenseMaker. In doing so, I connect the experiences of plastic users in Miami and mainstream zero-waste narratives to broader social movement and social science theory. Finally, I conclude with a discussion on the strengths and weaknesses of SenseMaker as it relates to its future application in CAP projects.

CHAPTER 2

BACKGROUND

Current State of Plastic Pollution

Plastic waste is increasingly becoming a problem of global concern (Abril Ortiz et al., 2020; Hale et al., 2020; Jambeck et al., 2015; López-Martínez et al., 2021; Ocean Conservancy & McKinsey Center for Business and Environment, 2017; Pathak & Nichter, 2019). Chief among these concerns are the environmental impacts that plastic waste and microplastics have on humans, the lived environment, oceans, and marine life (Chae & An, 2018; Hoornweg & Bhada-Tata, 2012; Jambeck et al., 2015; Kaza et al., 2018; Law et al., 2020; López-Martínez et al., 2021; North & Halden, 2013; Prata, 2018; Suran, 2018; Vethaak & Leslie, 2016). Recent scholarship has shown that low-income, working-class communities, specifically Black and Indigenous communities, bear the brunt of plastic production toxins and subsequent disposal of plastic products due to environmental racism and other overlapping systems of oppression (Bullard, 1983; Bullard & Wright, 2009; CRJ, 1987; Fernández-Llamazares et al., 2020; Mufson, 2021; O'Neill, 2019). Countries in the Global South are often blamed for the plastic pollution problem, even though the U.S. has sent a significant portion of its waste to other countries (Brooks et al., 2018; Conlon, 2020; Cotta, 2020; Dauvergne, 2018; Law et al., 2020; O'Neill, 2019; Owens & Conlon, 2021). The burden of blame often falls on these under-resourced communities, even though they are the least responsible for creating waste (Conlon, 2020). Jaffe & Durr (2010) contend that an anthropological perspective provides viewpoints often overlooked in usual developmentalist models and allows for a more complex understanding of pollution issues as it relates to social and cultural phenomena, yet to date there are very few studies that

detail the complexities of plastic pollution from a social science or anthropological lens (Pathak & Nichter, 2019; Phillips, 2017; see also Abrahms-Kavuenko, 2021; Schlehe & Yulianto, 2020). Scholars are still trying to understand the extent to which plastic pollution reinscribes existing inequalities and power structures (Abrahms-Kavunenko, 2021; Liboiron, 2021), as well as how it interacts as a globalized, politicized resource (O'Neill, 2019).

Plastic and COVID-19

COVID-19 has been a salient reminder of the globalized world in which we live. The study of plastic waste has been expanded and applied during the COVID-19 pandemic; areas of interest include an increase in disposable plastic materials such as PPE, plastic policy changes, as well as fluctuations in tourist related waste (Adyel, 2020; Ammendolia et al., 2021; Ardusso et al., 2021; Cecchi, 2021; Cloke, 2020; da Costa, 2021; Liu et al., 2021; Patrício Silva et al., 2021; Shetty et al., 2020). Researchers have projected and seen an increase in plastic waste items, as PPE equipment for healthcare workers, disposable facemasks, and household waste generation and online shopping activities have all increased (Adyel, 2020; Ammendolia et al., 2021; da Costa et al., 2020). Issues of how power and resources are related to plastic pollution have become even more salient in a Covid-19 world, as the pandemic has reinscribed and exacerbated existing inequalities (Blundell et al., 2020; Fisher & Ryan, 2021; Liz, 2021; Rodríguez-Bailón, 2020; Wildman, 2021).

About the CIL

The CIL is part of the University of Georgia's New Materials Institute, a hub for researching and developing materials and systems that promote circularity using Green Engineering principles. The CIL explicitly focuses on circular materials management, which

emphasizes the need to shift the paradigm away from reactive solid waste management practices and toward proactive solid waste management (NMI, 2022, "Circular Materials Management"). One aspect of this paradigm shift entails thinking about the management of materials before "waste" is created. Rather than adhering to linear models of production, consumption, and disposal, circular materials management considers how byproducts and discards act as inputs to other systems, "mimicking what we observe in nature with cycles of nutrients" (NMI, 2022, "Circular Materials Management"). Led by Dr. Jenna Jambeck, the CIL uses the concept of the circular economy to examine materials along their entire value chain. Through this circular lens, waste management must become materials management. The CIL utilizes tools of materials flow, life-cycle assessment, and existing frameworks to conduct analyses and provide data that can assist with decision-making. In conducting this research, the CIL recognizes that materials management is very much a cultural and social issue. Part of my interest as an anthropologist in the CIL is to understand how a move toward the circular economy and circular materials management might reinscribe harm and inequality. Thus, examining how zero-waste discourse interacts with the lived experience of people who regularly use plastic proved to be a relevant topic of study for the purposes of this thesis.

About CAP

CAP, developed by the CIL at the University of Georgia, is a hub and spoke model (shown in Figure 1) that provides baseline data for local, regional, or national decision-making to reduce leakage of waste into the environment and increase circular materials management (CIL, 2021). CAP can be conducted on any number of materials, but most often cities invite the CIL to conduct a CAP project focused on plastic materials. CAP differs from other analyses of plastic

materials. Rather than analyzing a plastic product solely at its production, its purchase, or its disposal, CAP analyzes the whole life cycle of plastic products. In other words, if you were to go into your bathroom and the bathtub was overflowing, would you first grab a mop or would you turn off the faucet? This is the main intention of CAP – to cut plastic off at its source by analyzing where in the community it originates from, and to find community-centered solutions that are both impactful and long-term.

Figure 1: CAP Hub and Spoke Model

CAP works with a variety of local influencers such as NGOs, academics, citizens, industry, and governmental entities (CIL, 2021). Primary methods include information sharing and open data, community empowerment, community-based systems change, and data analytics which are co-owned by the researchers, city, and sponsors (CIL, 2021). Part of the data collection process is facilitated by the Debris Tracker app, which is a phone and internet application that is free and downloadable on Apple and Google Play. This app allows researchers and community members to log marine debris that they find in the environment and is available to anyone regardless of if they live in a city where CAP has taken or will take place (NOAA, 2022). There are seven different spokes relevant to the CAP analysis framework, with multiple points of inquiry:

1. Input - What products are sold in the community and where do they originate?
2. Community - What conversations are happening and what are the stakeholders' attitudes and perceptions?
3. Product design - What materials, formats, and innovations are found in products, particularly packaging?
4. Use - What are the community trends around use and reuse of product types?
5. Collection - How much and what types of waste are generated? How much is collected and what infrastructure exists?
6. End of Cycle - How is waste disposed? What is the fate of waste once it is properly discarded? How is it treated?
7. Leakage - What waste ends up in the environment? How and why is it getting there?

So far, CAP analyses have been conducted in 26 cities across 10 different countries. Throughout COVID-19, global CAP projects continued, and during this time the group helped remotely conduct CAP projects in Indonesia, Malaysia, Vietnam, Panama, India, and other places. Conducting remote CAP projects during the pandemic presented its challenges, which I will detail in the discussion section.

CAP in Miami, Florida

The city of Miami, FL is the most populous metro region in the southern United States, with a population of over 470,000 that will continue to grow 1.09% annually (US Census Bureau, 2019).Waste generation rates for the county are also estimated to increase by 0.1% per year, reaching 1.44 tons/capita/year by 2060 (Miami-Dade SWMMP, 2014). The City of Miami has prioritized strengthening its climate resilience due to its growing and diverse population, its critical infrastructure needs, and its unique challenges related to flooding and climate change (CAP: Miami, 2021). Part of this endeavor entails having baseline data on plastic pollution. In May 2021, the City of Miami partnered with the CIL and the Ocean Conservancy to conduct the Miami CAP project. In-person fieldwork was conducted May 10th – 21st. The final CAP report for Miami was released in August, 2021. I helped conduct key influencer interviews and other data collection from May 16th –21st.

About SenseMaker

SenseMaker® was first developed by Dave Snowden, a Welsh researcher who studies knowledge management. Through SenseMaker, broad amounts of data are collected through the fragmented narratives that we tell one another to construct our reality. Informants who take a

SenseMaker survey are first prompted to share a narrative by answering an open-ended question. After answering the open-ended question, informants can code their own data by situating their story within what SenseMaker calls "signification frameworks," a set of interactive questions meant to provide further context for the narrative provided. In our SenseMaker survey, the signification framework questions were composed of "triads," "dyads," "stones," and multiple-choice questions (MCQs). "Triads" encourage participants to situate the narratives they shared between three options (Figure 2). "Dyads" ask participants to place their narratives "along a continuum between two opposing options," as shown in Figure 3 (Bartels et al., 2019, p. 2). "Stones" (Figure 4) prompt participants to place a marker "onto a grid or matrix where the storyteller feels it best fits in relation to their story" (GirlHub, 2014, p. 2). MCQs ask participants to answer a question by choosing one or multiple options.

SenseMaker and CAP

One of the pivotal aspects of our CAP projects include our key influencer interviews, which are part of the "Community" spoke in the CAP framework. Through these interviews, we learn more about people's views and perceptions of plastic materials. We usually interview local stakeholders who are knowledgeable about the plastic lifecycle, including academics, NGOs, plastic manufacturers, activists, and members of the informal sector. Eventually we realized that while we had interview data from stakeholders who regularly think about plastic materials because of their profession, we did not have the viewpoints of everyday consumers who use plastic. To bridge this gap, we investigated innovative methods to encourage engagement with plastic users. As a complement to our key influencer interview process, we piloted SenseMaker® to encourage participants and researchers to co-create a conversation on perceptions of plastic

materials in Miami. Aside from perceptions of plastic as shown in the "Community" section of our CAP report, our findings also informed "Use," and "Collection" spokes of the CAP model, as they spoke to trends around use and reuse of product types and the types of waste infrastructure that exists. SenseMaker surveys were distributed to our community partners in Miami on August 2nd, 2021. These partners included people who worked for local NGOs, government workers, and plastic activists. Our partners then sent the SenseMaker survey to their professional and personal networks. The data collection period ended on August 20th.

Why TEDx Talks?

TED Talks are adequate means to communicate scientific knowledge to vast audiences due to the reduced technical language, conversational tone, and engaging narration style that comprise most talks (Mattiello, 2017). The short "pitches" offered through TEDx Talk formatting allowed me to evaluate general themes about the zero-waste lifestyle from two of its more popular proponents without being bogged down in how influencers operationalize zero-waste discourse, an interesting research topic that is far beyond the scope of this thesis. Through focusing on the arguments given by Johnson and Singer, I do not wish to ignore or minimize the efforts of Black zero-waste activists such as Anamarie Shreeves and Sadie Daffer, or Indigenous organizing related to zero-waste systems, such as the Indigenous Zero Waste Technical Advisory Group (IZWTAG). Rather, I have chosen to examine Johnson and Singer because they are two of the most influential zero-waste influencers, and their suggestions for how to live a zero-waste life tend to represent dominant, mainstream zero-waste narratives. I am not interested in focusing on Johnson and Singer as individuals, nor in evaluating their perceived morality or politics. I am instead concerned with interrogating the effectiveness and limitations of mainstream zero-waste

narratives, as well as the implications of touting this lifestyle while access to this form of living largely depends on one's access to material resources.

Bea Johnson's 2016 TEDx Talk: *Two Adults, Two Kids, Zero Waste*

Johnson begins her talk by describing the discomfort that came with her family's initial attempts at going zero-waste: canning was a good idea, while using stinging nettles as a replacement for lip plumper and moss as a replacement for toilet paper both proved to be ineffective. The low point for Johnson was when her husband told her he was tired of her smelling like pickled herring due to her attempts to replace shampoo with "no-poo," a zero-waste strategy that involves massaging baking soda into your scalp and rinsing with apple cider vinegar. Johnson does not try to pretend that going zero-waste is always glamorous – certainly no one wants their partner to tell them that their fishy aroma is "really not sexy [1:57]" (Talks, 2016). Eventually, the Johnson household reached an equilibrium after establishing the five rules (in order) for achieving and maintaining a zero-waste lifestyle: refuse, reduce, reuse, recycle, rot. Refusing entailed saying "no" to junk mail, to single-use plastics, and other free products and goods. Reducing involved a strict household-level decluttering process, yet as noted by Johnson, having fewer belongings encourages sharing, and donating what you don't need fortifies second-hand markets. Johnson then goes on to describe her family's personal wardrobes, each of which can fit into a single carry-on suitcase. The small size of their wardrobes proves to be convenient. As Johnson states:

> "If we want to go away for the weekend, a week, a month; all we have to do is pull out our carry-ons, we throw our wardrobes in it, we zip it, we're out the door. Then a

cleaning service comes in, cleans the house. Then we have people that come, rent the house out, and end up paying for our vacations [6:14]" (Talks, 2016).

Reusing was a gradual process in which disposable objects around the house were replaced with reusable alternatives; food storage and packaging entails filling reusable containers with dry goods that can be bought in bulk from the grocery store. The Johnson family is even able to purchase wine in bulk, which can be refilled at the winery. The other aspect of reusing focuses on purchasing all clothing on the second-hand market such as thrift stores, flea markets, and eBay. Recycling for Johnson does not mean recycling more, but rather only recycling items you cannot refuse, reduce, or reuse. Rot, Johnson's final step in the zero-waste process, involves the composting of fruits, vegetables, dryer lint, and Johnson's sons' hair. Johnson's hair, in contrast, is recycled: she lets it grow out and cuts it off to donate to an organization that makes wigs for cancer patients.

At this point in the talk, Johnson pivots to address what she perceives to be common misconceptions about zero-waste families, stating, "not so long ago, had I heard about a zero-waste family, I would have thought to myself, 'Oh boy, these people must be total granola. I am sure they live in the boondocks, and I am sure she doesn't shave' [9:51]" (Talks, 2016). Johnson challenges this narrative – one she manufactured – by pointing to her legs and telling the audience that she wore a skirt to the TEDx Talk to prove to everyone that she does in fact shave. Johnson goes on to state, "I would maybe also have thought ,'Well she must be a stay-at-home mom with way too much time on her hands. She probably worries about her waste all day or makes a bunch of things from scratch [10:16]'" (Talks, 2016). Johnson refutes this idea as well by sharing that she is a full-time working professional, and the only things she makes herself are her very small collection of cosmetic products.

To Johnson, the benefits of the zero-waste lifestyle are numerous; it is good for the environment, and eliminating "all" toxins has made her family "way less sick than [they] used to be before [10:37]" (Talks, 2016). The lifestyle has saved them 40% on their overall budget due to their lower consumption patterns and the purchasing of bulk items in which the cost of packaging is not embedded in the product's price. In fact, these savings allowed the Johnson family to install solar panels. Aside from the environmental, health, and monetary benefits that she cites about her zero-waste lifestyle, to Johnson, "the best aspect of this lifestyle is voluntary simplicity [11:55]" (Talks, 2016). Johnson contends that this lifestyle provides time for "what matters most: a life based on experiences instead of things. A life based on being instead of having [12:03]" (Talks, 2016). She argues that due to this lifestyle, her family has been able to participate in incredible experiences that they would otherwise not be able to have, such as snorkeling between two continents, riding bikes between San Francisco and Los Angeles, ice climbing on a glacier, and skydiving. A zero-waste lifestyle, Johnson contends, is one "filled with absolute happiness [12:36]" due to the alignment of her beliefs and actions (Talks, 2016). Johnson then shows a picture of herself at the age of 18, and states that she never expected to be initiating a global movement. Many people have been inspired by her to open their own zero-waste businesses. Their only regret, according to Johnson? Not starting sooner.

Lauren Singer's 2015 TEDx Teen Talk: *Why I Live a Zero-Waste Life*

Singer begins her talk by holding her signature small glass jar, the one that stores all the trash she disposed of in one year. Singer situates her zero-waste eureka moment within her senior-level environmental studies capstone class at New York University. Every class, one of Singer's classmates would bring in a big plastic bag full of plastic food containers, wrappers, and

utensils. When finished with her lunch, she proceeded to throw these items into the trashcan. Singer states, “this was really frustrating, because here we were, these environmental studies students trying to make the world a better place, and there she was, throwing all this stuff into the garbage [1:48]” (Talks, 2015). After going home upset from witnessing this event, Singer examined her own fridge. To her surprise, it too was filled with products wrapped in plastic packaging. Upon realizing that she was also “that girl [2:19]” who consumed plastic products and was therefore “just as bad [2:18]” as the girl in her capstone course, Singer made the decision to eliminate plastic usage. Unfortunately, quitting plastic did not prove to be so easy, as toothbrushes, contact solution, and other necessary daily products are packaged in plastic. She soon realized the only way she could eliminate plastic was to learn how to make her own products. That too proved to be difficult, so Singer began researching how to do a zero-waste life, where she stumbled across Bea Johnson’s blog, the *Zero Waste Home*. After learning about Johnson’s family, Singer felt empowered that she did not have to generate trash. Because she had been studying, talking about, and even protesting for sustainability, she felt that going zero-waste would align her values with her actions.

Singer outlines a few key steps to going zero-waste. First, she stopped buying packaged food and instead started using reusable containers to store bulk, package-free items. She also began purchasing all produce from the farmer’s market. Second, she started making her own products such as toothpaste and deodorant. As each of her old products ran out, she learned how to make them herself. Third, she started shopping second-hand. Fourth, she downsized, which she described as a difficult process due to her sentimental nature. However, eventually Singer realized that she took better care of the fewer belongings that she had.

At this point, Singer recognizes that her lifestyle might not sound feasible for everyone. Singer states “All of this must sound pretty difficult, right? I assure you it’s not that hard. I am just an average, lazy person, and I wouldn’t live this lifestyle if it was difficult [6:49]” (Talks, 2015). Singer then goes on to describe the benefits of her zero-waste lifestyle, all of which, to her, outweigh the negatives. She saves money. She is not paying for packaging. Shopping second-hand is cheaper than purchasing new clothing and she doesn’t impulse buy anymore. She also eats better because she cannot buy package-free processed foods. Instead, she eats bulk grains and fresh fruits, vegetables, and nuts. This change in diet has allowed her to sleep less, as she now has more energy, and her weight has also stabilized. She is also happy because “for the first time in [her] life, [she] is living in direct alignment with [her] values” [8:09]” (Talks, 2015).

Singer provides three simple steps to reduce the trash you produce. First, you must understand what trash you generate. For Singer, the main types of trash she produced were food packaging, product packaging, and organic food waste. Through identifying and eliminating these three sources of trash, Singer was able to reduce her waste by about 90%. Second, she suggests enacting small changes that will eventually have a greater impact, such as using reusable totes and water bottles. Third, you can learn to make products yourself, which Singer likes because it allows her to control what she puts in or on her body.

After college, Singer was working in the sustainability field while running her blog, *Trash is for Tossers*, and she kept on receiving similar messages: people *wanted* to go zero-waste, they just did not have the time. She saw this as an opportunity. Singer quit her job and began The Simply Co., and organic cleaning product company. Singer ends her talk by reassuring people that she is not doing this for attention. She states, “I live this lifestyle for myself. I would never tell anyone how to live, or how much trash that they should produce

[12:49]" (Talks, 2015). Rather, she is aiming to provide tools for those who are wanting to reduce their trash production. Singer concludes that although she is only one person, she wants to be remembered for what she has done, rather than the trash she produced.

Positioning Johnson's and Singer's TEDx Talks within Existing Literature

Johnson's and Singer's talks provide a glimpse into how going zero-waste is spoken about in popular media, and the overall narrative argument of their talks aligns with other people who identify as trying to live sustainable lives. A small study done by Evans & Abrahamse (2009) in London, England found that people who identified as attempting to live sustainable lifestyles felt that their initial decision to make a lifestyle change led to changes in other arenas, and that living sustainably led to benefits related to health, frugality, and ethics. Pedersen's (2017) study of online zero-waste communities in Denmark found that these groups had interest in the related themes of environment, education and self-education, climate, consumerism, conscious choices, community, and social media, many of which are themes brought up by Johnson and Singer. A subsequent study by Spiteri (2021) found seven themes related to zero-waste activities in daily life: avoiding environmental hazards, buying behavior, dealing with social context, dealing with zero-waste misconceptions, household and personal care, waste hierarchy, and zero-waste swaps, many of which were also themes brought up by Johnson and Singer.

While the zero-waste lifestyle does have its positives, the rigidity of this lifestyle begs the question: where is the room for a bit of happiness and frivolity? Should everyone have to refuse their children a Paw Patrol themed birthday party or insist that they cannot bring home their art projects? How does one create a zero-waste Halloween costume or, God forbid, have a zero-

waste wedding? As noted by Evans & Abrahamse (2009), sustainable lifestyles "are far more complex than the rhetoric would have it…any attempt to motivate their uptake on a wider scale needs to understand the many facets, tensions and difficulties associated with 'real world' attempts to live one" (p. 500). Here, I explore such facets, tensions, and difficulties through our piloting of SenseMaker during our CAP project in Miami, Florida.

CHAPTER 3

METHODS

Using SenseMaker

SenseMaker is an appropriate research tool for the CIL because it can be used in a variety of different social and cultural contexts. It is available as an internet application, and if participants do not have access to Wi-Fi, the surveys can be printed, filled out by hand, and then returned to our partner organizations who will then upload the data to SenseMaker's servers. If an informant does not read or write, they can verbally do a SenseMaker survey while our field partners type up and fill out the survey for them. SenseMaker's program allows our informants to be anonymous so that no one is at risk of threatened livelihood by providing their stories for analysis, and it reduces researcher interpretation bias as participants code their own narratives (Bartels et al., 2019). SenseMaker's framework also decreases social desirability bias because potential responses are all positive, negative, or neutral, with "no one response being obviously more socially acceptable or more desirable" (Bartels et al. 2019, p. 2). To date, SenseMaker has been applied in a variety of different studies, including the perceptions of child marriage among refugee populations, experiences of gender-based violence, and stakeholder perceptions in conservation landscapes (Bakhache et al., 2017; Bartels et al., 2019; Omoding et al., 2020).

Going into the data collection period, we were hoping to receive responses from at least 20-30 people. Although only a pilot study, we had 49 participants who consented to and answered the SenseMaker survey. While we exceeded expectations in terms of participation, our sample size of 49 people was not representative of Miami's overall population, which I will

discuss in the results section of this thesis. Most participants were from the city of Miami, although we also had participants from Miami-Dade County and elsewhere in the surrounding area. The survey was distributed in both Spanish and English to encourage engagement from a variety of communities within Miami, and all surveys were taken anonymously. Participants began by sharing a story. Our open-ended prompt asked:

Think back to a time when you did not or could not buy an alternative to single-use plastic. Tell us about your experience. What happened?

Here is an example of a story shared by one participant:

"I used to buy water bottles for my dad, and felt bad every time. Eventually, I got him to use a filter connected to the home faucet. But, between the time we decided on the filter and it was implemented, there were many more single use water bottles. If the faucet filters and pitchers were sold next to the water bottles, the decision and change would have likely come much sooner."

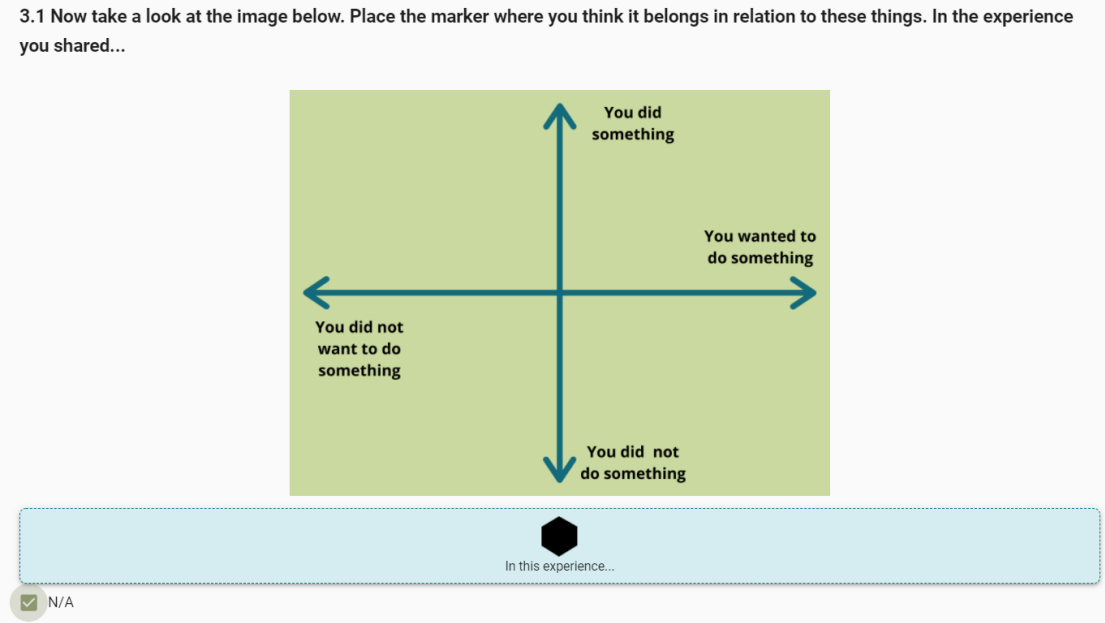
Participants then went on to characterize their story through a signification framework, a set of questions aimed at giving further nuance to the participants' story. These signification questions sought to understand how participants viewed their own story, what factors contributed to their feelings and experiences, and where they believe future engagement on issues related to plastic pollution could come from. SenseMaker aggregates and visualizes the responses of participants, allowing us to compare individual experiences and explore patterns more directly. Participants answer the signification framework questions by positioning the central marker in

relation to their own interpretation of the story they just shared, or by selecting the “NA” button. Here are three examples of what triad, dyad, and stone signification framework questions looks like to the participant.

Figure 2: Signification Framework Example (Triad 2.1)

Figure 3: Signification Framework Example (Dyad 4.1)

Figure 4: Signification Framework Example (Stone 3.1)



CHAPTER 4

RESULTS

SenseMaker Findings: Community

Our "Community" section of the CAP project aims to understand stakeholders' attitudes and perceptions, as well as what conversations are occurring. The first theme that stood out is that change, transformation, and motivation are derived from a variety of factors. Triads asking participants about driving elements of change and transformation and about their motivations in their experience were very scattered, with little clear clustering (Figure 5). Figure 6 has some loose clustering around motivation as it relates to the environment, but this is not overwhelming. This lack of a pattern suggests that ease, personal beliefs, and feelings of responsibility might all be significant factors to look at when evaluating how change and transformation interacted in participants' stories. This speaks to the diversity of motivating factors for change, and the need to appeal to each of these entities to reach different audiences in the future.

Figure 5: Triad 2.2

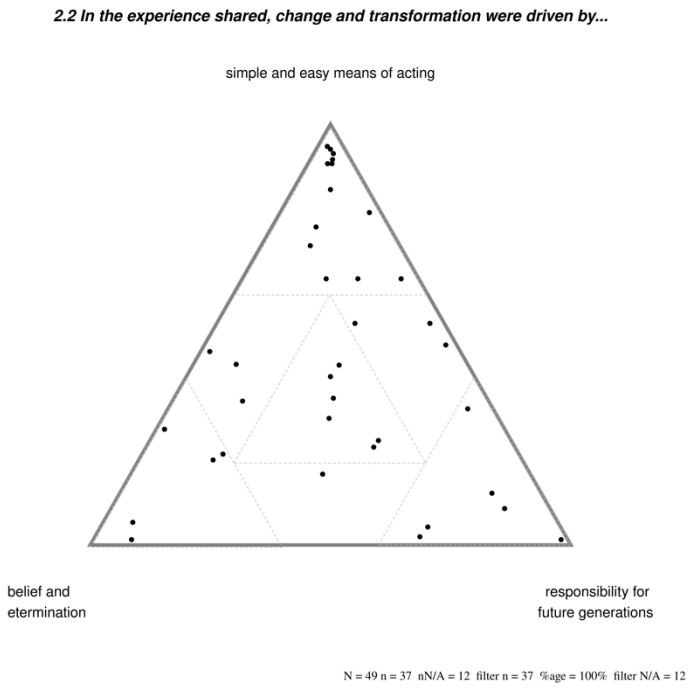


Figure 6: Triad 2.4

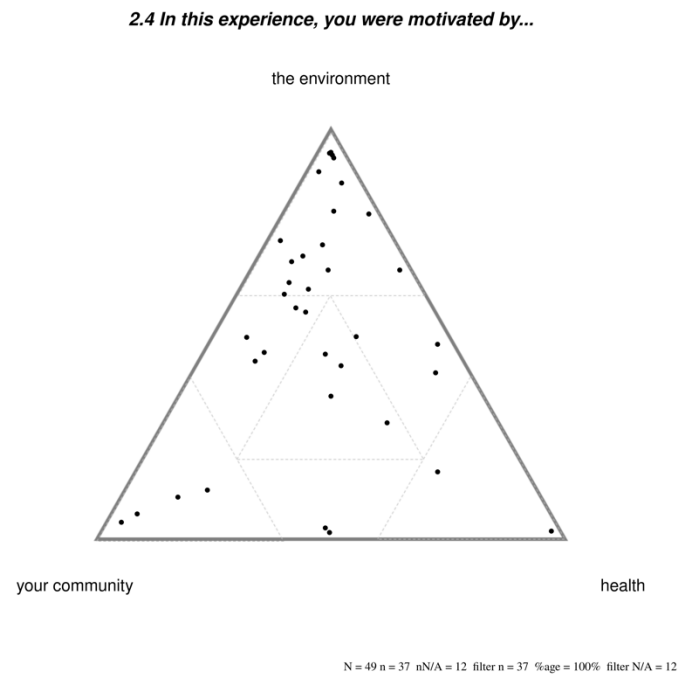
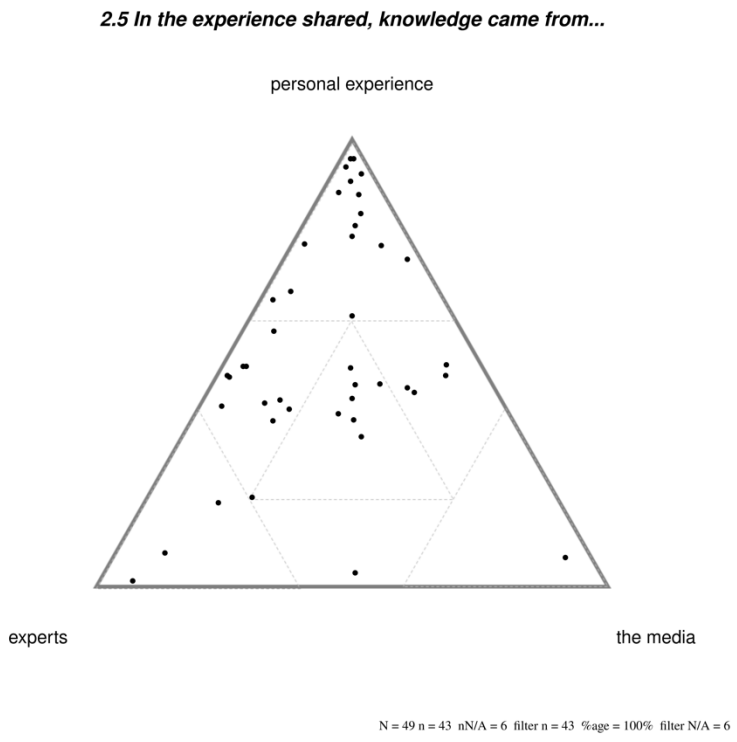


Figure 7 shows that many participants rely on personal experience for knowledge about waste management practices. This clustering indicates that perhaps people are not as willing to listen to experts or the media, or they are only willing to do so when put in conjunction with their own personal experience. Regardless, this presents opportunities for knowledge-sharing and for leveraging experts and media to provide wider education.

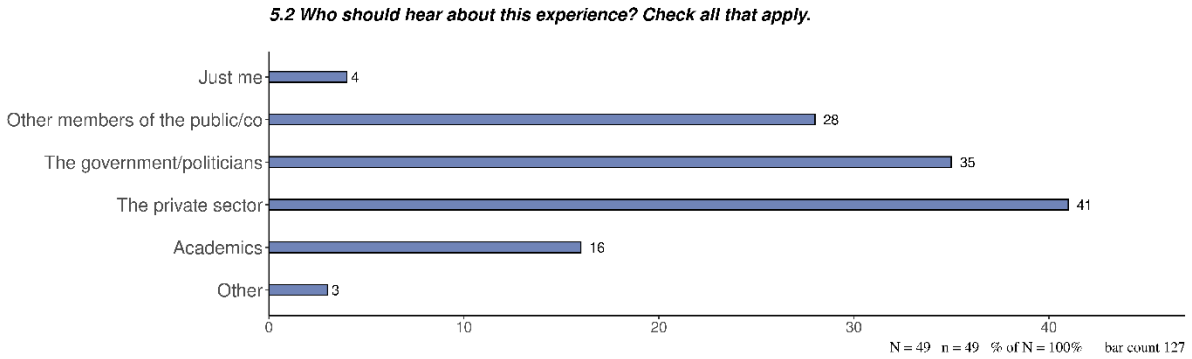
Figure 7: Triad 2.5



Participants felt that a variety of sectors should hear about their story, which indicates that our participants feel this is a public issue, rather than a personal or private one (Figure 8). Interestingly, most participants want the government to hear about their stories, even though no participants felt that responsibility in their stories came solely from government action (as shown

in Figure 9 under “Use”). This might be an indicator that people do want government involvement, but it is currently lacking.

Figure 8: MCQ 5.2



Across the signification framework questions, participants consistently noted that they were motivated by the environment, yet their ability to make choices that align with this motivation varied due to limitations on what they could do in the moment. Oftentimes these stories featured people making a decision in the short-term and having to sacrifice what those actions meant in the long-term. Some examples of these stories are shared below:

“I did not have a reusable water bottle with me, they were not being sold anywhere near me nor was there a water fountain nearby, and I was really thirsty after eating a meal. So, I bought a single use plastic water bottle.”

“In order to save money on fresh produce at my local grocery store, I have to buy produce that is in a plastic bag rather than without a plastic bag. Sometimes when I have to buy more

expensive items at the store, I have to buy plastic wrapped produce to save money for my grocery budget."

"I went to the grocery store and forgot my reusable bags. I had too many items to carry, they did not provide paper bags, and I did not want to buy several reusables when I already have many."

"I went to Barnes and Noble and asked the cashier if they had reusable bags and he said that they did not have store brand bags that usually cost $1-$2. The only reusable bags they had came from a different company that cost $15-$20 per bag. I wish I could've just carried all of the books out without a bag but I had purchased a lot of books and it was raining outside. I had to take the plastic bag however I kept it to reuse it for the future."

While on a road trip from New Jersey to Miami I made multiple stops for gas and snacks. While at each stop there were no other options for beverages so I was only able to purchase single use plastics for drinks."

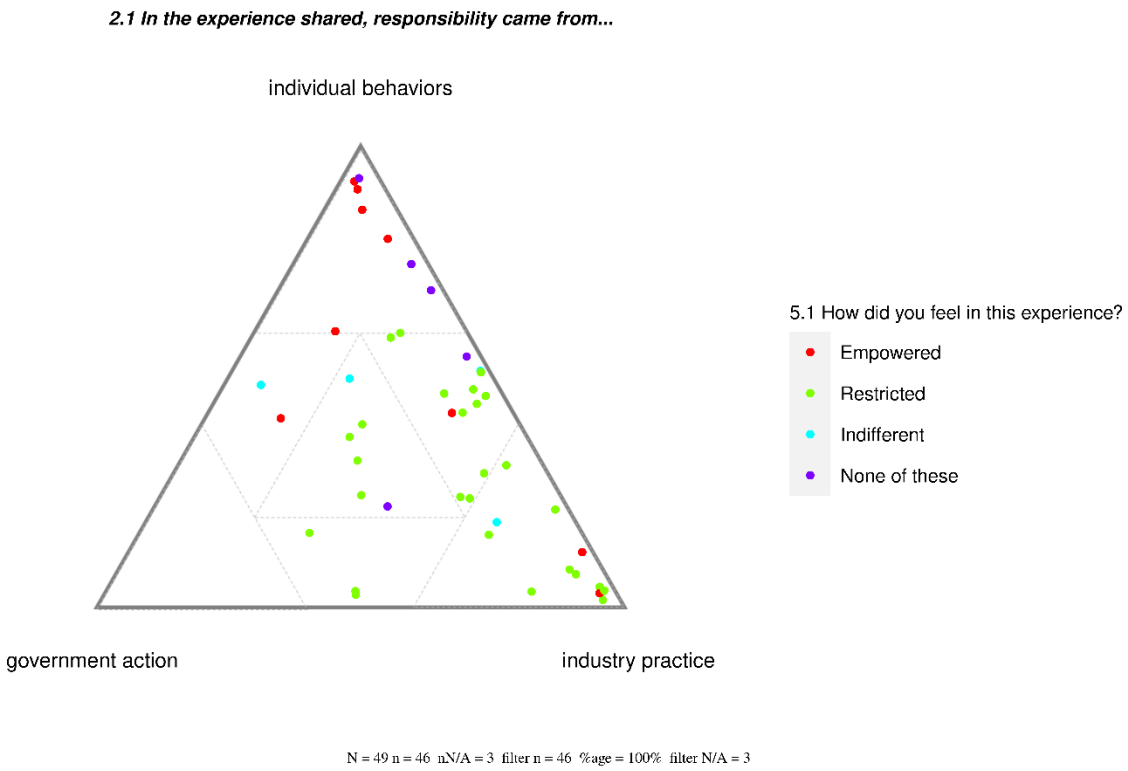
"I'm a veterinarian and all my single use syringes come in some form of plastic packaging. Every time I open one I get a small twinge of guilt thinking there goes more plastic trash into the environment. And the city no longer picks up recycling from businesses. I don't want my grandson buried in a world of polypropylene. I'm old enough to remember reusable sterilizable glass syringes."

"I was at a concert at the Fillmore Miami Beach and was not allowed to bring a water bottle, so I had to purchase one."

SenseMaker Findings: Use

The "Use" portion of CAP examines community trends around use and reuse of product types. One of the primary themes across the SenseMaker stories was a strong correlation between concepts of empowerment and individual action. There was also a strong correlation between restriction and industry practice (Figure 9). Participants who felt empowered (red dots) in the experience they shared tended to believe that responsibility came from individual behaviors, while those who felt restricted (green dots) in their experience felt that responsibility came from industry practice.

Figure 9: MCQ 5.1 compared with Triad 2.1



Here are examples of narratives provided by those who felt empowerment and believed responsibility came from individual behavior:

"I stopped buying liquid detergent about 1 year ago and at first used powdered detergent in a cardboard box but have since changed to using detergent sheets that come in paper wrapping. The detergent sheets are great, but I can't buy them at the stores I go to. I have them shipped to my house...so easy to use and no plastic waste!"

"I remember when I was a child, and you could only buy glass soda bottles. You could return the glass bottles and get money for them. I think it was maybe one cent per bottle. When we wanted

candy we would collect the glass bottles and turn them in for money. In those days, the early 60's, a candy bar was about five cents."

Here are examples of those who felt restricted and felt like responsibility came from industry practice:

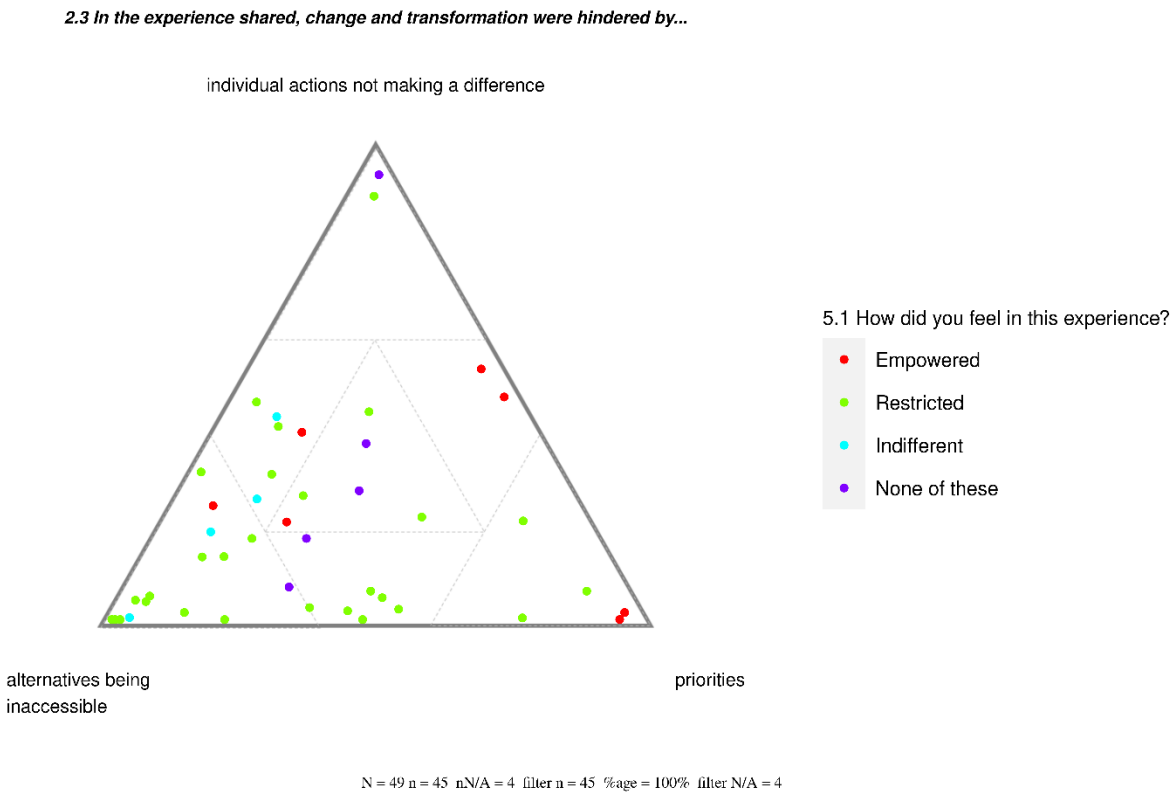
"I often shop at local grocery stores like Kroger/Trader Joes. I do my best to reduce my plastic waste by bringing my own reusable produce bags, but depending on the item, sometimes I am forced to buy something that is packaged with plastic. Other times, I will be trying to select between several different items, most of which contain plastic. In my experience I have found that the items without plastic tend to be the most expensive and are mostly out of my budget. Although I do my best to reduce plastic use, sometimes financial reasons prevent me from doing so."

"I went to the Dunkin Donuts on US 1 and 27th Ave and brought my reusable cup (this was before the pandemic). They kindly accepted my cup, but when I received the drink at the pick-up station, they had put my iced coffee in a plastic cup and put the plastic cup within my reusable cup. When I mentioned that I was using my reusable to avoid single-use plastic waste, they apologized and got back to work -- they were quite busy."

Most participants who felt restricted also reported that change and transformation were hindered by alternatives being inaccessible (Figure 10). People who felt empowered in their stories may have had more access to alternatives, reflecting their perception that responsibility

came from individual behaviors. Only two participants indicated that change was hindered by individual actions not making a difference, meaning most participants believed their individual actions matter in this regard.

Figure 10: MCQ 5.1 compared with Triad 2.3

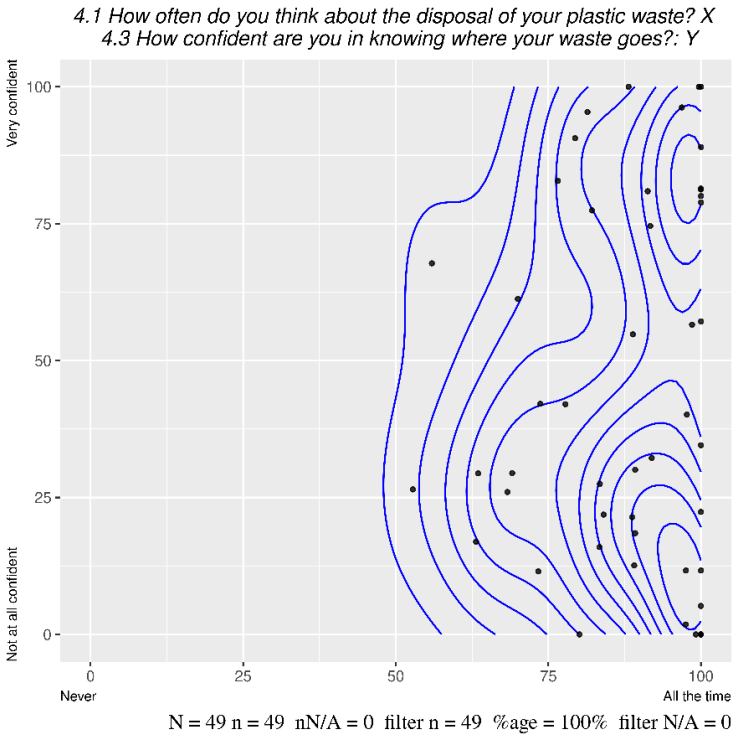


These findings suggest that while there is a lot of interest in plastic waste, good intentions tended to be limited by a lack of access to material resources, including the accessibility of alternatives.

SenseMaker Findings: Collection

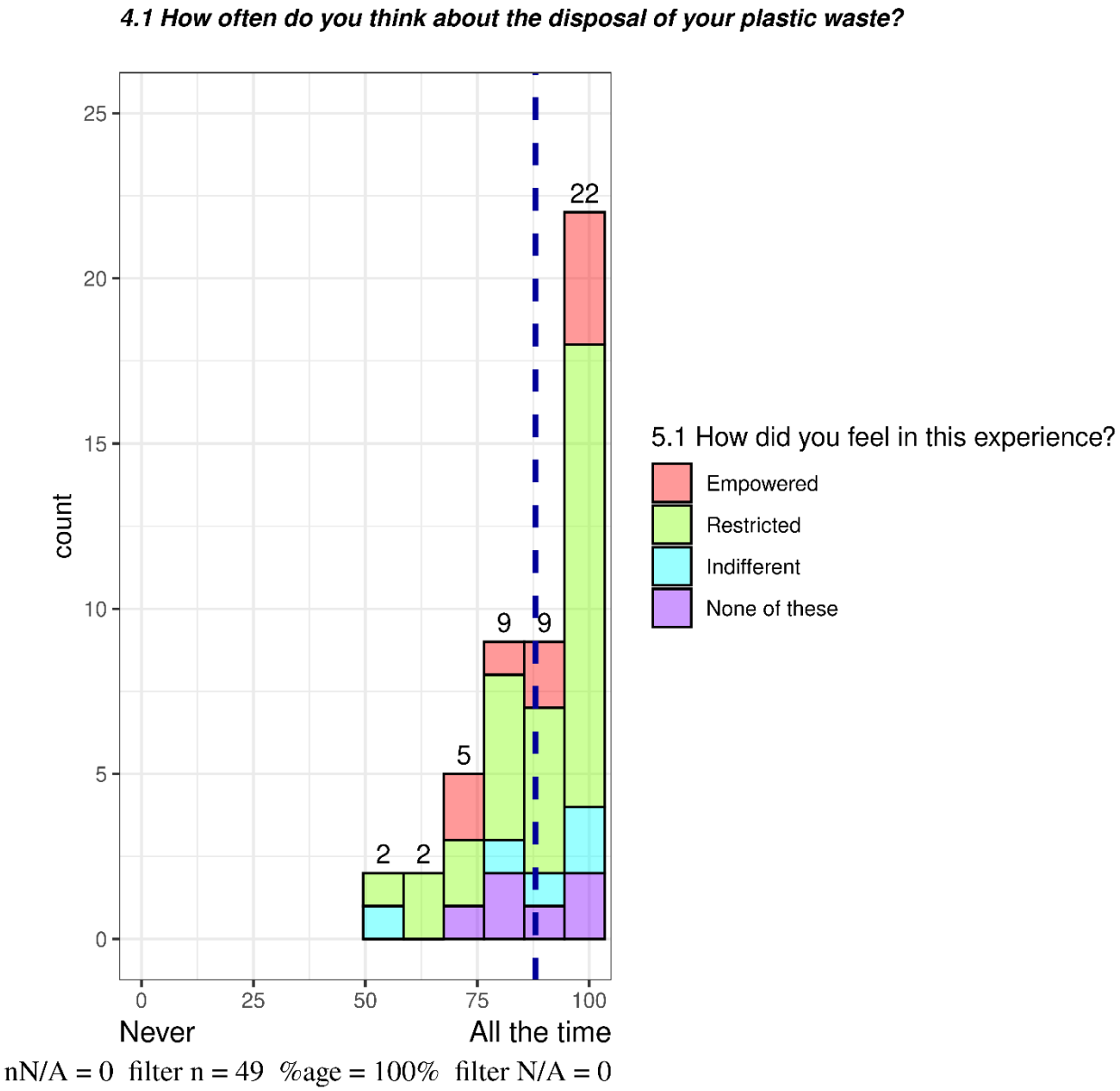
The “Collection” portion of our CAP report seeks to understand how much waste is generated, what types of waste are generated, how much waste is collected, and what current infrastructure exists. We found that participants are regularly thinking about the disposal of their plastic waste yet there are disparate levels of confidence in knowing where the waste ultimately goes. People who reported thinking about the disposal of waste all the time tend to either be very confident about where their waste goes or are not at all confident about where their waste goes, as shown by the two clusters of points on the bottom right corner and the top right corners of Figure 11. This trend may be driven by lack of trust in recycling and waste management systems. It might also stem from participants not being confident in their own knowledge or being confused by the mixture of knowledge provided though personal experience, experts, and the media, as shown previously in Figure 7.

Figure 11: Dyad 4.1 compared with Dyad 4.3



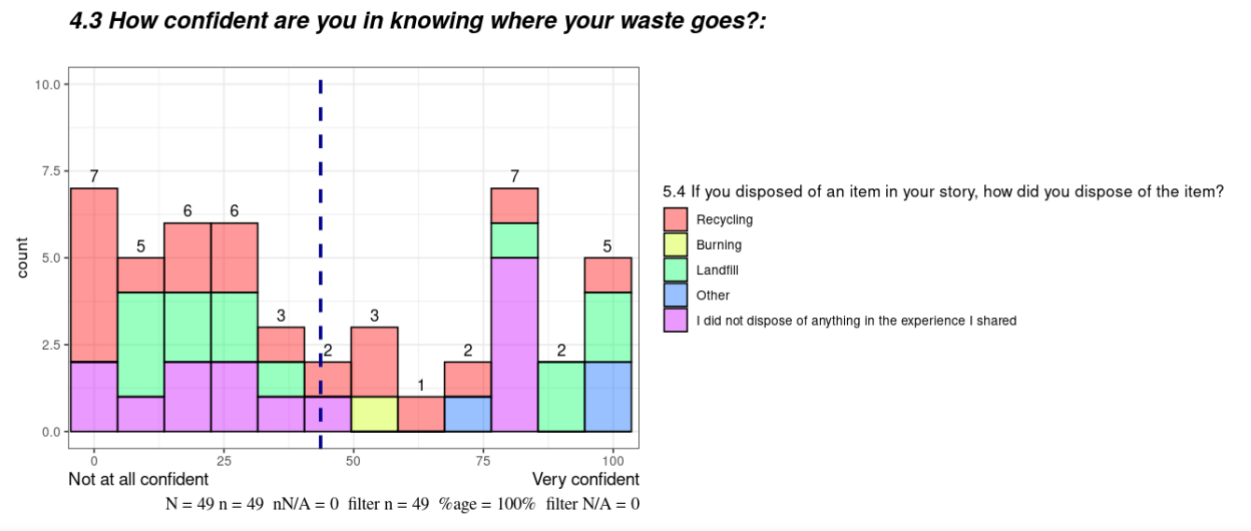
People who are regularly thinking about disposing of their plastic waste tend to feel restricted in their own stories (Figure 12). This indicates that there is a strong interest in plastic waste, yet the tangible resources needed to take action are lacking.

Figure 12: MCQ 5.1 compared with Dyad 4.1



In the MCQ where participants were asked how they disposed of items in their stories, recycling was chosen as the most common choice. The wide spectrum of confidence in where waste goes indicates high levels of uncertainty among the sample population, especially among participants who recycled an item in their story (Figure 13).

Figure 13: MCQ 5.4 compared with Dyad 4.3



These findings suggest that even among groups where awareness is high, uncertainty about the fate of waste and correct disposal practices is significant.

CHAPTER 5

DISCUSSION

While Johnson and Singer framed their decision to go zero-waste as a personal endeavor, our SenseMaker data suggest that participants felt a variety of entities should hear about their experiences with accessing alternatives, including other community members, government officials, the private sector, academics, and others (Figure 8). This trend indicates that contrary to what Johnson and Singer proclaim, the ability to enact behavior related to zero-waste practices is a public issue, rather than a private one. Johnson and Singer both mentioned that going zero-waste gave them the personal feeling of empowerment due to the alignment of their actions with their morals. These claims are reinforced in other studies related to sustainable lifestyles (Evans & Abrahamse, 2009). Our results indicate that for some of our participants, there is a strong association between feelings of empowerment and feeling that responsibility comes from individual action, reinforcing Johnson's and Singer's overall narrative arguments. Conversely, our data show that feelings of restriction largely stem from a lack of accessibility to alternatives, which is a lived reality largely left out of mainstream zero-waste discourse. Themes related to how individual choice is constrained by broader systems and structures has been the subject of many critiques of neoliberalism and have already been addressed by previous scholars such as Rothstein (2017).

To better understand this individual versus system divide exists within zero-waste discourse, I situate zero-wasters within lifestyle movement and social movement theory as articulated by Giddens (1991), Spaargaren & Van Vliet (2000), Haenfler et al. (2012), and

others. Through recognizing the zero-waste lifestyle movement as a legitimate social movement, we can begin interrogating *who* has access to this movement, as well as how silences in zero-waste discourse reinscribe harm and inequality. The lack of discussion about privilege and resource accessibility within zero-waste discourse can be linked to Thompson's (1971), Palomera and Vetta's (2016), and Booth's (1993) scholarship on the moral economy. Through ignoring how the ability to transition to a zero-waste life is rooted in privileges and access to resources, Johnson and Singer effectively create an informal economy of morality that praises those with more resources while demonizing those with fewer resources.

Zero-Waste as a Conscious Consumer Lifestyle

Both Johnson and Singer frame their participation in zero-waste activities as a "lifestyle," where one pivotal decision changes the way you live, interact, and identify in and with the world. Giddens (1991) defines a lifestyle as the "integrated set of practices which an individual embraces, not only because such practices fulfill utilitarian needs, but because they give material form to a particular narrative of self-identity" (p. 81). A lifestyle then, is not only a descriptive term that refers to a set of certain actions taken, but it also portrays one's personal identity, a "narrative of the self" (Spaargaren & Van Vliet, 2000, p. 55). This narrative of the self allows one to identify with their desired group while also disidentifying from the undesired other (Haenfler et al., 2012). Even if a lifestyle movement does not have a strong collective identity, participants create an "imagined community" comprised of others who they see acting out the lifestyle in a similar fashion (Haenfler et al., 2012). The invocation of the term "lifestyle" both unifies people's actions under certain ideals or goals while also providing a sense of identity, community, and belonging.

The degree of social coherence offered through a lifestyle allows one to maintain their credibility via the incorporation of specific actions (Spaargaren & Van Vliet, 2000). Lifestyle movements promote individual, private action over long periods of time, while adherents view their actions as a broader move toward social change (Haenfler et al., 2012). Lifestyle movements have cohesiveness without being centrally organized, and they tend to target cultural attitudes and actions as opposed to institutions and the state (Haenfler et al., 2012). Haenfler et al. (2012) describe the "scholarly blind spot" that lifestyle movements represent: scholars tend to write off lifestyle movements as self-centered, individualistic endeavors, while social movements are hailed as the more legitimate vehicle for social change. Snow (2005), however, argues that social movements should be more broadly articulated as challenges to power structures, even if less political in nature, which can also affect change at the individual level instead of just on an institutional level. Further, as argued by Lorenzen (2012), a pragmatic view of lifestyle change can be understood as a "deliberate process undertaken in response to a problem left under addressed by current policies and practices" (p. 94). Lifestyle change, although difficult to enact without help from more powerful institutions, is a direct response to a lack of action from those same institutions.

Spiteri (2021) explicitly relates zero-waste living to a lifestyle movement, arguing that the zero-waste life can be characterized as a branch of already existing climate change social movements that promote alternative lifestyles and individualized, collective action. The zero-waste lifestyle is certainly intertwined with everyday habits and consumption, while adherents participate in personal, recurring actions that encompass daily live (Spiteri, 2021). However, Spiteri's articulation of the zero-waste lifestyle does not delve deeply into how this lifestyle is related to consumption, or a dramatic change in or lack thereof. Building on the work of Pierre

Bourdieu, Featherstone (1991) argues that a lifestyle "can best be understood in relation to the habitus of the new 'petite bourgeoisie' as an expanding class which seeks to preserve and legitimize its own particular dispositions and lifestyle" (p.84). These "petite bourgeoisie" groups establish themselves as cultural brokers who both "estheticize" products and popularize them, enabling more consumers to access these "high culture" commodities (Spaargaren & Van Vliet, 2000). The zero-waste lifestyle does encourage "high culture commodities," part of an ever-increasing array of expensive "zero-waste" alternatives to single-use products peddled by the likes of Johnson and Singer. However, the argument could also be made that democratizing all that goes into a zero-waste lifestyle via Instagram, blogs, and other social media platforms allows more people to access the "high culture commodity" of zero-waste related knowledge and resources which they would otherwise not be able to access. In this respect, the zero-waste movement is both a lifestyle and a product: influencers package and sell their lifestyle and subsequent zero-waste products that reinforce that lifestyle. Yet this is not inherently negative as zero-waste knowledge and products must increasingly become accessible to everyone if we are to move toward a circular economy and an aspirational zero-waste future.

Douglas and Isherwood (1979) argue that goods and services are used not only for utilitarian purposes, but also so that people can symbolically relate themselves to others. Identification with the zero-waste lifestyle, then, can also be tied to consumption patterns. Within the context of climate change and growing environmental concern, rational action is not just based on economic factors; rational consumers are now equally concerned with mitigating environmental risk (Spaargaren & Van Vliet, 2000.) A socially conscious consumer might therefore aspire to mitigate environmental risk via consumption. Webster (1975) defines the socially conscious consumer as one who considers how their private consumption influences the

public sphere or who tries to inspire social change with their purchasing power. The market allows socially conscious shoppers to “manifest their prosocial concerns through private shopping choices”, and since everyday people have little say in the production and distribution of products, the only way left to spur change in the consumer market is through purchasing power (Atkinson, 2012, p. 194).

Although some scholars view social responsibility and consumerism as antagonistic entities, a growing number of scholars feel that merging political values with consumption can have the positive outcomes of prompting collective solidarity and personal empowerment while also providing an easy way for consumers to perform civic obligations (Bennett, 1998; Giddens, 1991; Norris, 2002, 2007). Most recently, Atkinson (2012) found that the act of being a socially conscious consumer provided private benefits of authenticity, social embeddedness, empowerment, and self-actualization. Conscious consumerism is also related to being an altruistic citizen and neighbor. While citizenship used to be predominantly expressed through voting and other forms of electoral engagement, it is now being increasingly performed through individualized means of direct action, with less of a focus on governmental institutions (Dalton, 2008; Norris, 2002). Through this lens, the zero-waste lifestyle is in fact a lifestyle that encourages others to live in a more personally sustainable way, inspiring a widescale change through collective, individualized action. Zero-wasters are acting rationally under the given circumstances of impending environmental doom, and they function as individuals who identify as part of a larger community of like-minded, conscious consumer citizens with the articulated and explicit goal of producing zero-waste.

Who Can Participate in the Zero-Waste Lifestyle?

When pondering how availability of material resources might influence one's ability to go zero-waste, initial questions that arise are as follows: who has access to a backyard space in which to compost (Fab Socialism, 2020)? Who can use their own bags and storage containers in bulk grocery stores without having to fear that they might be accused of shop lifting? Who has the time to make their own household products? What neighborhoods are bulk stores and zero-waste stores located in? While the zero-waste endeavor stems from good intentions, there are many contradictions in Johnson's and Singers talks that are not grounded in the realities of everyday people, including the assertions that everyone has access to fresh fruits and vegetables not wrapped in plastic, easy access to farmer's markets, and the resources necessary to purchase from bulk stores. Here, I turn to literature about the availability of such alternatives.

Studies have shown that one of the most salient barriers to fruit and vegetable consumption, particularly among low-income populations, is cost (Reicks et al., 1994, Leone et al., 2012). Local and national studies in the U.S. indicate that rural, low-income, and minority neighborhoods are disproportionately affected by a lack of access to healthful food and supermarkets (Larson et al., 2009). Even after adjusting for class, neighborhoods with a majority Black population are more than twice as likely to be resource deserts (lacking grocery stores, parks, and pharmacies) and are almost three times more likely to have more severe, overlapping resource scarcity when compared to other neighborhoods (Satcher, 2022). Those who live in food deserts are 23% less likely to eat the recommended daily amount of fruits and vegetables when compared to those who have consistent access to affordable fruits and vegetables (Shipp et al., 2020). It is evident that opting to buy fresh fruits and vegetables is a choice not afforded to already marginalized groups.

Farmers markets are also spaces of inequality. Farmers markets offer a way for community members to access fresh fruits and vegetables, yet they might be more inaccessible to low-income patrons (Tropp & Barham, 2008). In fact, as of 2014, almost 75% of the farmers markets in the United States were not outfitted to accept EBT, the primary electronic transfer system that enables low-income people on nutritional assistance programs, such as SNAP and WIC, to pay for food (Hasin & Smith, 2014). Leone et al. (2012) found the most frequently cited barriers to shopping at farmers markets among low-income people in North Carolina who did not frequent the farmers market in the past year included not being able to use WIC or EBT and not knowing about local farmers markets. The commonly mentioned enabling factors included being able to use WIC or EBT, having transportation, and having information about when the farmers market was open and operating (Leone et al., 2012). Another study in North Carolina by McGuirt et al. (2014) concluded that their low-income participants were more likely to frequent farmers markets if the markets were close to their residence and if they saved money. These findings were mirrored in Virginia. Misyak et al. (2014) found that barriers to shopping at the farmers market among people who were on family nutrition assistance programs included food pricing, lack of transportation, hours of operation, and location and convenience. Similar findings were reinforced in later studies (Jilcott Pitts et al., 2015, Jilcott Pitts et al., 2016, Lawrence, et al., 2017). Other studies have found that in many areas farmers markets are more inaccessible to low-income people due to a variety of reasons and overlapping factors (Hasin & Smith, 2014; Leone et al. 2012; Lucan et al., 2015; Tropp & Barham, 2008). Aside from physical and financial accessibility, farmers markets also tend to be highly racialized and classed spaces (Lambert-Pennington & Hicks, 2016; Metz & Scherer, 2022). Knowing this, broad claims that portray the farmers market as an easy to access place for everyone are equally problematic to

reinforce, as it overlooks that fresh fruit and vegetable access as well as access to farmers' market spaces is spotty at best and systemically unequal at worst.

Literature regarding poor peoples' purchasing abilities originated with Oscar Lewis' conceptualization of the "culture of poverty" (1961; 1965). Lewis argued that poor people use various strategies to cope with their poverty (Kurtz, 2014), some of which include shopping for food daily and not purchasing items in bulk (Bernard, 2018), resulting in a lack of future orientation. Although Lewis staunchly believed that poverty was a direct result of capitalism (Kurtz, 2014), Valentine, (1969) and others chastised Lewis for what they perceived as his attempts to victim-blame the poor. As Bernard (2018) notes, this tendency to view poverty as being *caused* by a lack of orientation toward the future is not uncommon, as this is often used to justify developmentalist "education" programs and projects, many of which are ineffective and replicate harmful power structures. However, Lewis' recognition that poverty fostered certain behaviors was nonetheless important to the fields of anthropology and poverty studies. Now, a more appropriate, less-controversial term that references similar concerns is "poverty penalty," which refers to the "relatively higher cost shouldered by the poor, when compared to the non-poor, in their participation in certain markets" (Mendoza, 2011, p.1). The "poverty penalty" can be applied to bulk shopping. Griffith et al. (2009) and Kunreuther (1973) hypothesized that low-income households might be prevented from purchasing bulk items due to financial constraints. A recent study empirically tested this hypothesis, finding that low-income households are less likely to be able to purchase items in bulk and are subsequently unable to extend the life of these purchases long enough to take advantage of sales (Orhun & Palazzolo, 2019). Utilizing toilet paper purchasing data, Orhun & Palazzolo (2019) found that low-income people usually try to save money by purchasing cheaper brands, yet potential savings are lost because low-income

households purchase smaller quantities at a higher unit price. Although this study on bulk toilet paper cannot be directly applied to zero-waste narratives because used toilet paper is waste, it is still one of the few studies that explicitly focuses on how the pricing of bulk items results in those items only being available to those who are more financially well off.

"Laziness" and Choice Rhetoric

While the zero-waste lifestyle provides a tangible way for people to feel empowered to enact change in their daily lives, the lack of conversation about who has access to this type of lifestyle and the framing of it being a personal choice or decision reinforces the idea that those who do not make the right "decision" to change are less than, lazy, or immoral. This is reflected in a comment made by Singer, where she assures audience members that the zero-waste lifestyle is not difficult because she is just an "average lazy person [6:49]" (Talks, 2015). The implication of this comment is that if Singer can become a zero-waster, then any other person, lazy or not, can do the same. Any failure to adopt a zero-waste lifestyle is therefore because you must be even lazier than Singer. Here, Singer invokes the notion of a "lazy person" to show that lazy people can become a part of the movement, yet not the ones who are too "lazy" to try. Similarly, Johnson makes sure to distance herself from what she perceives to be the undesirable other: "boondock" zero-wasters who are presumably zero-wasters because of their economic conditions and backwardness. Johnson made jokes distancing herself from perceived "boondock" zero-wasters during her TEDx Talk, and she has continued using them as a punchline in 2022. The homepage of her website states:

> "Think waste-free living is depriving, time consuming, costly, or reserved for hermits living in the boondocks? Think again! With a blog turned bestselling book and talks

throughout the world, Bea Johnson and her family have debunked those misconceptions and inspired a global movement. Join them and hundreds of thousands of others in enjoying a richer life based on experiences instead of stuff!" (Johnson, 2022).

This form of distancing reinforces the lifestyle movement tendency of identifying with while simultaneously de-identifying from the other, as mentioned by Haenfler et al. (2012). Yet these ideas of laziness and distancing from "boondock" people conflicts with the implicit argument that the zero-waste life is feasible, doable, and accessible for everyone. Our findings from SenseMaker reveal that participants who felt restricted in their stories also tended to believe that change was limited by the inaccessibility of alternatives (Figure 10), a phenomenon not considered or mentioned by Johnson or Singer. Further, our results show that those who cannot participate in the zero-waste related practice of using alternatives are anything but lazy. Participants who felt restricted in their stories tended to want to make a change, yet their inability to access alternatives prevented that change and undoubtedly reinforced their feelings of restriction. To understand how the overlapping zero-waste themes of individual decisions and consumer choice interact, I turn to literature on the moral economy.

The Moral Economy

The moral economy, a concept originally coined by E.P. Thompson (1971), is an economy that is deeply tied to the values of any given culture. Palomera and Vetta (2016, p. 414) refer to the moral economy as the intertwining of cultural norms and practices, which can, "reproduce or strengthen patterns of capital accumulation that regulate social structure, but they can also alter and even short-circuit them." This definition of the moral economy encompasses a variety of moral economies throughout history. Yet as Booth (1994) notes, all economies are

moral economies, because economics cannot be separated from social arrangements and institutions. The current moral economy in which we live was birthed with the introduction of capitalism and was galvanized by industrialization and globalization. In fact, the emergence of industrial capitalism, "created new moral problems…This was not so much to separate morality and economics, as to adopt a particular type of morality in the interests in a particular type of economy" (Thompson, 1991, p. 271), and therefore in the interests of a certain class of people (Palomera and Vetta, 2016). In the United States, capitalism, individualism, and the perception of "equality" intertwine to portray poverty as a moral failure. The U.S.'s capitalist-informed moral economy concludes that if everyone tries hard enough, believes in themselves, and believes in the ever-so-American "pull yourself up by your bootstraps" mentality, then perhaps people will not be subject to a life of hardship, but rather a life of white picket fences and success. The U.S.'s value of assumed equality is predicated on the notion that everyone experiences the world in the same way, and everyone has equal access to resources to succeed.

In Donath's (2000) argument for a distinctly feminist economics, she describes the "other economy" as the unrecognized and unpaid labor that women perform when they care for children and elders. Building on the notion of the moral economy, the other economy exists simultaneously in plain sight and in the periphery of public imagination, yet the other economy is distinct in that it concerns itself with work traditionally performed by women. As noted by Donath, the other economy is "concerned with the production and maintenance of human beings…as an end in itself, not a means to producing commodities" (2000, p. 116). The other economy is centered on the production of people, who are subsequently enculturated into the U.S.'s individualist, capitalist moral economy. While Donath briefly mentions how class and immigration status might make one's experience of the other economy more burdensome, she

fails to mention how race and nationality might influence one's navigation of the other economy, or how all these positionalities could intersect. Within the other economy, there are other economies based on varying and intersecting identities. These established hierarchies, which remain invisible or unnoticed by mainstream zero-wasters, only serve to reinforce how morality, specifically in the age of climate change, is linked to the individualized "choice" to go zero-waste.

Limitations of SenseMaker Study

Although our use of SenseMaker in the Miami CAP project was intended to be a pilot, there are obvious limitations. Going into the data collection period, we were hoping to receive responses from at least 20-30 people. While we exceeded expectations in terms of participation, our sample size of 49 people was not representative of Miami's overall population. Because we distributed the survey through networks established by our community partners, we might have had a disproportionate number of participants who regularly think about plastic, skewing the overall results. Additionally, while we sent out the survey with the option of taking it in English or Spanish, only one of the 49 participants opted to take the survey in Spanish. This discrepancy indicates that we could have gone through different social networks to encourage survey participation among Spanish-speakers, or that perhaps a survey might not be the best means of collecting data about Spanish-speaking peoples' perceptions of plastic in Miami.

For Triads 2.2 and 2.4, 24.5% of participants answered "NA". This indicates that either the participants felt that the specific factors listed did not translate well to their story, they were confused by the question and/or subsequent factors given, or they felt the question itself was generally not applicable to their story. If there is a high ratio of participants who answer "NA" to

these Triad questions in the future, we will reevaluate if these questions need to be changed, clarified, or taken out completely.

Limitations of using SenseMaker in International CAP Contexts

CAP has always included semi-structured interviews with local stakeholders in the plastic supply chain, such as restaurant and shop owners, hotel workers, recycling collectors, waste pickers, NGOs, government employees, and academics. The outbreak of COVID-19 facilitated the need to reorient CAP, and SenseMaker is a valuable tool to add to the CAP repertoire specifically during the pandemic, due to its primary online function. While remotely training community partners during the pandemic presented challenges, it also provided new opportunities for collaboration. Some positive aspects of remote collaboration included the obvious environmental benefit that we did not have to fly a whole research team across the world multiple times to multiple cities. Data collection could be carried out directly by our partners who already were a part of the community, which minimized researcher bias. Further, training community partners minimized the colonial Northern researcher/Southern subject divide: locals conduct data collection, train others on how to do the same, and are able to repeat those same methods to generate new data after the CAP baseline is established. However, like any research project, there are drawbacks and complications. On a practical level, Wi-Fi is not always readily available to interviewees in our partner countries. While our in-country partners had Wi-Fi to conduct and transcribe interviews, in-person qualitative data collection was rightfully limited to the comfort levels of local people wanting to interact during a global pandemic. While we did use surveys for certain community stakeholders, the use of surveys is limited to people who can read and write, which could have potentially narrowed our informant pool. Additionally, it is

difficult to remotely train people on how to conduct qualitative data interviews; this is a skill that develops over time, and it is often easier to develop this skill in-person. As a result, much of the qualitative data that was submitted to us from field sites varied significantly in terms of overall quantity of content.

On an epistemological level, relying on remote training and collaboration is not as effective as collecting qualitative data in person, as online and digital platforms tend to separate conversations from the social context in which they originate, which compliments rather than substitutes for in-person interaction (DeHart 2020). Additionally, concepts such as the politics of translation and the politics of knowledge can easily be applied to our current qualitative data coding process. The Jambeck Research Group is based out of the United States, and most of our funding sources are based in the Global North. Thus, English is the main language in which methods are conceived of and subsequent data is assessed. The politics of translation reinforce power dynamics between the Global North and the Global South, and as Anzaldúa (1990) notes, speaking and using English forces a hegemony of English thought. The Jambeck Research Group's stakeholder interview questions in English, and these are then translated by our field partners into the local language. Interviews are conducted in the local language, transcribed in the local language, and are then either translated by the field partners who happen to be fluent in English, or the transcriptions were sent to a third-party translation source. Most often, the transcriptions were performed by third-party translators, and then the transcriptions are sent back to us for coding and analysis. After the initial coding and analysis was complete, we would send the thematic codes back to our community partners, who would check over our coding to ensure that we were not misrepresenting community attitudes. After our community partners changed and approved the final draft of the thematic qualitative codes, they would send everything back

to us so that the Jambeck Research Group could write up the final CAP report. This tedious process also has a lot of room for error, as questions and narratives are translated and re-translated through a chain of three or four parties of people.

The politics of translation can also be applied to one of our coding projects in which data was collected from a coastal city in Vietnam. When coding the general attitudes and perceptions of community stakeholders, we ran across the quotes from multiple different stakeholders that said, “there is no trash in my place.” To non-local coders such as those of us who work for the research group, this code could have been placed under the thematic category of community members who do not think plastic waste is a problem in their own community. However, the fact that multiple participants used the phrase “my place” caused alarm, as this might have been an apparent translation flaw between Vietnamese and English. We decided to send this analysis back to our field partners in Vietnam, because we were concerned that the thematic code we might provide for these informant attitudes were going to be misrepresented due to the incommensurability and complications of trying to remotely conduct qualitative research between multiple locations, cultural contexts, and languages.

The politics of knowledge and the politics of scale also come into play with our current qualitative collection processes. Because we are a group far removed from the cultural contexts of international CAP projects due to our positionality and our remote status, the physical environments that CAP takes place in are separated from any local cosmological significance. Although the CAP protocol was designed to work in cities in the Global North as well as the Global South, CAP was also developed in English, within a Western context, and therefore within a Western framework. This form of knowledge could be incommensurable with local knowledges about the environment if we do not change or supplement our data focus and model,

as similarly detailed by Goldman (2007) on interactions between conservation groups and the Maasai.

SenseMaker does mitigate some of these issues, yet SenseMaker data tends to be richer when put in conversation with our stakeholder interviews. SenseMaker surveys can be printed off and filled out by hand in the absence of a Wi-Fi connection, and they can also be read aloud and filled out by our field partners if one of our participants is illiterate. SenseMaker surveys can be translated into non-English languages ahead of time, and participants can take these surveys in their preferred language. Regardless, translating the SenseMaker questions from English to another language and re-translating the responses from another language back to English represents similar issues related to the politics of translation. Additionally, the general framework of SenseMaker might prove to be confusing to participants when implemented in a non-Western context. Asking participants to place various values or factors in relation to one another might prove to be a form of understanding that is incommensurable with non-Western cultures.

CHAPTER 6

CONCLUSION

Mainstream zero-waste lifestyle discourse exists as a paradox: being zero-waste is only remarkable, inspiring, and moral so long as there are people *not* partaking. When a lifestyle becomes the norm, it is no longer a lifestyle, it is simply culture. By positioning people as individuals who have equal access to resources and who choose whether they will participate in a zero-waste lifestyle, zero-waste narratives essentially blame a lack of resources (and poverty more broadly) on the moral failings of individuals rather than understanding this as a symptom of functioning capitalism. Ironically, through reducing complete lifestyle changes down to individuals' simple decision-making, mainstream zero-waste narratives implicitly and explicitly blame under-resourced people for not being able to gain satisfaction and personal empowerment from the same systems that zero-wasters deliberately seek to undermine through their everyday actions. By ignoring how zero-waste living is dependent on having access to financial and material resources, zero-waste narratives effectively blame under-resourced individuals for the failings of systems and structures. Zero-waste narratives fail to recognize that some people can make decisions, while other peoples' decisions are given to them.

The preliminary data collected through our piloting of SenseMaker during the CAP project in Miami, Florida revealed several key findings. Participants viewed the accessibility of alternatives as a public rather than a private issue. Participants who felt empowerment in their stories tended to believe that action came from individual decisions, while participants who felt restricted usually attributed these feelings to a lack of accessible alternatives. Mainstream zero-

waste narratives intersect with these findings in interesting ways. Both Johnson and Singer framed their zero-waste lifestyle decision as a personal one. Both mentioned feeling empowered by their decision to go zero-waste, ultimately aligning their actions with their moral values. I have tied the narratives that allude to the constructed morality of the zero-waste movement to moral economy literature, and I have shown how the often cited "accessible" alternatives of purchasing non-plastic wrapped fruits and vegetables, frequenting farmers markets, and purchasing in bulk is inaccessible for many people. Stafford & Jones (2019) warn against the tendency to let lifestyle changes and other "quick fix" schemes, such as biodegradable plastics and ocean cleanups, preclude necessary critiques of systems and structures. One of our participants shared a similar sentiment. At the end of our survey, we had an open-ended question that stated:

Are there any other identities you have that might have impacted the story you shared? You can use this space to tell us about them (this question is optional).

A participant shared the following response:

"I think often about the collective push needed to make change in these types of situations. It's inexcusable that we are often forced to choose between sustainability and personal well-being and security and that is not our fault, but the fault of private companies and governments who refuse to regulate plastic waste."

Evans & Abrahamse (2009) found that for participants in their study, "sustainability" and subsequent sustainable lifestyles were intertwined with interrelated factors such as frugality, concerns for animals, and diet changes due to terminal illness. Thus, future studies on how people might get into "sustainable lifestyles" through other avenues is necessary to understand how we can encourage a move toward the circular economy. Other areas of inquiry into the topics mentioned in this thesis include the CIL's piloting of SenseMaker outside of the U.S., as well as future SenseMaker studies that use adequate sampling techniques. Finally, locally situated ethnographies could help us better understand how plastic relates to cultural and social attitudes, as shown by Pathak & Nitcher's (2019) study in India and Schlehe & Yulianto's (2020) study in Indonesia.

REFERENCES

Abrahms-Kavunenko, S. (2021). Toward an anthropology of plastics. *Journal of Material Culture*, *0*(0), 13591835211066808. https://doi.org/10.1177/13591835211066808

Abril Ortiz, A., Sucozhañay, D., Vanegas, P., & Martínez-Moscoso, A. (2020). A Regional Response to a Global Problem: Single Use Plastics Regulation in the Countries of the Pacific Alliance. *Sustainability*, *12*(19), 8093. https://www.mdpi.com/2071-1050/12/19/8093

Adyel, T. M. (2020). Accumulation of plastic waste during COVID-19. *Science*, *369*(6509), 1314-1315. https://doi.org/doi:10.1126/science.abd9925

Alliance, Z. W. I. (n.d.). *Zero Waste Definition*. Zero Waste International Alliance. Retrieved 2/4/2022 from

Ammendolia, J., Saturno, J., Brooks, A. L., Jacobs, S., & Jambeck, J. R. (2021). An emerging source of plastic pollution: Environmental presence of plastic personal protective equipment (PPE) debris related to COVID-19 in a metropolitan city. *Environ Pollut*, *269*, 116160. https://doi.org/10.1016/j.envpol.2020.116160

Anzaldúa, G. (1990). Haciendo caras, una entrada. In A. Keating (Ed.), *Making face, making soul/haciendo caras: Creative and critical perspectives by feminists of color*.

Ardusso, M., Forero-López, A. D., Buzzi, N. S., Spetter, C. V., & Fernández-Severini, M. D. (2021). COVID-19 pandemic repercussions on plastic and antiviral polymeric textile causing pollution on beaches and coasts of South America. *Sci Total Environ*, *763*, 144365. https://doi.org/10.1016/j.scitotenv.2020.144365

Bakhache, N., Michael, S., Roupetz, S., Garbern, S., Bergquist, H., Davison, C., & Bartels, S. (2017). Implementation of a SenseMaker® research project among Syrian refugees in Lebanon. *Global Health Action*, *10*(1), 1362792. https://doi.org/10.1080/16549716.2017.1362792

Bartels, Michael, S., Vahedi, L., Collier, A., Kelly, J., Davison, C., Scott, J., Parmar, P., & Geara, P. (2019). SenseMaker® as a monitoring and evaluation tool to provide new insights on gender-based violence programs and services in Lebanon. *Evaluation and Program Planning*, *77*. https://doi.org/https://doi.org/10.1016/j.evalprogplan.2019.101715

Bennett, W. L. (1998). The uncivic culture: Communication, identity, and the rise of lifestyle politics. *PS: Political Science and Politics*, *31*(4), 741-761. https://doi.org/10.2307/420711

Bernard, H. R. (2018). The Foundations of Social Research. In N. E. Roberts (Ed.), *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Rowman & Littlefield.

Blundell, R., Costa Dias, M., Joyce, R., & Xu, X. (2020). COVID-19 and inequalities. *Fiscal Studies*, *41*(2), 291-319. https://doi.org/https://doi.org/10.1111/1475-5890.12232

Booth, W. J. (1993). A note on the idea of the moral economy. *American Political Science Review*, *87*(4), 949-954. https://doi.org/10.2307/2938826

Brooks, A. L., Wang, S., & Jambeck, J. R. (2018). The Chinese import ban and its impact on global plastic waste trade. *Science Advances, 4*(6), eaat0131. https://doi.org/doi:10.1126/sciadv.aat0131

Bullard, R. D. (1983). Solid waste sites and the Black Houston community. *Sociological Inquiry, 53*(2-3), 273–288. https://doi.org/10.1111/j.1475-682x.1983.tb00037.x

Bullard, R. D., & Wright, B. (2009). *Race, place, and environmental justice after Hurricane Katrina: Struggles to reclaim, rebuild, and revitalize New Orleans and the Gulf Coast*. Westview.

Bureau, U. S. C. (2019). *Quick Facts: Miami City, Florida*. Retrieved 4/14/2022 from https://www.census.gov/quickfacts/miamicityflorida

Cecchi, T. (2021). Analysis of volatiles organic compounds in Venice lagoon water reveals COVID 19 lockdown impact on microplastics and mass tourism related pollutants. *Science of the Total Environment, 783*, 146951. https://doi.org/https://doi.org/10.1016/j.scitotenv.2021.146951

Chae, Y., & An, Y.-J. (2018). Current research trends on plastic pollution and ecological impacts on the soil ecosystem: A review. *Environmental Pollution, 240*, 387-395. https://doi.org/https://doi.org/10.1016/j.envpol.2018.05.008

CIL. (2021). *The Circularity Assessment Protocol (CAP)*. Circularity Informatics Lab. Retrieved 1/19/2022 from

Cloke, J. (2020). Writing anthropandemics – the strangely connected social geographies of COVID-19, plastic waste, and obesity. *Eurasian Geography and Economics*, *61*(4-5), 374-388. https://doi.org/10.1080/15387216.2020.1828127

Conlon, K. (2020). Adaptive injustice: Responsibility to act in the plastics economy. *Resources, Conservation & Recycling*(153), 1-2. https://doi.org/https://doi.org/10.1016/j.resconrec.2019.104563

Cotta, B. (2020). What goes around, comes around? Access and allocation problems in Global North–South waste trade. *International Environmental Agreements: Politics, Law and Economics*, *20*(2), 255-269. https://doi.org/10.1007/s10784-020-09479-3

County, M.-D. (2014). *Miami-Dade County solid waste master plan*. https://www.broward.org/Purchasing/Documents/RLIRFPAgendaInformationNEW/R2113804P1/Historical%20Documents/Material%20Composition%20Analysis/Miami%20Dade%20Master%20Plan%20090414%20-%20HDR.pdf

CRJ, C. f. R. J. (1987). *Toxic wastes and race in the US: A national report on the racial and socio-economic characteristics of communities*

with hazardous waste sites.

da Costa, J. P. (2021). The 2019 global pandemic and plastic pollution prevention measures: Playing catch-up. *Science of the Total Environment, 774*, 145806. https://doi.org/https://doi.org/10.1016/j.scitotenv.2021.145806

da Costa, J. P., Rocha-Santos, T., & Duarte, A. C. (2020). *The environmental impacts of plastics and micro-plastics use, waste and pollution: EU and national measures*.

Dalton, R. J. (2008). Citizenship norms and the expansion of political participation. *Political Studies*, *56*(1), 76-98. https://doi.org/10.1111/j.1467-9248.2007.00718.x

Dauvergne, P. (2018). Why is the global governance of plastic failing the oceans? *Global Environmental Change*, *51*, 22-31. https://doi.org/https://doi.org/10.1016/j.gloenvcha.2018.05.002

DeHart, M. (2020). *Thinking ethnographically in pandemic times*. Social Science Research Council. Retrieved 3/25 from https://items.ssrc.org/covid-19-and-the-social-sciences/social-research-and-insecurity/thinking-ethnographically-in-pandemic-times/

Donath, S. (2000). The other economy: A suggestion for a distinctively feminist economics. *Feminist Economics*, *6*(1), 115-123. https://doi.org/10.1080/135457000337723

Evans, D., & Abrahamse, W. (2009). Beyond rhetoric: the possibilities of and for 'sustainable lifestyles'. *Environmental Politics*, *18*(4), 486-502. https://doi.org/10.1080/09644010903007369

Featherstone, M. (1991). *Consumer culture and postmodernism*. Sage.

Fernández-Llamazares, Á., Garteizgogeascoa, M., Basu, N., Brondizio, E. S., Cabeza, M., Martínez-Alier, J., McElwee, P., & Reyes-García, V. (2020). A state-of-the-art review of Indigenous Peoples and environmental pollution. *Integrated Environmental Assessment and Management*, *16*(3), 324-341. https://doi.org/https://doi.org/10.1002/ieam.4239

Fisher, A. N., & Ryan, M. K. (2021). Gender inequalities during COVID-19. *Group Processes & Intergroup Relations*, *24*(2), 237-245. https://doi.org/10.1177/1368430220984248

Franco-García, M.-L., Carpio-Aguilar, J. C., & Bressers, H. (2019). Towards Zero Waste, Circular Economy Boost: Waste to Resources. In M.-L. Franco-García, J. C. Carpio-Aguilar, & H. Bressers (Eds.), *Towards Zero Waste: Circular Economy Boost, Waste to Resources* (pp. 1-8). Springer International Publishing. https://doi.org/10.1007/978-3-319-92931-6_1

Giddens, A. (1991). *Modernity and self-identity: Self and society in the Late Modern Age*. Polity Press.

GirlHub. (2014). *Using SenseMaker® to understand girls' lives: Lessons learnt from GirlHub*.

Goldman, M. (2007). Tracking wildebeest,lLocating knowledge: Maasai and conservation biology understandings of wildebeest behavior in Northern Tanzania. *Environment and Planning D: Society and Space*, *25*(2), 307-331. https://doi.org/10.1068/d0505

Griffith, R., Leibtag, E., Leicester, A., & Nevo, A. (2009). Consumer shopping behavior: How much do consumers save? *Journal of Economic Perspectives*, *23*(2), 99-120.

Haenfler, R., Johnson, B., & Jones, E. (2012). Lifestyle movements: Exploring the intersection of lifestyle and social movements. *Social Movement Studies*, *11*(1), 1-20. https://doi.org/10.1080/14742837.2012.640535

Hale, R. C., Seeley, M. E., La Guardia, M. J., Mai, L., & Zeng, E. Y. (2020). A Global Perspective on Microplastics. *Journal of Geophysical Research: Oceans*, *125*(1), e2018JC014719. https://doi.org/https://doi.org/10.1029/2018JC014719

Hasin, A., Smith, S., & Stieren, P. (2014). Illinois farmers markets using EBT: Impacts on SNAP redemption and market sales. *Journal of Agriculture, Food Systems, and Community Development*, *5*(1), 179-188. https://doi.org/10.5304/jafscd.2014.051.015

Hoornweg, D., & Bhada-Tata, P. (2012). *What a waste : A global review of solid waste management* (Urban Development Series, Issue. http://hdl.handle.net/10986/17388

Institute, N. M. (2022). *Circular Materials Management*. University of Georgia. Retrieved 4/14/2022 from

Jaffe, R., & Durr, E. (2010). Introduction: Cultural and material forms of urban pollution. In R. Jaffe & E. Durr (Eds.), *Urban pollution: Cultural meanings, social practices* (pp. 204). Berghahn Books.

Jambeck, J. R., Geyer, R., Wilcox, C., Siegler, T. R., Perryman, M., Andrady, A., Narayan, R., & Law, K. L. (2015). Marine pollution. Plastic waste inputs from land into the ocean. *Science*, *347*(6223), 768-771. https://doi.org/10.1126/science.1260352

Jilcott Pitts, S. B., McGuirt, J. T., Wu, Q., Rushing, J., Uslan, D., Stanley, K. K., Bullock, S. L., Ward, R. K., Rafferty, A. P., & Ammerman, A. S. (2016). Assessing preliminary impact of the North Carolina community transformation grant project farmers' market initiatives among rural residents. *Journal of Nutrition Education and Behavior*, *48*(5), 343-349.e341. https://doi.org/https://doi.org/10.1016/j.jneb.2016.03.001

Jilcott Pitts, S. B., Wu, Q., Demarest, C. L., Dixon, C. E., Dortche, C. J. M., Bullock, S. L., McGuirt, J., Ward, R., & Ammerman, A. S. (2015). Farmers' market shopping and dietary behaviours among Supplemental Nutrition Assistance Program participants. *Public Health Nutrition*, *18*(13), 2407-2414. https://doi.org/10.1017/S1368980015001111

Johnson, B. (2022). *Zero Waste Home: From a blog to a movement*. Retrieved 3/7/2022 from

Kaza, S., Yao, L. C., Bhada-Tata, P., & Van Woerden, F. (2018). *What a waste 2.0: A global snapshot of solid waste management to 2050* (W. Bank, Ed.). World Bank. http://hdl.handle.net/10986/30317

Kunreuther, H. (1973). Why the poor may pay more for food: Theoretical and empirical evidence. *The Journal of Business*, *46*(3), 368-383. http://www.jstor.org/stable/2351386

Kurtz, D. V. (2014). Culture, poverty, politics: Cultural sociologists, Oscar Lewis, Antonio Gramsci. *Critique of Anthropology*, *34*(3), 327-345. https://doi.org/10.1177/0308275x14530577

Lab, C. I. (2021). *Circularity Assessment Protocol: Miami, Florida*

Lambert-Pennington, K., & Hicks, K. (2016). Class conscious, color-blind: Examining the dynamics of food access and the justice potential of farmers markets. *Culture, Agriculture, Food and Environment*, *38*(1), 57-66. https://doi.org/https://doi.org/10.1111/cuag.12066

Larson, N. I., Story, M. T., & Nelson, M. C. (2009). Neighborhood environments: Disparities in access to healthy foods in the U.S. *American Journal of Preventive Medicine*, *36*(1), 74-81.e10. https://doi.org/https://doi.org/10.1016/j.amepre.2008.09.025

Law, K. L., Starr, N., Siegler, T. R., Jambeck, J. R., Mallos, N. J., & Leonard, G. H. (2020). The United States' contribution of plastic waste to land and ocean. *Sci Adv*, *6*(44). https://doi.org/10.1126/sciadv.abd0288

Lawrence, B., Greer, A. E., Zimeri, A. M., Hernandez, D. C., Ahn, S., Jones, S., & Smith, M. L. (2018). Use of a unique farmers' market program targeting lower-income community members. *Journal of Community Health*, *43*(3), 524-533. https://doi.org/10.1007/s10900-017-0448-y

Leone, L. A., Beth, D., Ickes, S. B., MacGuire, K., Nelson, E., Smith, R. A., Tate, D. F., & Ammerman, A. S. (2012). Attitudes toward fruit and vegetable consumption and farmers' market usage among low-income North Carolinians. *Journal of Hunger & Environmental Nutrition*, *7*(1), 64-76. https://doi.org/10.1080/19320248.2012.651386

Lewis, O. (1961). *The Children of Sánchez*. Random House.

Lewis, O. (1965). *La vida: A Puerto Rican family in the culture of poverty - San Juan and New York*. Random House.

Liboiron, M. (2021). *Pollution is Colonialism* (L. Hampton, Ed.). Duke University Press.

Liu, J., Vethaak, A. D., An, L., Liu, Q., Yang, Y., & Ding, J. (2021). An environmental dilemma for China during the COVID-19 pandemic: The explosion of disposable plastic wastes.

Bulletin of environmental contamination and toxicology, *106*(2), 237-240. https://doi.org/10.1007/s00128-021-03121-x
Liz, J. (2021). COVID-19, immunoprivilege and structural inequalities. *History and Philosophy of the Life Sciences*, *43*(1), 19. https://doi.org/10.1007/s40656-020-00356-5
López-Martínez, S., Morales-Caselles, C., Kadar, J., & Rivas, M. L. (2021). Overview of global status of plastic presence in marine vertebrates. *Global Change Biology*, *27*(4), 728-737. https://doi.org/https://doi.org/10.1111/gcb.15416
Lorenzen, J. A. (2012). Going green: The process of lifestyle change. *Sociological Forum*, *27*(1), 94-116. http://www.jstor.org/stable/41330915
Lucan, S. C., Maroko, A. R., Sanon, O., Frias, R., & Schechter, C. B. (2015). Urban farmers' markets: Accessibility, offerings, and produce variety, quality, and price compared to nearby stores. *Appetite*, *90*, 23-30. https://doi.org/https://doi.org/10.1016/j.appet.2015.02.034
Mah, A. (2021). Future-proofing capitalism: The paradox of the circular economy for plastics. *Global Environmental Politics*, *21*(2), 121-142. https://doi.org/https://doi.org/10.1162/glep_a_00594
Mathalon, A., & Hill, P. (2014). Microplastic fibers in the intertidal ecosystem surrounding Halifax Harbor, Nova Scotia. *Marine Pollution Bulletin*, *81*(1), 69-79. https://doi.org/https://doi.org/10.1016/j.marpolbul.2014.02.018
Mattiello, E. (2017). The popularisation of science via TED Talks.
McGuirt, J. T., Jilcott Pitts, S. B., Ward, R., Crawford, T. W., Keyserling, T. C., & Ammerman, A. S. (2014). Examining the influence of price and accessibility on willingness to shop at farmers' markets among low-income Eastern North Carolina women. *Journal of Nutrition Education and Behavior*, *46*(1), 26-33. https://doi.org/https://doi.org/10.1016/j.jneb.2013.06.001
Mendoza, R. U. (2011). Why do the poor pay more? Exploring the poverty penalty concept [Article]. *Journal of International Development*, *23*(1), 1-28. https://doi.org/10.1002/jid.1504
Metz, J. J., & Scherer, S. M. (2022). The rise and decline of farmers markets in greater Cincinnati. *Agriculture and Human Values*, *39*(1), 95-117. https://doi.org/10.1007/s10460-021-10228-8
Misyak, S., Ledlie Johnson, M., McFerren, M., & Serrano, E. (2014). Family nutrition program assistants' perception of farmers' markets, alternative agricultural practices, and diet quality. *Journal of Nutrition Education and Behavior*, *46*(5), 434-439. https://doi.org/https://doi.org/10.1016/j.jneb.2014.02.011
Mufson, S. (2021). Huge plastics plant faces calls for environmental justice, stiff economic headwinds. *The Washington Post*.
NOAA. (2022). *Marine Debris Tracker App*. NOAA Marine Debris Program. Retrieved 1/19/2022 from
Norris, P. (2002). *Democratic phoenix: Reinventing political activism*. Cambridge University Press. https://doi.org/10.1017/CBO9780511610073
Norris, P. (2007). Political activism: New challenges, new opportunities. In C. Boix & S. C. Stokes (Eds.), *The Oxford Handbook of Comparative Politics*. Oxford University Press.
North, E. J., & Halden, R. U. (2013). Plastics and environmental health: the road ahead. *Rev Environ Health*, *28*(1), 1-8. https://doi.org/10.1515/reveh-2012-0030
O'Neill, K. (2019). *Waste*. Polity.

Ocean Conservancy, & McKinsey Center for Business and Environment. (2017). *Stemming the tide: Land-based strategies for a plastic-free ocean*. M. Company & O. Conservancy. https://oceanconservancy.org/wp-content/uploads/2017/04/full-report-stemming-the.pdf

Omoding, J., Walters, G., Andama, E., Carvalho, S., Colomer, J., Cracco, M., Eilu, G., Kiyingi, G., Kumar, C., Langoya, C. D., Nakangu Bugembe, B., Reinhard, F., & Schelle, C. (2020). Analysing and applying stakeholder perceptions to improve protected area governance in Ugandan conservation landscapes. *Land*, *9*(6), 207. https://www.mdpi.com/2073-445X/9/6/207

Orhun, A. Y., & Palazzolo, M. (2019). Frugality is hard to afford. *Journal of Marketing Research*, *56*(1), 1-17. https://doi.org/10.1177/0022243718821660

Owens, K. A., & Conlon, K. (2021). Mopping up or turning off the tap? Environmental injustice and the ethics of plastic pollution. *Frontiers in Marine Science*, *8*(713385), 1-8. https://doi.org/10.3389/fmars.2021.713385

Palomera, J., & Vetta, T. (2016). Moral economy: Rethinking a radical concept. *Anthropological Theory*, *16*(4), 413-432. https://doi.org/10.1177/1463499616678097

Pathak, G., & Nichter, M. (2019). The Anthropology of Plastics: An Agenda for Local Studies of a Global Matter of Concern. *Medical Anthropology Quarterly*, *33*(3), 307-326. https://doi.org/https://doi.org/10.1111/maq.12514

Patrício Silva, A. L., Prata, J. C., Walker, T. R., Duarte, A. C., Ouyang, W., Barcelò, D., & Rocha-Santos, T. (2021). Increased plastic pollution due to COVID-19 pandemic: Challenges and recommendations. *Chemical engineering journal (Lausanne, Switzerland : 1996)*, *405*, 126683-126683. https://doi.org/10.1016/j.cej.2020.126683

Pedersen, M. K. (2017). *The zero waste movement: A case study of mundane climate change activism in Denmark* Malmö University]. Malmö, Sweden.

Phillips, C. (2017). Discerning ocean plastics: Activist, scientific, and artistic practices. *Environment and Planning A: Economy and Space*, *49*(5), 1146-1162. https://doi.org/10.1177/0308518x16687301

Prata, J. C. (2018). Airborne microplastics: Consequences to human health? *Environmental Pollution*, *234*, 115-126. https://doi.org/https://doi.org/10.1016/j.envpol.2017.11.043

Reicks, M., Randall, J. L., & Haynes, B. J. (1994). Factors affecting consumption of fruits and vegetables by low-income families. *Journal of the American Dietetic Association*, *94*(11), 1309-1311. https://doi.org/https://doi.org/10.1016/0002-8223(94)92467-8

Rodríguez-Bailón, R. (2020). Inequality viewed through the mirror of COVID-19 (La desigualdad ante el espejo del COVID-19). *International Journal of Social Psychology*, *35*(3), 647-655. https://doi.org/10.1080/02134748.2020.1796298

Rothstein, R. (2017). *The color of law: A forgotten history of how our government segregated America*. Liveright Publishing Corporation.

Satcher, L. A. (2022). Multiply-deserted areas: Environmental racism and food, pharmacy, and greenspace access in the Urban South. *Environmental Sociology*, 1-13. https://doi.org/10.1080/23251042.2022.2031513

Schlehe, J., & Yulianto, V. I. (2020). An anthropology of waste. *Indonesia and the Malay World*, *48*(140), 40-59. https://doi.org/10.1080/13639811.2019.1654225

Shetty, S. S., Wollenberg, B., Merchant, Y., & Shabadi, N. (2020). Discarded Covid 19 gear: A looming threat. *Oral Oncol*, *107*, 104868. https://doi.org/10.1016/j.oraloncology.2020.104868

Shipp, G., Weatherspoon, D., Earnesty, D., Mphwanthe, G., & Weatherspoon, L. (2020). Factors associated with fruit and vegetable purchases of SNAP recipients residing in multi-person households within a food desert. *Journal of Hunger & Environmental Nutrition*, *15*(3), 327-338. https://doi.org/10.1080/19320248.2019.1578320

Snow, D. (2005). Social movements as challenges to authority: Resistance to an emerging conceptual hegemony. *Research in Social Movements, Conflicts and Change*, *25*, 3-25. https://doi.org/10.1016/S0163-786X(04)25001-7

Socialism, F. (2020). *Sustainability and zero waste videos are elitist.* YouTube.

Spaargaren, G., & Van Vliet, B. (2000). Lifestyles, consumption and the environment: The ecological modernization of domestic consumption. *Environmental Politics*, *9*(1), 50-76. https://doi.org/10.1080/09644010008414512

Spiteri, L. (2021). Zero-Waste Instagram communities: A thematic analysis of ZW activities through the lens of the lifestyle movement framework. *Canadian Journal of Information and Library Science*, *43*(3), 245-268.

Stafford, R., & Jones, P. J. S. (2019). Viewpoint – Ocean plastic pollution: A convenient but distracting truth? *Marine Policy*, *103*, 187-191. https://doi.org/https://doi.org/10.1016/j.marpol.2019.02.003

Suran, M. (2018). A planet too rich in fibre. *EMBO reports*, *19*(9). https://doi.org/https://doi.org/10.15252/embr.201846701

Talks, T. (2015). *Why I live a zero waste life: Lauren Singer* [Video file].

Talks, T. (2016). *Two adults, two kids, zero waste: Bea Johnson*

Thompson, E. P. (1971). Moral Economy of English Crowd in Eighteenth Century. *Past & Present*(50), 76-136. <Go to ISI>://WOS:A1971L585900005

Tropp, D., & Barham, J. (2008). *National farmers market summit: Proceedings report*.

Valentine, C. A. (1969). Culture and poverty: Critique and counter proposals [Culture and Poverty: Critique and Counter-Proposals, Charles A. Valentine]. *Current Anthropology*, *10*(2/3), 181-201. http://www.jstor.org/stable/2740476

Varkey, P. S., Walker, T. R., & Saunders, S. J. (2021). Identifying barriers to reducing single-use plastic use in a coastal metropolitan city in Canada. *Ocean & Coastal Management*, *210*, 105663. https://doi.org/https://doi.org/10.1016/j.ocecoaman.2021.105663

Vethaak, A. D., & Leslie, H. A. (2016). Plastic Debris Is a Human Health Issue. *Environmental Science & Technology*, *50*(13), 6825-6826. https://doi.org/10.1021/acs.est.6b02569

Webster, F. E. (1975). Determining the characteristics of the socially conscious consumer. *Journal of Consumer Research*, *2*(3), 188-196. http://www.jstor.org/stable/2489054

Wildman, J. (2021). COVID-19 and income inequality in OECD countries. *The European Journal of Health Economics*, *22*(3), 455-462. https://doi.org/10.1007/s10198-021-01266-4