Melinda Butterworth*, Georgia Davis*, Kristina Bishop, Luz Reyna, and Alyssa Rhodes

What Is a Superfood Anyway? Six Key Ingredients for Making a Food "Super"

Abstract: The category of superfoods first gained traction in the mid-1980s and has only become more prevalent since. Despite this popularity, contestations exist over the validity of the term, the science behind it, and its utility for consumers. However, systematic and scholarly investigations into the idea of the superfood remain limited. Using content and discourse analyses on global English-speaking news media, this paper examines the breadth of comestibles considered superfoods, the ways in which these foods are being mobilized to address particular health concerns, and the wider socio, political, and environmental contexts surrounding superfoods. Our analysis revealed a total of 217 foods were considered superfoods, and were linked to 71 conditions, that primarily emphasize the ability of individuals to *optimize* their health by preventing possible future illness. We contend that socio-environmental researchers have much to offer into critical investigations of the superfoods phenomenon.

ON JANUARY 5, 2016, CHICK-FIL-A announced a new addition to its fast-food menu: a side of kale, broccolini, cherries, and nuts, dubbed the "Superfood Side" and intended to offer customers a healthier option to their standard waffle fries. A superfood, as defined by *Merriam-Webster*, is "a food (such as salmon, broccoli, or blueberries) that is rich in compounds (such as antioxidants, fiber, or fatty acids) considered beneficial to a person's health." While it may seem surprising that a fast-food restaurant specializing in fried fare would offer a superfood option, the proliferation of superfoods on restaurant menus and on food labels at grocery stores is increasingly commonplace. A search of the term on Google Trends shows a notable increase from 2004–15—per their "interest over time" metric—with interest often peaking in the month of January (Irwin 2014). It is possible to infer that this seasonality is linked to New Year's resolutions focused on cultivating a healthier lifestyle. Although popular interest in the term may wax and wane over the course of the year, superfoods remain a regular focus in the field of health and nutrition, with even NBC's TODAY Show airing a regular "Superfoods Friday" segment. At the same time, scholars often point out that there is little agreement, from either a scientific or regulatory standpoint, over what a superfood exactly is (see Lunn 2006; Oude Groeniger et al. 2017; Loyer 2017).

We contend that this ubiquity is further compounded by a power struggle of sorts, as different people attempt to associate superfoods with specific ideas about health, food, consumption, expertise, and individual choice. In her book *Unmasking Superfoods*, nutritionist Jennifer Sygo argues that current nutritional science does not support all of the claims being made about superfoods. While she believes that many superfoods do have important nutritional value, she is concerned that some of the claims surrounding this food group are misleading, encouraging money to be spent on unproven science (Sygo 2014). Another widespread contention is that marketers have co-opted the term "superfood" in order to sell comestibles, and often at high prices. At the heart of these claims is a debate that focuses not so much on *what* constitutes a superfood as it does on *who* gets to determine which foods deserve the superfood label.

This article does not attempt to take a deep dive into struggles over meaning. Rather, our goal is to examine how the media represents superfoods in order to understand where there is consensus, where ideas diverge, and how such divergences open up new avenues of scholarly research into superfoods. We also understand that what appears to be conflict is actually differently placed people acting from within the same discursive framework—a framework that associates food with health and with individuals making ethical choices (Coveney 2006). We draw on literatures from health geography and critical nutrition studies to (1) help clarify how superfoods are represented in the media, (2) find areas of agreement over what constitutes a superfood, and, from that, (3) begin to embed discussions about what a superfood is within wider social, political, and environmental discursive contexts. Our overall goal is to draw attention to superfoods as an emerging research area for socio-environmental scholars interested in food, health, and the body.

GASTRONOMICA: THE JOURNAL FOR FOOD STUDIES, VOL. 20, NUMBER 1, PP. 46–58, ISSN 1529-3262, ELECTRONIC ISSN 1533-8622. DOI: HTTPS://DOI.ORG/10.1525/GFC.2020.20.1.46.

Food and Health

It seems that every week new nutritional findings are reported in the popular press, touting the benefits of certain foods: a glass of red wine for the heart, a handful of pumpkin seeds to boost your immune system, a piece of dark chocolate to prevent cancer. Several cups of coffee a day lower the risk of depression in women (O'Conner 2011) and decrease liver cancer risk but possibly raise the risk of urinary cancer (LaMotte 2018). The sheer volume of food advice offered to consumers can be overwhelming, but documents a vast field of study committed to understanding the biochemical links between nutrients and health. This research is ultimately concerned with finding tools that individuals can adopt to optimize their health. As the *Harvard Heart Letter* (2014) explains, superfoods such as whole grains can modulate blood sugar, which if left unregulated may lead to the development of conditions such as obesity and diabetes later in life. The soluble fiber in oranges can help maintain a healthy blood pressure, while the polyphenols in extra-virgin olive oil can dampen inflammatory pathways (ibid.). These findings are exciting insomuch as they create new ways to modulate health over the course of our lives by simply being more conscientious of what we eat.

Continuing advances in medical and nutritional science also provide ongoing opportunities to reexamine the relationships between nutrients, food, and individual health. The field of epigenetics opens new possibilities in that it explores a mechanism through which gene expressions can be changed. These mechanisms may mediate a wide range of diseases, from inflammatory disorders (Szarc vel Szic et al. 2015) to cancer (Bishop and Ferguson 2015). As Choi and Frisco (2010: 14) state: "During our lifetime, nutrients can modify physiologic and pathologic processes through epigenetic mechanisms that are critical for gene expression. Modulation of these processes through diet or specific nutrients may prevent diseases and maintain health." While the field is careful to note the significant complexity within human bodies, the potential of nutritional epigenetics is impressive. In light of genetic information and familial predispositions to specific diseases, one can potentially follow specific diets to lower the risk of developing conditions with genetic components.

With so much "healthy food" information at their disposal, consumer and health groups have used nutrient-health connections identified through research to craft special, targeted diets. The "Low-Starch Diet," for example, is said to be beneficial for individuals suffering from ankylosing spondylitis, a chronic and progressive form of autoimmune arthritis, as well as irritable bowel syndrome (Sinclair 2006). Similarly, the "Anti-inflammatory Diet" is aimed at addressing autoinflammatory disorders along with the inflammatory underpinnings of diseases such as Alzheimer's and heart disease (Weil and Fox 2014). The Academy of Nutrition and Dietetics offers diet-based support for a number of conditions, including HIV/AIDS, autism, diabetes, kidney disease, and cancer (AND 2018). Such targeted interventions are predicated on biochemical pathways in the body that ultimately reduce symptoms in the presence or absence of specific nutrients, signaling a shift in nutrition's focus from health-harming nutrients and minimum intake requirements to health-promoting ones (Scrinis 2013, chap. 7).

In some cases, the connections between health and food choice have spawned larger-scale social movements, such as "Functional Food," which considers food a tool for preventing and treating disease through "properties over and above their usual nutritional value" (Lunn 2006: 171). Some of these food movements have articulated with other concerns about consumerism and the environment. The "Whole Foods" movement, which is gaining in popularity again today, got its start in the 1960s and '70s touting the benefits of eating minimally processed food. This movement also offered a critique of the food industry by rejecting the industrialization of the food supply, the concentration of food production within a few large companies, and the poor treatment of food animals (Griffiths and Wallace 1998). These social movements sometimes include an embedded critique of the institutional scientific apparatus that supports the industrialization of food, putting individual food consumers in conflict with nutritionists, food scientists, and public health agencies, even though all are operating from the same paradigm that assumes a logical connection between nutrition, health, and food choices (Biltekoff 2010).

This dominant conceptualization of food in terms of its "nutrients" creates a scientific framework that objectifies eating and consequently misses a food's larger context (Scrinis 2008; see also Biltekoff et al. 2014). Such nutritional reductionism, or "nutritionism," also obscures how competing ideas about what makes certain foods "good" are built upon the same discursive framework (Coveney 2006; Scrinis 2013, chap. 7). The nutrition paradigm further makes everyone reliant upon experts to define what is good to consume (Scrinis 2008), reproducing a system that gives authority to scientists to define how people should eat and removing it from the very individuals who are said to be able to choose what foods to consume. The following sections build on these concerns.

Food and Responsibility

In her book *Eating Right in America* (2013), Charlotte Biltekoff offers a genealogy of the "diet," making visible changing ideas

about what constitutes "good" eating. She traces the development of the Domestic Science movement in the late 1800s whereby scientific principles of nutrition were used to ensure the most efficient and economic use of calories necessary to function based on one's class and occupation. This movement exacerbated class difference by advocating that poor people eat within their means while allowing the wealthy better tasting foods. By the 1950s and 1960s, the postwar affluence of America and the popularity of processed foods shifted the definition of what makes food good (Griffiths and Wallace 1998). Rationing during the war era meant ethical consumers restricted what they ate. After World War II,

> at the very time when it should have been possible for individuals to celebrate the end of food shortages and avail themselves of an increased variety of foods—and 'modern' foods at that—the news from health and nutrition experts was not good. Now 'good' nutrition was not merely a question of getting enough food to eat, nor even a question of greater food group variety, as had been the case in an earlier period. In the post-war boom period, 'good' nutrition was more a question of cutting back; it was, as one author put it, 'a paradox of plenty'. (Coveney 2006: 109)

This discourse about ethical eating was built upon earlier thinking, associating goodness with economizing.

More recently, notions about what makes a diet good have articulated with new ways of conceptualizing health. Health is no longer thought of in binary terms: one is either healthy or not. Instead, the concern is with the optimization of health—making healthy individuals even healthier and preventing the potential of future disease (Rose 2007). There has been a proliferation in health promotion strategies, from communications about risk and prevention to a growing health consumer industry (Burrows et al. 1995). This industry includes not only objects such as fitness wear and gym memberships but also the *types*—and not just quantities—of food we buy and eat (Ayo 2012; McCormack 1999). Scholars have situated these strategies within the broader "new public health," which has emerged out of neoliberal rationality to encourage individuals to make "healthy" choices (Peterson and Lupton 1996; Burrows et al. 1995). In doing so, health promotion tactics can be seen as reinforcing the responsibility of the individual to maintain their health and manage the risk of future chronic diseases (Ayo 2012). This constitutes a further "responsibilization" of the individual, even though the individual is still directed to follow dietary guidelines crafted by experts and disseminated through public health agencies and the media. Morality continues to infuse such thinking. Ethical eaters compliantly assume the mantle of responsibility and eat the way they are told to. In other words, even though they have a wide range of foods to choose from, ethical eaters "choose" the foods endorsed by experts, regardless of individual circumstances or preferences. "'Good' here registers not merely as good nutrients but also in terms of fulfilling one's rightful 'duty to be well'" (Coveney 2006: 141).

Food, Disease Risk, and Place

Within the paradigm of the new public health, individuals are cast as rational consumers, able to change their attitudes and diets with the right information about nutrients, regardless of their level of access to healthy foods or their ability to pay for them (Keane 1997). However, such "[d]iet talk too often obscures the environmental stresses, constraints, exposures, and inequities, while naturalizing the dubious redefinition of health as a moral virtue and an individual responsibility" (Hayes-Conroy et al. 2014: 64). Oude Groeniger et al. (2017: 1) further suggest that superfood consumption, specifically, is a marker of "'social distinction', whereby those in a higher socioeconomic position adopt dietary patterns by which they can distinguish themselves from lower socioeconomic groups." Thus, in a number of ways, the current healthy eating model reinforces the ideas of personal responsibility, class difference, and the ethics of choice, while obscuring systemic problems such as poverty, food deserts, and environmental degradation (Coveney 2006; Griffiths and Wallace 1998).

Metaphors used in the media to discuss superfoods reinforce the idea that superfoods can "combat" illness or "maintain" health (Breeze 2017). The benefits of eating well and exercising are given to be self-evident, but the flip side of this is that people who fall ill can also be blamed for not doing enough, and therefore become culpable for their poor health (Das 2001; Jackson 2005). Consequently, some behaviors, like eating superfoods, may have more symbolic than material value, because they mark the individual as engaging in morally responsible behavior, even if they do not actually fix the root cause of poor health.

From this perspective, it is possible to see how superfoods have become associated with ideas about harm reduction. Crawford (2004) describes how individual risk is a central tenet of the new public health. Calculating an individual's risk of becoming unhealthy creates a baseline metric to be used to determine what constitutes healthy conduct (Dean 1999), measuring not current health but future health potential. Of course, individuals are largely alienated from the wider processes and structures that may put them at risk in the first place (industrial agriculture, global climate change, food deserts). But, it is assumed that they can still manage that risk through small, everyday activities that reduce harm. Crawford refers to these as "risk rituals" to signal not only

their everydayness but also the way in which they do more to instill a sense of confidence in the practitioner than to actually address the circumstances that create risk. Crawford (2006) also critiques public health's emphasis on harm reduction because it creates public awareness about the existence of risk that individuals have no control over and adds an additional burden as people are expected to labor daily to protect their good health.

Attending to some of the contextual concerns outlined above, Carlisle and Hanlon (2014) point out that nutrition needs to be considered within broader concerns of the environment. By interrogating nutritionism, individualism, economism, and consumerism, they put forth a framework for integrating questions about public health and nutrition that focuses on how these issues are linked to larger questions of environmental sustainability and global climate change. The case of quinoa, an oft-cited superfood, is instructive in this regard. The grain, grown predominantly in and exported from the Andes region, has surged in popularity in recent years, becoming an important component of many vegetarian and gluten-free diets. While its rise in popularity is clear, the impacts of this trend are less so. Parker-Gibson (2015) outlines some of the controversies surrounding quinoa's global reach. These include whether or not farmers are being adequately compensated for their production, and the long-term ecological impacts that come from more intensive cultivation practices. Agricultural extensification is also occurring to meet demand in South America and abroad; both intensification and extensification may result in biodiversity decline due to the conversion of native ecosystems, while extensification beyond the Andean region may also ultimately outcompete Andean quinoa on the global market (Small 2013). Coveney (2006) also notes how some food movements, like whole food and veganism, have drawn connections between industrial food production and climate change. These groups specifically point to the way the global meat industry contributes to greenhouse gas emissions, and how the threat is growing as more developing countries shift their eating habits to mirror those of the West.

Superfoods are also of a place, and the layered history of that place can contribute to the transformation of a food into a superfood. In the case of the cranberry, Loyer (2017: 33) contends that cranberries have been considered a health food for centuries, as Native Americans and early colonists recognized their nutritious and medicinal benefits; however, the "recent positioning of the cranberry as a superfood differs discursively from previous nutritional marketing by emphasizing the fruit's therapeutic value alongside natural, traditional, and authentic qualities." As she accounts, cranberries only became a superfood through a confluence of factors: (1) a study showing that they contain proanthocyanidins, a compound that may explain the link between cranberry consumption and lower urinary tract infections; (2) a campaign promoting the "naturalness" of cranberries and focusing on the cranberry as native to North America and "straight from the bog"; and (3) linking the berry to indigenous cultures—thus promoting the idea that Native people have an intrinsic, preindustrial understanding of nature and health. In doing so, the complex history of uses by multiple tribes and the problematic interactions between the colonists and the Native Americans are erased. In this case, the cranberry is seen as both local (native to North America) and exotic (Native Americans teaching colonists how to use the berry). Scrinis (2013, chap. 7) points out that geographically bound "superdiets" known for their health-promoting properties, such as the Mediterranean and Okinawan, are made of foods that become known as "superfoods." As superfoods take on labels such as exotic and local, they take on particular place-based meanings (Blake et al. 2010). In fact, the previously cited *Harvard Heart Letter* (2014) on superfoods begins: "Many foods—from the everyday to the exotic—are rich in nutrients that may help keep your arteries clear and your heartbeat stable," demonstrating the pervasiveness of this idea. These meanings may obscure uneven geographies, which idealize some places and peoples as more exotic and timeless than others (May 1996), and further embed superfoods into a global context.

The global commercialization of superfoods has led to the term being attached to a wide variety of foods. As such, it is often said that the nutritional claims about superfoods have become so ubiquitous and varied that there appears to be very little agreement over what a superfood exactly is (Lunn 2006). And, while the benefits of superfoods are widely touted, the term superfood is also frequently invoked in the pejorative. How is it that some foods can be at once healthful and not? At once economically beneficial and a waste of money? That which should be consumed and a fad to be avoided? A food category both meaningful and meaningless? The apparent conceptual incoherence does not stem from some inherent quality of the foods themselves. Rather, particular foods take on super (and supernatural) qualities as they are enrolled in wider socio-spatial discourses about nutrition, health, consumerism, and expertise and are embedded in globalized networks of power relations.

In this article, we examine the relationship between superfoods, health management, and disease prevention in the English-speaking media, particularly from the United Kingdom, Australia, and the United States, which all regulate food labels in some form. The European Union requires that

claims made on food labels or advertising must be based on scientific evidence (European Commission 2019), but does not ban the use of the term superfood outright. The United States does not regulate the use of the term in either advertising or on a label. Despite this disparity of regulatory approaches, superfoods hold a significant space in current Western culture about what it means to eat healthy. Our piece situates superfoods within this complex landscape of nutrition and health. We suggest that the ideas outlined above by social scientists, particularly drawing on critical nutrition studies and health geography, have much to offer to our understanding of superfoods. Thus, we pull from the literatures described above to consider the multiscalar relationships of superfoods, from the molecular, to the individual, to the local and global, by asking the following questions: What counts as a superfood? How are these foods mobilized to address specific health concerns? And what common discourses are embedded in different portrayals of superfoods?

Methods

We conducted a media analysis of superfoods, as the popular press is a common venue for communicating information about superfoods. Media analyses are often used to make shared systems of meaning, and their effects, visible. Geographers have used media analysis to examine topics ranging from climate change representations (Boykoff and Boykoff 2004) to the gendered divisions of household labor in the 1950s and '60s (Hayden 2002) and gendered representations of masculine and feminine spaces (Berry et al. 2010). In such work, one can see how media build upon and reproduce shared systems of meaning, making them useful for critically examining how people collectively understand the world. As Silverstone (2007: 6) tells us, "media both construct a world and are constructed within and by that world." Moreover, with globalization, people have access to unprecedented quantities of information, including foreign media, such that our shared systems of meaning stretch across borders and around the globe.

Media studies also allow for an examination of power. Silverstone (2007: 7) uses the term "mediapolis" to signal the way "the world's media are an increasingly significant site of the construction of a moral order." To that end, in a recent analysis of anti-aging superfoods, MacGregor et al. (2018) demonstrate how the media plays a "crucial pedagogic role" in instructing consumers to incorporate superfoods into their diet to attain youthfulness. This work does not tell us if people actually respond by eating more superfoods, but it does signal how superfoods are being enrolled in existing cultural discourses that valorize youthfulness and consumer choice, and how some of those discourses are being shared across different cultural contexts. The embeddedness of media in shared systems of meaning makes it possible to use a media analysis to examine how people jointly construct meaning, how they struggle over meaning-making, and the uneven operation of power as some ideas (and ways of being in the world) are privileged over others.

We conducted this media analysis using magazine articles, newspaper articles, and online content containing the code word "superfood" from the years 1986 to 2015 from English language sources in a LexisNexis search (Figure 1). We did not restrict the media to any single geographical location, since our goal was to examine the ubiquity of the superfoods concept. Nor did we restrict the media type. Our intent was to examine the use of the term superfoods across a corpus, a method Foucault points to as allowing for an examination of the operating "rules" (Foucault 1972: 33), in this case the wider, socially agreed upon rules for what superfoods can and cannot be. Even when texts critiqued each other's use of the term superfoods, with this method it was possible to see how they did so using the same operating rules, pointing to the shared meaning system upon which debates about superfoods are grounded. The LexisNexis search returned 996 documents. In order to have a representative sample, every third article (discarding repeats) from the list of 996 articles was copied and imported into the mixed-methods analysis software Dedoose, resulting in a total of 306 articles considered for coding. Approximately 43% originated from the UK; smaller pools were published in Australia (25%), the United States (12%), Canada (5%), and other (15%). Content was coded for food type (i.e., fruit, vegetables, meat, etc.), associated health conditions and whether a specific food was said to prevent or cure a condition, geography (local or global), and accessibility of specific foods. Through a content analysis we created food and condition charts to measure the range of foods considered to be superfoods and to quantify the diseases to which these foods are linked. We then conducted a qualitative analysis of excerpts coded for health conditions, geography, and accessibility. From this process, it was possible to identify the repetition of key themes across the dataset and to provide some kind of contextualization.

Reviewing the news media coverage of superfoods made visible the ways in which people have assigned common meanings to the category of comestibles called "superfoods," and how such significations allow certain claims to be made about the relationship between food, health, the environment, and what it means to be an ethical consumer, even when those claims seem, on their surface, to be in conflict.

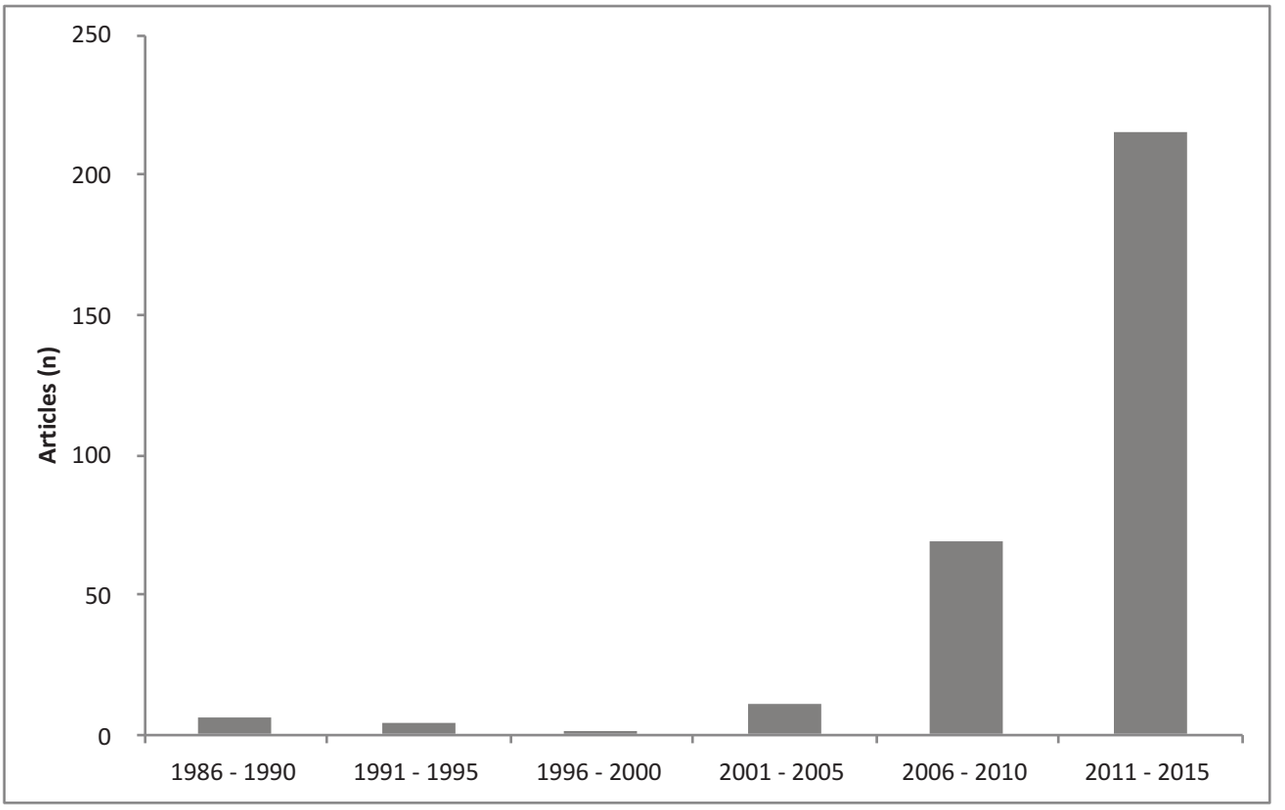

FIGURE 1: *Articles included in analysis by year, 1986–2015.*

THIS FIGURE SHOWS THE NUMBER OF ARTICLES, PER YEAR, THAT WERE ANALYZED FOR THIS RESEARCH. DISTRIBUTION OF ARTICLES IS INCLUDED IN THE ANALYSIS FOR EACH YEAR IN THE TIME PERIOD.

Superfoods, Health, and the Body

Given a lack of systematic investigation into what is considered a superfood and the health conditions to which they are linked, we began our investigation by quantifying this information. Our survey of news media found that a total of 217 specific foods were listed as superfoods, with the majority being fruits or vegetables (Figure 2). Blueberries, broccoli, and kale (mentioned in 87, 63, and 53 articles, respectively) were the most commonly cited. Every major food group was represented, along with comestibles not always associated with "healthy eating," including wine, chocolate, maple syrup, and beef. The consistency across these foods was the equation of superfoods with "whole" foods, which contain some constituent element that makes them beneficial to human health. They are neither fortified nor enhanced. Their value comes from something intrinsic to the food itself and not what has been added to it. Interestingly, despite the emphasis on natural (e.g., coming from nature rather than industrial processing), a superfood might be powdered, processed, or *added* as an ingredient to some other kind of food.

This was possible because, despite references to whole "natural" foods, the health benefits of superfoods were repeatedly described at the molecular level. For example, as one article explained, "Along with tomatoes—'the redder the better'—the list of edibles with potential superfood status includes: Broccoli and broccoli sprouts, which contain sulforaphane, a suspected anti-cancer agent; soy, which packs phytoestrogens that some studies indicate may protect against breast and prostate cancers; and anything containing carotenoids or flavonoids, like cauliflower, carrots, sweet potatoes and oranges" (Guidera 1999). Another article advised readers to "Eat yourself younger," and rely on the minerals in pumpkin seeds to prevent balding, the vitamin E in avocados to prevent a loss of nerve function in the brain, and "three to four Brazil nuts a day" to enhance sperm counts (Weale 2002). It was assumed that processing superfoods and adding them as ingredients did not necessarily degrade this nutritional value.

Our analysis revealed that these 217 superfoods were linked to 71 distinct health conditions, particularly cancer, cardiovascular disease, diabetes, weight gain, and inflammation (Figure 3). However, superfoods were also invoked in

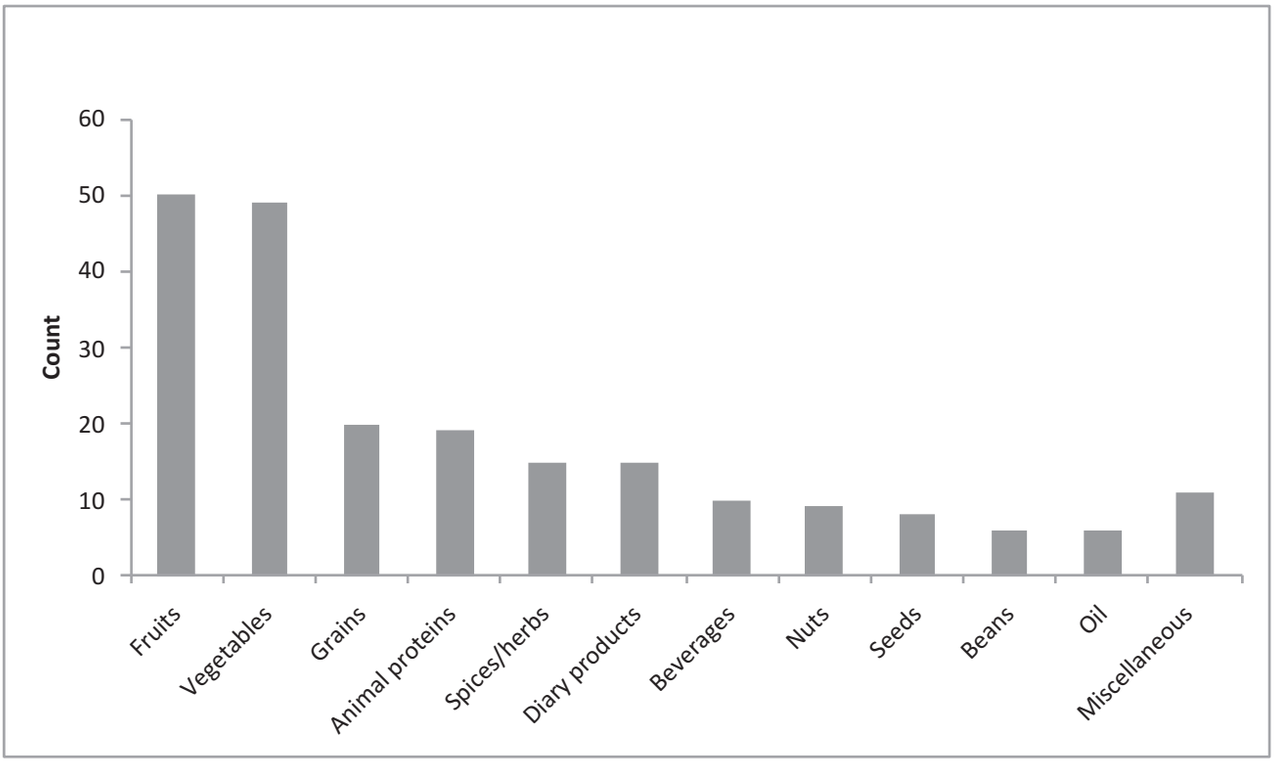

FIGURE 2: *Range of "superfoods."*

THIS FIGURE SHOWS THE RANGE OF FOODS DEEMED "SUPERFOODS" IN OUR ANALYSIS. THE Y-AXIS DENOTES THE NUMBER OF DIFFERENT TYPES OF FOOD THAT FALL INTO EACH CATEGORY. FOR EXAMPLE, FIFTY DIFFERENT TYPES OF FRUITS WERE MENTIONED.

relation to a number of other diseases, including mental health and cognitive impairment (i.e., Alzheimer's, ADHD, depression, anxiety, seasonal affective disorder, dementia), bone and joint problems, infectious diseases, gastrointestinal illness (i.e., celiac disease, upset stomach, constipation), vision impairments, sleep problems, and several other organ-specific conditions. The wide range of conditions reported to benefit from superfood consumption indicates that superfoods are thought to do more than enhance life functions; they are associated with giving and extending life. Therefore, superfoods work at the level of health optimization, maintaining "good" health both now and into the future. There was a surprising lack of evidence to suggest that superfoods are being marketed as an *alternative* to conventional medicine for the above conditions. Because of the popularity of various diets for managing individual health conditions, such as gluten-free (Copelton and Valle 2009) and low starch (Sinclair 2006), we had expected superfoods might be discussed as an option for offsetting healthcare costs, or rejecting pharmaceutical interventions, but this did not come up in our dataset.

In keeping with the association of superfoods and health futures, action codes were most commonly referenced as being *preventative* of developing a specific condition rather than *curing* or *treating* disease. This is perhaps not surprising given the weight of evidence that would be needed to suggest that a specific food could treat cancer, the most commonly cited condition, for example. Such a finding further makes sense in the context of our contemporary focus on healthy lifestyles changes embraced by the "new public health" (Peterson and Lupton 1996), and echoes the MacGregor et al. (2018) findings that anti-aging superfoods are often cast as preventative and protective. The focus on prevention over cure links superfoods with individual responsibility for literally eating "well." Superfoods, it seems, are not so much about the enjoyment of eating, but about creating a future of wellness.

Superfoods also appear to speak to an ethic of healthism, and the contemporary "preoccupation with personal health as a primary—often the primary—focus for the definition of achievement of well-being; a goal which is to be attained primarily through the modification of life styles" (Crawford 1980: 368). Superfoods were offered again and again as a means for individuals to "choose" to prevent diseases through eating, making it possible to offer solutions that can counter

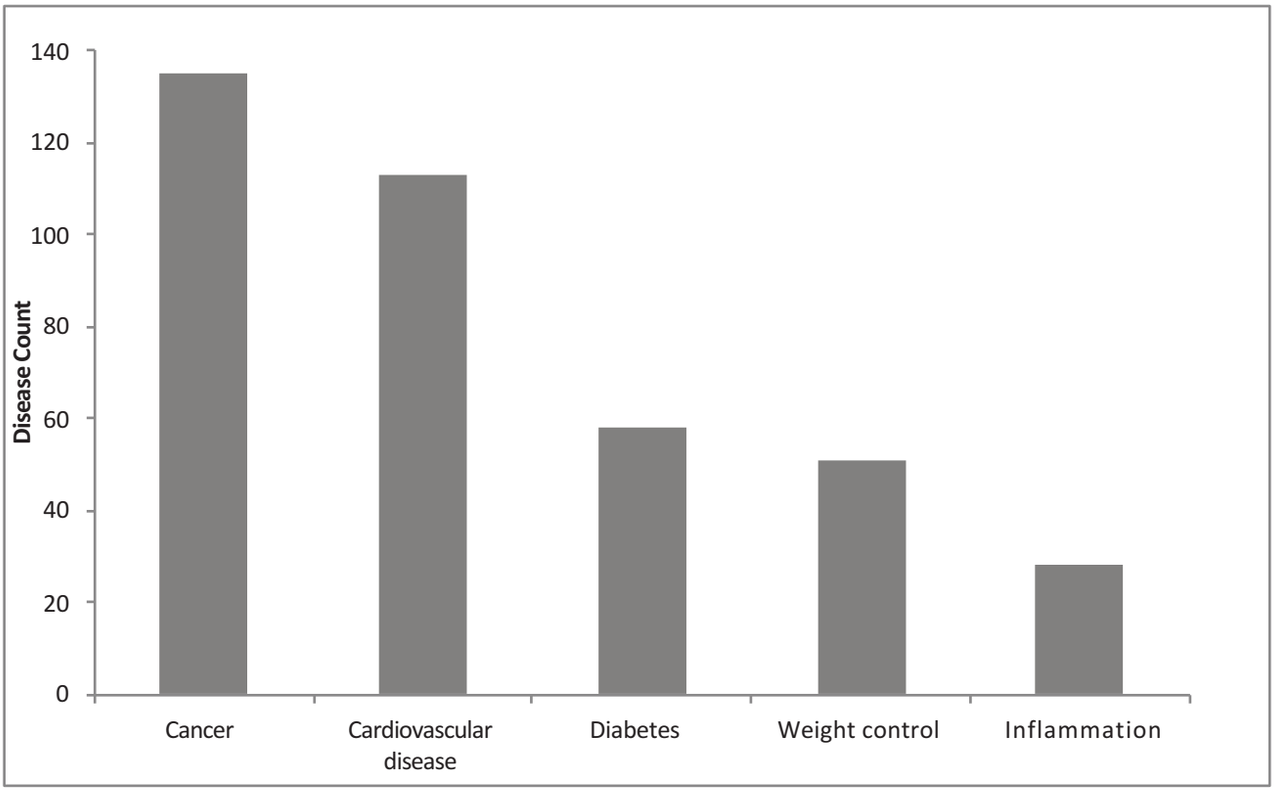

FIGURE 3: *Superfood health actions.*

THIS FIGURE SHOWS THE NUMBER OF TIMES A SPECIFIC AILMENT WAS NOTED AS BEING EITHER PREVENTED OR CURED BY A SUPERFOOD. THE CATEGORY OF CANCER IS AN AGGREGATE OF MULTIPLE TYPES OF CANCER, WHICH INCLUDE PROSTATE, BREAST, STOMACH, LUNG, SKIN, RECTUM, AND OVARIAN CANCERS, IN ADDITION TO GENERAL "CANCERS."

outside structural forces (e.g., the Western diet) but which "lie within the realm of individual choice" (ibid.). In a society that holds some individuals responsible for their own illnesses, superfoods appear to provide an opportunity for sick individuals, especially those with long-term or chronic illnesses, to make themselves over into "good" self-managers (Ellis et al. 2017; MacGregor et al. 2018). Superfoods were repeatedly represented as offering opportunities for people to consume—through both proper eating and purchasing behaviors—as a means of disease management and also perhaps toward a higher social status. In light of our findings that superfoods individualize strategies for *prevention*, it appears that ideas about health futures, healthism, and class are commingling with ideas about what constitutes a superfood.

Accessing Superfoods

Despite the wide range of foods deemed "super" and the number of health conditions they may help to stave off, there was considerable variation regarding whether these foods were actually deemed accessible and/or affordable. In total, 63 article excerpts were coded as accessible, 21 as nonaccessible, 41 as expensive, and 38 as affordable. The results suggest that superfoods are viewed as being both expensive and affordable at roughly equivalent levels. Articles noting that superfoods were expensive can be grouped into three subcategories: (1) they were expensive but worth it, (2) they were expensive but one can find ways to access them more affordably, or (3) they were expensive and not worth it. For those in category 3, superfoods were critiqued based upon misleading or unsubstantiated claims, for having some kind of negative global impact, or for being classist, this final claim reflecting Oude Groeniger et al.'s (2017) discussion of superfoods as a form of "social distinction." For those in category 2, superfoods were worth sourcing at lower prices by either suggesting cheaper alternative foods (i.e., substituting one berry for another), only buying certain items when they are in season, watching for sales, growing at home, or buying locally grown versions (although it was sometimes noted that growing or buying local could present a challenge because of climatic restrictions).

Superfoods were deemed to be accessible if they could be found at a local grocery store, could be a kitchen staple, were

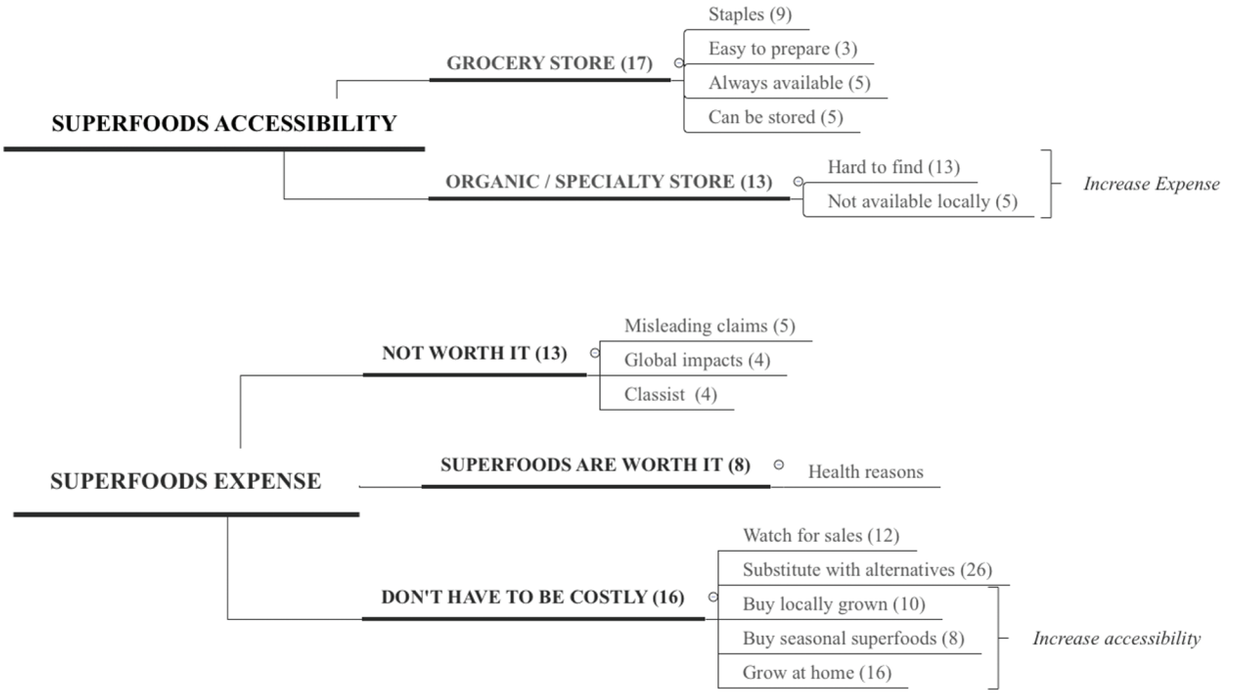

FIGURE 4: *Superfood accessibility and expense.*

THIS FIGURE DISPLAYS RESULTS FROM THE THEMATIC CODING DEMONSTRATING HOW THE ACCESSIBILITY AND EXPENSE OF SUPERFOODS WAS DISCUSSED IN THE ARTICLES. THE NUMBER IN PARENTHESES SPECIFIES THE NUMBER OF ARTICLES ASSIGNED TO THAT CODE.

easy to prepare, were always available, and could be stored for long periods of time. However, an important factor noted was that many of these foods are sourced only through local or online specialty stores, making them less accessible and harder to find. In these findings, we confront paradoxical ideas about whether a superfood is exotic or local, expensive or inexpensive, widely available or accessible to only a few. These discontinuities in how superfoods are represented speak to conflicts over who gets to define healthy eating. The ability to consume exotic, expensive, and largely unattainable foods, for example, can be a sign of prestige, while foods that are local, affordable, and accessible are more democratic in that they enable everyone to eat—or appear to eat—for optimum health.

In the conflicting ideas over what constitutes a superfood, we also get a glimpse at how foods are being used to hold individuals responsible for their health in contrary ways and about what it means to eat well. This finding also raises questions about choice. As Mulligan (2017) tells us, choice implies freedom and especially plays into Western value-systems, but too much choice can be experienced as a burden. If superfoods are ubiquitous and inexpensive, removing structural constraints on their consumption, are people compelled to choose superfoods as a sign that they eat well? In other words, by being given more superfood choices, is one's ability to choose how to eat actually more constrained? On the other hand, by making superfoods widely unattainable for all but the few, do they exacerbate class differences? If illness is equated with personal failure, does the consumption of difficult-to-obtain superfoods gain further symbolic value, e.g., do they do more to remake the ill individual into a good self-manager? Also, underlying this tension regarding accessibility and affordability are problematic cultural imaginaries of what it means to eat an exotic versus locally grown food, an issue we pick up in the following section. Our findings suggest that more work needs to be done to understand how the superfood—regardless of its inherent "natural" state—works as a technology for disciplining individuals to work toward good health, creating social difference, and defining ethical consumption.

Superfoods, Place, and the Environment

While there is much more to be said about the perceived impact of superfoods on the body and their contradictory deployment within the context of public health, these foods are also embedded in environments and markets that range

from the local to the global. From an environmental perspective, we found that superfoods were both portrayed as more *and* less sustainable choices than non-superfoods. Coupled with these distinctions were discussions of global and local food sourcing, and underlying geographic imaginaries of local and exotic. We discuss each of these in turn.

A total of 28 out of the 306 articles made explicit or implicit reference to environmental issues. Three of these articles referenced other types of environments (i.e., cellular, built, and social environments), while the rest made specific reference to the natural environment. A total of nine made broad references to "environmental and social responsibility." Explicit environmental concerns were also raised, particularly within the realm of political economy, ecology, and land/livelihoods transformation. For example, six articles were concerned with the carbon emissions associated with the shipping of superfoods. Others noted potential negative impacts on local livelihoods in locations such as China, Peru, and Brazil where farmers changed production practices to support the export of certain superfoods, thereby increasing local vulnerability. Other articles saw the integration into the global economy as a benefit to developing economies. That only eight percent of the articles we reviewed mentioned the natural environment suggests that these concerns are dwarfed by the association between superfoods and human health. As some scholars have noted, rising demand for superfoods can create new economic niches in places where such foods are native, but they can also lead to problematic practices like monoculture, deforestation, and chemical spraying (Weir 2014). Grounded and case-based scholarship of socio-environmental changes would be instructive to better understand the place of superfoods in ecosystems and livelihood transformations.

Such concerns are not divorced from geographic imaginaries that are embedded within how superfoods are given meaning, and how those meaning systems have wide-ranging and complicated impacts on livelihoods and environments, both surrounding local foods versus those sourced from distant places. That said, in our study, we found that a total of 170 articles made reference to a specific geographical source. Of these, 131 (77%) noted the food to be a nonlocal source (i.e., from a country other than where the article was published), while 39 (23%) noted the food to be a local source. The foods coded as nonlocal had the highest frequency of being from Central/South America (n = 45), Asia (n = 33), and from an unspecified location (n = 26). Food referencing Europe (n = 18), America (n = 15), Africa (n = 8), Middle East (n = 5), and Australia/New Zealand (n = 2) were comparatively less common. In some instances, place names were mentioned as an origin without much additional context. However, others sought to invoke a certain sense of place, drawing on tropes about primitivity, modernity, alterity, and the like (Prins 2002). Consider this article's assertion: "Kunachia is at the forefront of innovation, taking an ancient superfood and combining it with the latest technology to amplify health benefits. Organically harvested by dedicated farmers in Ecuador, Kunachia's chia seeds are blended with probiotics (Bacillus Coagulans), providing the fuel for better nutrition" (*India Retail News* 2015). Other articles took aim at such geographic descriptions. For example, a 2014 *Sun-Herald* article stated, "I don't want to have to go to Tibet, climb a mountain and wait until the full moon rises to get an ingredient," while another from the *Herald Sun* noted, "You don't need to launch an expedition into the deepest corner of the Amazon basin to find a superfood that is packed with antioxidants—you just need to head to your local supermarket" (Hoy 2011).

Despite conflicting arguments about the accessibility of superfoods, the overall prevalence of placed-based meanings in our dataset indicates that superfoods and geopolitics are entangled. More work remains to be done here to untangle which cultural imaginaries are embedded in ideas about what a superfood is and to what effect. For example, do associations between exotic superfoods and "premodern" cultures reproduce older colonial relationships? Does the localization of superfoods give people a sense of control over their health (futures)? How does the debate over the superfood's "exoticness" articulate with individuals' sense of alienation from organizational structures and hierarchies that make them insignificant when it comes to issues of large-scale importance? Many such questions remain to be answered.

Although the instances were fewer, concerns about exotic places and the environment were intimately connected in some instances. One article noted the development potential for such "exotic places" via the cultivation of superfoods for a global market: "In the case of açai berries, a small berry grown in the Amazon, the food is so popular that parts of the rainforest are being preserved to harvest the seeds rather than being logged" (Phillips 2014). The idea that the cultivation of açai berries can help conserve the rainforest further extends a neoliberal logic to forms of market environmentalism—that individuals can protect the environment through consumption. Others, however, implicated the larger global economy of the superfoods movement as a climate change contributor. For example, one article stated, "Rather than buying some ridiculous African algae, with all the CO_2 emissions associated with travel, eating a cheap British apple would be better for the environment too" (Hill 2007). Pivoting from the exoticness of

superfoods to their localness is evident by increasing not only their accessibility and affordability but also the potential of sourcing from organic growers. For some, this in turn lessens reliance on intensive agricultural methods and transport, and opens up possibilities for consuming more vegetable superfoods over meat, further decreasing the environmental impact.

Finally, clear issues emerged from our analyses that are of interest to socio-environmental scholars. In several instances, excerpts linked the popularity of superfoods to the transformation of environmental practices and livelihoods. Given the market value of these foods, case studies that examine how the designation of something as a superfood changes its production value are important. Although this study examines how superfoods are portrayed in the media, it tells us little about why people choose to use or cultivate them, although some inferences can be made. Interviews with consumers and producers would be useful in this regard. We suggest that social and environmental scientists have much to offer to the conversation surrounding superfoods.

Concluding Thoughts and Future Directions

Our analysis suggests that superfoods are embedded within a common discourse that privileges food choice and which associates eating with health. As such it is possible to identify commonly shared meanings, even among competing claims and despite a lack of scientific and regulatory definitions. We found six key ingredients, which together, constitute a superfood.

1. Superfoods are "whole," chemically unadulterated foods and food products. Although they may be ground, powdered, or processed in some way, or they may be added to something else as a single ingredient, their basic nutritional structure has not been modified or degraded. Their value is intrinsic to them.
2. Superfoods are constituted by specific nutrients that have known health benefits. Research is cited in the media pieces evaluated herein to substantiate claims that particular foods are "super." Additionally, the target is the prevention of named health conditions rather than a more generalized concern with holistic health. Moreover, authority is derived through the invocation of specific nutrients and medico-scientific research.
3. Superfoods are associated with ethical citizenship. Although there are conflicting ideas about how consuming superfoods constitutes ethical behavior, it is clear that ideas about superfoods have articulated with ideas about healthism, the individualization of body management, the re-moralization of sick individuals, and other such contemporary frameworks for understanding what it means to be a moral person. This means superfoods should not be conceptualized as merely a type of food. Rather, they must be understood as embedded within a social milieu and deriving at least some of their meaning from how they relate to other ways of ethical eating.
4. Superfoods buy into contemporary ideas about health optimization. Superfoods are not just about enhancing life. They are about optimizing life through a focus on health futures and the emphasis on the preventive over the curative. To fully understand them, superfoods cannot be divorced from shifting ideas about what it means to be "healthy."
5. Superfoods are associated with neoliberal values, of which health optimization is just one. Embedded within superfood invocations is an ethic of free choice. Regardless of claims about their degree of accessibility, it is assumed that superfoods are products, made available through the relatively unfettered flow of goods within and through a free global market. It is also assumed that it is possible to protect health through consumption. Consumption, in this imaginary, takes two forms. It refers both to eating practices and purchasing behaviors.
6. Superfoods are embroiled in claims to expertise, signified by the lack of consensus about the social parameters that should be used to differentiate superfoods from other foods. Are they "exotic" or local? Expensive or affordable? Accessible or inaccessible? More importantly, who gets to decide?

The lack of consensus in the sample on some of these variables might confound attempts to construct an agreeable definition of a superfood, but they do not make such attempts impossible. Rather, we assert that where there appears to be a "lack" of consensus, key areas for future research into superfoods become visible. We suggest that the lack of consensus over these variables is not a failure to agree upon what makes a superfood a superfood, but an indication of the wider biopolitical struggles occurring regarding the kinds of symbolic capital, types of ethical citizenship, and claims to expertise that can be made with regard to superfoods. On the one hand, this effectively dilutes the meaning of the term. On the other, their variety can open possibilities for new food experiences, as well as new options for staving off forms of illness, and opportunities for individuals to redefine themselves socially by how they eat. Struggles over meaning, such as the ones identified in this research, can help to explain not only why superfoods have become so popular in the media over the past two decades, but how superfoods have become connected to a shared system of meaning about health, productivity, and environmental consciousness. Clearly, and despite many arguments to the contrary, superfoods are much more than a marketing term.

NOTE

*These authors contributed equally to the work.

REFERENCES

Academy of Nutrition and Dietetics (AND). n.d. "Health." Accessed July 11, 2018. www.eatright.org/health.

Ayo, Nike. 2012. "Understanding Health Promotion in a Neoliberal Climate and the Making of Health Conscious Citizens." *Critical Public Health* 22, no. 1: 99–105.

Berry, Chris, So-yŏng Kim, and Lynn Spigel, eds. 2010. *Electronic Elsewheres: Media, Technology, and the Experience of Social Space*, vol. 17. Minneapolis: University of Minnesota Press.

Biltekoff, Charlotte. 2010. "Consumer Response: The Paradoxes of Food and Health." *Annals of the New York Academy of Sciences* 1190, no. 1: 174–78.

———. 2013. *Eating Right in America: The Cultural Politics of Food and Health*. Durham, NC: Duke University Press.

———, Jessica Mudry, Aya H. Kimura, Hannah Landecker, and Julie Guthman. 2014. "Interrogating Moral and Quantification Discourses in Nutritional Knowledge." *Gastronomica* 14, no. 3: 17–26.

Bishop, Karen S., and Lynnette R. Ferguson. 2015. "The Interaction between Epigenetics, Nutrition and the Development of Cancer." *Nutrients* 7, no. 2: 922–47.

Blake, Megan K., Jody Mellor, and Lucy Crane. 2010. "Buying Local Food: Shopping Practices, Place, and Consumption Networks in Defining Food As 'Local'." *Annals of the Association of American Geographers* 100, no. 2: 409–26.

Boykoff, M. T., and J. M. Boykoff. 2004. "Balance as Bias: Global Warming and the US Prestige Press." *Global Environmental Change* 14, no. 2: 125–36.

Breeze, R. 2017. "Explaining Superfoods: Exploring Metaphor Scenarios in Media Science Reports." *Ibérica* 34: 67–88.

Burrows, Roger, Sarah Nettleton, and Robin Bunton. 1995. "Sociology and Health Promotion: Health, Risk and Consumption under Late Modernism." *Sociology of Health Promotion* 1: 1–12.

Carlisle, Sandra, and Phil Hanlon. 2014. "Connecting Food, Well-Being and Environmental Sustainability: Towards an Integrative Public Health Nutrition." *Critical Public Health* 24, no. 4: 405–17.

Choi, Sang-Woon, and Simonetta Friso. 2010. "Epigenetics: A New Bridge between Nutrition and Health." *Advances in Nutrition* 1, no. 1: 8–16.

Copelton, Denise A., and Giuseppina Valle. 2009. "'You don't need a prescription to go gluten-free': The Scientific Self-Diagnosis of Celiac Disease." *Social Science and Medicine* 69, no. 4: 623–31.

Coveney, John. 2006. *Food, Morals and Meaning: The Pleasure and Anxiety of Eating*. London: Routledge.

Crawford, Robert. 1980. "Healthism and the Medicalization of Everyday Life." *International Journal of Health Services* 10, no. 3: 365–88.

———. 2004. "Risk Ritual and the Management of Control and Anxiety in Medical Culture." *Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine* 8, no. 4: 505–28.

———. 2006. "Health as a Meaningful Social Practice." *Health* 10, no. 4: 401–20.

Das, Veena. 2001. *Stigma, Contagion, Defect: Issues in the Anthropology of Public Health*. NIH Conference on Sigma. Johns Hopkins University.

Dean, Mitchell. 1999. *Governmentality: Power and Rule in Modern Society*. Thousand Oaks, CA: Sage.

Ellis, J., E. Boger, S. Latter, A. Kennedy, Fiona Jones, C. Foster, and S. Demain. 2017. "Conceptualisation of the 'Good' Self-Manager: A Qualitative Investigation of Stakeholder Views on the Self-Management of Long-Term Health Conditions." *Social Science and Medicine* 176: 25–33.

European Commission. n.d. "Nutrition and Health Claims." Accessed January 21, 2019. https://ec.europa.eu/food/safety/labelling_nutrition/claims_en.

Foucault, Michel. 1972. *The Archaeology of Knowledge and the Discourse on Language*. Translated by A. M. Sheridan Smith. New York: Pantheon Books.

Griffiths, Sian, and Jennifer Wallace. 1998. *Consuming Passions: Food in the Age of Anxiety*. Manchester: Manchester University Press.

Guidera, Mark. 1999. "Superfoods Pack a Healthy Punch." *Hamilton Spectator*, July 19, 1999.

Harvard Heart Letter. 2014. "Sizing Up 'Superfoods' for Heart Health." March, 2014. www.health.harvard.edu/heart-health/sizing-up-superfoods-for-heart-health.

Hayden, Dolores. 2002. *Redesigning the American Dream: The Future of Housing, Work, and Family Life*. New York: W.W. Norton.

Hayes-Conroy, Jessica, Adele Hite, Kendra Klein, Charlotte Biltekoff, and Aya H. Kimura. 2014. "Doing Nutrition Differently." *Gastronomica* 14, no. 3: 56–66.

Hill, Amelia. 2007. "Forget Superfoods, You Can't Beat an Apple a Day: The Craze for Exotic, Expensive Foods Is Not Backed Up by Science, Warn Leading Dieticians." *The Guardian*, May 13, 2007. www.theguardian.com/uk/2007/may/13/health.healthandwellbeing1.

Hoy, Daniel. 2011. "You Say Tomato, and I Say…" *Herald Sun*, January 3, 2011.

India Retail News. 2015. "Kunachia Launches Innovative Superfood Blend at Sam's Clubs across Nation." August 26, 2015.

Irwin, Neil. 2014. "Special Sauce for Measuring Food Trends: The Friend Calamari Index." *New York Times*, August 12, 2014. www.nytimes.com/2014/08/12/upshot/special-sauce-for-measuring-food-trends-the-fried-calamari-index.html?_r=0.

Jackson, Jean E. 2005. "Stigma, Liminality, and Chronic Pain: Mind-Body Borderlands." *American Ethnologist* 32, no. 3: 332–53.

Keane, A. 1997. "Too Hard to Swallow? The Palatability of Healthy Eating Advice." *Food, Health and Identity: Approaches from the Social Sciences*, edited by Pat Caplan, 172–92. London: Routledge.

LaMotte, Sandee. 2018. "Health Effects of Coffee: Where Do We Stand?" *CNN*, April 12, 2018. www.cnn.com/2015/08/14/health/coffee-health/index.html.

Loyer, Jessica. 2017. "The Cranberry as Food, Health Food, and Superfood: Challenging or Maintaining Hegemonic Nutrition?" *Graduate Journal of Food Studies* 4, no. 2: 33–49.

Lunn, Joanne. 2006. "Superfoods." *Nutrition Bulletin* 31, no. 3: 171–72.

MacGregor, Casimir, Alan Petersen, and Christine Parker. 2018. "Promoting a Healthier, Younger You: The Media Marketing of Anti-Ageing Superfoods." *Journal of Consumer Culture*. https://journals.sagepub.com/doi/10.1177/1469540518773825.

May, Jon. 1996. "'A little taste of something more exotic': The Imaginative Geographies of Everyday Life." *Geography* 81: 57–64.

McCormack, Derek. 1999. "Body Shopping: Reconfiguring Geographies of Fitness." *Gender, Place and Culture: A Journal of Feminist Geography* 6, no. 2: 155–77.

Mulligan, Jessica. 2017. "The Problem of Choice: From the Voluntary Way to Affordable Care Act Health Insurance Exchanges." *Social Science and Medicine* 181: 34–42.

Oude Groeniger, Joost, Frank J. van Lenthe, Mariëlle A. Beenackers, and Carlijn B. M. Kamphuis. 2017. "Does Social Distinction Contribute to Socioeconomic Inequalities

in Diet: The Case of 'Superfoods' Consumption." *International Journal of Behavioral Nutrition and Physical Activity* 14, no. 1: 40.
O'Connor, Anahad. 2011. "Coffee Drinking Linked to Less Depression in Women." *New York Times*, September 26, 2011. https://well.blogs.nytimes.com/2011/09/26/coffee-drinking-linked-to-less-depression-in-women/.
Parker-Gibson, Necia. 2015. "Quinoa: Catalyst or Catastrophe?" *Journal of Agricultural and Food Information* 16, no. 2: 113–22.
Petersen, Alan, and Deborah Lupton. 1996. *The New Public Health: Health and Self in the Age of Risk*. Thousand Oaks, CA: Sage.
Phillips, Nicky. 2014. "Superfoods or Superfrauds?" *Sydney Morning Herald*, June 5, 2014.
Prins, Harald. 2002. "Visual Media and the Primitivist Perplex Colonial Fantasies, Indigenous Imagination, and Advocacy." In *Media Worlds: Anthropology on New Terrain*, edited by Faye Ginsburg, Lila Abu-Lughod, and Brian Larkin, 58–74. Berkeley: University of California Press.
Rose, Nikolas. 2007. *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century*. Princeton, NJ: Princeton University Press.
Scrinis, Gyorgy. 2008. "On the Ideology of Nutritionism." *Gastronomica* 8, no. 1: 39–48.
———. 2013. *Nutritionism: The Science and Politics of Dietary Advice*. New York: Columbia University Press.
Silverstone, Roger. 2007. "Media and Morality." In Silverstone, *Media and Morality: On the Rise of the Mediapolis*, 1–24. Cambridge: Polity Press.
Sinclair, Carol. 2006. *The IBS Low-Starch Diet: Why Starchy Food May Be Hazardous to Your Health*. New York: Random House.
Small, Ernest. 2013. "Blossoming Treasures of Biodiversity: 42. Quinoa–Is the United Nations' Featured Crop of 2013 Bad for Biodiversity?" *Biodiversity* 14, no. 3: 169–79.
Sun Herald. 2014. "Superfoods." February 2, 2014.
Sygo, Jennifer. 2014. *Unmasking Superfoods: The Truth and Hype about Açai, Quinoa, Chia, Blueberries and More*. New York: HarperCollins.
Szarc vel Szic, Katarzyna, Ken Declerck, Melita Vidaković, and Wim Vanden Berghe. 2015. "From Inflammaging to Healthy Aging by Dietary Lifestyle Choices: Is Epigenetics the Key to Personalized Nutrition?" *Clinical Epigenetics* 7, no. 1: 33.
Weale, Natasha. 2002. "Eat Yourself Younger; Forget Expensive Creams and Pills—Simply Changing Your Diet Could Take Years Off You, Helping You Stay Fit and Healthy." *Sunday Mail*, February 24, 2002.
Weil, Andrew, and Sam Fox. 2014. *True Food: Seasonal, Sustainable, Simple, Pure*. New York: Little, Brown.
Weir, Kimberly. 2014. *From Jicama to Jackfruit*. Boulder, CO: Paradigm.