More Than Your Nutrition 101:

Exploring Systemic Causes of Childhood Obesity

by

Mika Monet' Livers Tesfaye

Department of Food Systems and Society

Marylhurst University

A thesis submitted in partial satisfaction of the

requirements for the degree of

Master of Science in Food Systems and Society

March 15, 2016

Thesis Advisors: Jessica Spayde, Sean Gillon

Table of Contents

List of Tables

List of Figures

Abbreviations and Acronyms

BART	Bay Area Rapid Transit System
BMI	Body Mass Index
C4D	Communication For Development
CCF	Community Capital Frameworks
CDC	Center for Disease Control
CDPH	California Department of Public Health
CHB	Children's Hospital Boston
CHNA	Community Health Needs Assessment
CHO	Children's Hospital Oakland
CHORI	Children's Hospital Oakland Research Institute
CYC	Community Youth Center Concord
FSS	Food Systems in Society
HEAL	Healthy Eating Active Living
HHFKA	Healthy, Hunger-Free Kid's Act
INC	I'm IN Charge program
OWL	Optimal Weight for Life
SEM	Sociological Ecological Model
WHO	World Health Organization

I would like to pay tribute to my parents, siblings, husband, daughter, friends, and colleagues for supporting me in my endeavors to study and discuss the most complicated matters that involve society and its injustices, as well as the possibilities of unimaginable reforms.

Acknowledgements

First off, I would like to thank John Matsui, the Founder and Director of the Biology Scholars Program that has been established at the University of California Berkeley for twenty years, serving students like myself in order to diversify the field of science and medicine. I would also like to thank Professor Barry Shane for his encouragement and support while studying nutrition throughout my undergraduate career. I would like to thank Dr. Carolyn Jasik, Lead Physician and Grant Recipient of Camp FUN (Fitness and Understanding Nutrition) and Starfish HEALS (Healthy Eating and Active Learned Swimming), Kerri Rice, Camp FUN Program Coordinator, and Kirsten Graves, the Registered Dietitian that I have had the pleasure of working with in the above mentioned projects concerning nutrition education. Because of the work we have done, I was inspired to learn more about our food systems and the policies surrounding healthy food access, in which I have Dr. Patricia Allen, Department Chair of the Marylhurst University Food Systems in Society Graduate Program, Dr. Sean Gillon, Jessica Spayde, and Emily Burrell to thank for. I am grateful to you all.

Abstract

Obesity is unequally distributed by class and race, and with this I begin to inquire further about what is being done to address these differences. In this thesis I explore childhood obesity interventions, asking to what extent current pediatric healthcare efforts are addressing the structural inequalities experienced by children who are diagnosed as overweight or obese. I utilize a case study approach comparing (1) Children's Hospital Oakland programs HEAL and Camp FUN and to (2) Children's Hospital Boston programs New Balance Foundation and OWL (Optimal Weight for Life) Programs with the goal of examining to what extent these outpatient initiatives address obesity as a public health issue. Although childhood obesity is often described as a public health issue, my approach to inquiry is based on challenging individual based intervention, primarily focusing on one's diet and exercise or activity level as a sole strategy for success. To do so, I argue that these initiatives need to prioritize community capitals (social, cultural, built, financial, political, human, and natural capitals), and the Sociological Ecological theory to encourage food system interventions to address the external drivers that lead to the high prevalence of obesity in low income communities of color. I also discuss how there is a higher disparity within low income demographics of color, and how this is a prime example of systemic injustices that is apparent in communities experiencing food insecurity.

Keywords: childhood obesity, sociological ecological model (SEM), community capital frameworks (CCF), food security, food justice, food rights.

Chapter One

Introduction

Growing up overweight, I became very interested in the topic of childhood obesity. While studying nutrition as an undergraduate at UC Berkeley, I learned the importance of eating a varied and healthful diet as a method to protecting one's health. And although knowing what one eats is significant for preventing obesity and associated health problems such as Type II Diabetes, high blood pressure, and cardiovascular disease, I learned that it is difficult to translate knowledge into practice. As stated before, I have had personal experience with being overweight as a child, and I can testify to how difficult it was. Not being able to perform physically at the same pace as others, being ridiculed for my appearance, feeling reluctant and embarrassed to collaborate with others in any circumstance because of my weight and low self-esteem were all reflective about the struggle of being overweight. But what mattered more than all of that combined, was my health. I remember the day my pediatrician told my mother that I was at risk of having high blood sugar and being diagnosed with Type II Diabetes (Centers for Disease Control and Prevention, [CDC], 2015). After learning how my Great Aunt passed from high blood sugar and heart disease, my mother decided to enroll me in programs that would make me become more physically fit. Although I was participating in different sports leagues such as volleyball and kickball, I was still eating like I was before and perhaps more. My mother worked full time, and would often buy fast food or TV dinners for my family and I to eat, while giving us money to buy snacks with during school time. All of this served as factors affecting my overall health. Now, I am not blaming my mother for any of this, but despite knowing about nutrition and what healthy foods were, knowledge was hard to apply. When other factors such as a lack of income and lack of access to healthful foods are apparent, a sufficient diet of healthy options

becomes an obstacle. Food was food, and if you were hungry you would eat. This was the mentality that I grew up with.

From this, I later decided that I wanted to study nutrition extensively and major in community nutrition where I would combine both my practice and expertise in the field to educate others. Since then, I have been involved in various organizations focusing on child health and nutrition education. One was the Healthy Ambassador Program, a year round program offered at Highland Hospital dedicated to outreach workshops centered on health and nutrition education in Oakland and Richmond school districts. The other was Camp FUN, a six-week program dedicated to providing kids ages 7-9 with proper nutrition education and recreational opportunity. Both of these experiences were made possible by being involved in BSP (Biology Scholars Program), a program based on supporting and encouraging minorities at UC Berkeley to pursue careers in medicine and healthcare professions.

CDC (2015 p.1) states, “From 2011-2012, childhood obesity more than doubled in children and quadrupled amongst Hispanics and African Americans which ranged from 20-22% versus 14% of those Caucasian groups.” The health consequences of obesity are increased risk of “stroke, cancer, high cholesterol, liver and gallbladder disease, sleep apnea and respiratory problems,” amongst many other health conditions” (CDC 2015).

Despite signs of progress, such as the Healthy, Hunger-Free Kids Act (HHFKA) of 2010 which legislated national funding and policy setting to improve school nutrition programs and food assistance programs, “childhood obesity is still more common among certain racial and ethnic groups” (CDC 2015 p.1). Although “obesity and extreme obesity among US low-income*, preschool-aged children went down for the first time in recent years, obesity

prevalence is the highest among children in families having an income at or below the poverty threshold" (CDC 2015 p.1).

The consequences of this disparity is what I had lived with and still live with. This disproportionate effect in which marginalized, low income people of color experience higher incidence of obesity is more than what biology and genetic predispositions can explain (Kyung et al. 2012, p.9). Discussing access to healthy food, in terms of affordability as well as availability, is essential when proposing solutions to address these differences between communities.

Becoming aware of these systematic disparities, I became more intrigued with food systems and policies, which lead me to the Marylhurst University Food Systems and Society (FSS) Graduate Program. Conducting research in the FSS program has led me to examine childhood obesity and health initiatives' definitions of success, while problematizing individual approaches (as opposed to a societal approach) to treating childhood obesity. My hypothesis is that these initiatives are not doing as well as they could because they are not treating childhood obesity like a social problem.

The next chapter explains the purpose of the research, which is to learn to what extent health problems and health solutions are being associated with individual choices rather than systemic causes. I want to help academics, popular authors, and health and nutrition practitioners understand that there are multiple levels of influence that contribute towards childhood obesity. I examine these multiple levels of influence by utilizing the community capital framework and the sociological ecological model (SEM). I argue that with a multi-level, systemic approach, health practitioners can forge relations with policy makers and employ systemic strategies to realistically decrease childhood obesity rates. Instead of focusing on the individual as the

primary source of intervention, these approaches can better critique how well current health programs are addressing these systemic factors, as well as how to propose better solutions.

In Chapter 3, I explain my methodology and methods for this research. This study examines two case studies, UCSF Children's Hospital Oakland and Children's Hospital Boston New Balance Foundation, as ways to critique current measures on improving individual dietary and physical changes of those children enrolled.

In Chapter 4, I analyze my research questions as to how success is measured, as well as to how current health programs are addressing systemic factors, and how solutions can improve in regards to decreasing childhood obesity. Findings conclude that successful measures are primarily measured by hospital protocols for intervening and medically treating at the individual level with addressing pediatric patients that suffer from obesity complications. And although external efforts are being made, the individual is still seen as the point of intervention, and there is much room for improvement with integrating community capital frameworks. Food justice, food security, and food rights platforms are necessary to facilitate the integration of these community capital frameworks so that poverty, limited access to healthful food, and fast food establishments within low income communities, are viewed as criminal and harmful to the health of families. I propose systemic solutions for decreasing childhood obesity rates, such as an increase in minimum wage, an increase in farmer's markets within impoverished communities, and a curtailing or banning of fast food franchises in certain locales.

In Chapter 5, I conclude the thesis by summarizing that the problem is that most healthcare initiatives programs are taking an individual approach towards an issue such as childhood obesity that cannot be addressed at the individual level. I argue that this problem must be addressed at the social, cultural, structural, and economic levels. I suggest areas of

improvements for health initiatives, and I suggest efforts towards systemic food policy reform in the US so that children and families may attain a real chance at overcoming diet-related health problems.

Chapter Two

Background and Significance

In this chapter, I problematize that childhood obesity is often seen as an individual problem requiring a focus on individual intervention. First, I review federal campaigns and policy as well as national expenditures in healthcare, and academic literature on health program initiatives. This step is crucial to first understand how information is passed publicly and how this can affect institutional, organizational, and individual interpretation. Next, I examine social, cultural, structural, and economic drivers of childhood obesity in addition to identifying opportunities for utilizing the community capital frameworks to interpret drivers of obesity. The examination of these drivers leads me to argue that the problem of obesity is firmly rooted within a system of oppression. Each process involving the analysis of federal and public health initiatives, academic studies, and external factors affecting childhood obesity rates are each connected by serving as a strategy to identify and propose solutions to problems in society. I aim to identify points not discussed as heavily within federal initiatives and public health publications in order to argue for new ways of finding solutions.

This chapter argues that childhood obesity is a social problem not an individual one. Often health market program initiatives reiterate a "be active and eat healthy" philosophy to solve problems (Dietary Guidelines for Americans. 2010; Physical Activity Guidelines for Americans, 2008). On the contrary, I argue this philosophy is far from addressing high obesity rates.

Because there is an increasing presence of obese children in the US, public health initiatives have often participated in discussions, resolutions, and marketing strategies to address this as a public health issue. "Public health refers to all organized measures (whether public or

private) to prevent disease, promote health, and prolong life among the population as a whole" (World Health Organization [WHO], 2016). If one advocates rights to healthcare, clean water and air, and access to family planning resources, then food can also be argued as a right, for access to healthy food is essential for one's wellbeing and overall health. See Anderson 2012.

Exploring Strategies and Solutions to Childhood Obesity

In this section, I explore some examples of perceptions and proposed solutions towards addressing childhood obesity including the national icon First Lady Michelle Obama, and known healthcare administrations like Kaiser Permanente. I use these examples to argue that health problems and solutions often are defined too narrowly. Childhood obesity is more than just a consequence of poor dietary habits, and a lack of activity, and it will require more than medication and nutrition education to help resolve this health problem. Intervention at the individual level so far has not resolved the differences of statistics that result in findings that conclude children of color, and children in poverty are diagnosed more often as being obese than any other racial or income group. I argue that it is essential to question what else is contributing to such differences because until we can help those most at risk, then we are not truly implementing successful measures, and more importantly, we are not providing healthful solutions for all people.

During her May 13, 2010 speech at the Let's Move Convention addressing her Anti-Childhood Obesity Action Plan, the First Lady, Michelle Obama, discussed specific details outlining necessary actions to address childhood obesity. She recommended "more infant breastfeeding, more sidewalks, curbed time with digital media, and a removal of deep fryers out of schools" (Let's Move Convention 2010). It is important to recognize the power and influence that came with her speech in recognizing the necessary recommendations to combat childhood

obesity. Not only was the HHFKA legislated in December of 2010, but the First Lady launched "My Plate or MiPlato, as an easy to understand icon to help parents make healthier choices for their families. As a result, more than 6,100 community groups and 100 national organizations and corporations have partnered with the USDA to give families across the country access to this important nutritional information" (Let'sMove.org 2016). The reason I chose to refer to this speech is because I want to highlight how, although recommendations listed above are more varied in scope than typical approaches to obesity, there is much more to this problem than is being addressed. For instance, this initiative would benefit by widening its scope to include challenging fast food industry establishments and fighting for food rights.

National Health Expenditures data from Centers for Medicare and Medicaid Services state that "in recent history, increases in prescription drug costs have outpaced other categories of health care spending, rising rapidly throughout the latter half of the 1990s and early 2000s" (Kaiser Family Foundation 2010). In other words, there are more companies willing to invest in the drug business as remedies to health problems, than companies willing to invest in programs that work to prevent health problems in the first place.

Academic Literature

There has been a great deal of research published on the topic of child obesity which demonstrate a variety of perspectives on problems and solutions. For example, Jean Cobb (2011) argues that "there is a positive relationship between child readiness to change and the child's own report of social anxiety symptoms" (Cobb 2011). Cobb (2011) analyzes child behavior towards self-image, suggesting that solutions to tackle child obesity are effective when the child decides for his or herself that he or she is willing to change. Cobb (2011) is endorsing an individual approach to resolving childhood obesity through child behavior, but this is

problematic because children often lack the autonomy to provide for themselves because of their dependency to parents, but more so they are limited to what their environment has to offer and at what price. On the other hand, Exner (2010) argues that "exergames (i.e. video games that require gross motor activity) are adequate at promoting physical activity" (Exner 2010). Exner (2010) claims that "adolescents have shown measurable benefits through positive weight status change, self-efficacy, self-esteem, friendship quality, and executive function during an exergame intervention" (Exner 2010). Exner is also endorsing an individual approach to resolving childhood obesity through physical activity, but this is problematic because not only does it recognize who is able to afford these games, but more importantly it ignores other factors such as creating liveable and attainable recreational space outside of one's home as being beneficial. This leads me to Coats (2011) argument about city planning and public health collaboration as being necessary for proposing change to obesity rates. Coats (2011) conducts a historical analysis based on a 19th century intervention during the rapid industrialization period aimed to combat infectious diseases, as a way to suggest that such intervention is also needed to combat child obesity. Coats (2011) is endorsing a systemic approach that advises revision of built environment as well as integration with public health organizations to combat health related issues like obesity. I argue that Coats (2011) systemic approach serves as a crucial step in alleviating childhood obesity.

Unlike Cobbs (2011) and Exner (2010) individual centered approach, I continue to argue based on similar systemic approaches in which Coats (2011) advises for more public health organizations collaborations on influencing one's physical environment. Public health publications and broader research based studies is another area essential to finding out more about the challenges to proposed solutions of childhood obesity. Examining childhood obesity

through a public health perspective helps elicit the environment as being essential to critique in one's condition of wellbeing and thus is necessary to consider further.

Neff et al. (2009) describe, "Evidence that the higher price of healthier foods contributes to poor diets among lower-income populations is growing. In general, nutrient-dense foods like fruits and veggies are more expensive than energy-dense foods with relatively high sugar and fat content." In other words, healthy food may be geographically accessible to a low income population, but it often costs more than cheaper processed foods or a fast food. Therefore, healthy food is not genuinely accessible to low-income populations because of a lack of purchasing power. The combination of limited financial means and the high price of healthful foods creates a situation where eating healthy is difficult for people experiencing poverty.

Transportation is another consumer constraint to obtaining healthy food, particularly in rural communities. Bell et al. (2009, p.19) explain that "about 2.1 million households do not own a vehicle and live more than one mile from the nearest supermarket…the lowest vehicle ownership occurs among low-income people, further exacerbating the challenges to accessing healthy food in low-income communities." This structural problem in which one's residence and proximity to healthful food is problematic for this causes yet another limitation in access to being able to attain a healthful diet.

Korgen and White (2015, p.134-146) explain, "Black and Hispanic Americans lag behind most other racial groups in America in terms of income, wealth, education, and employment, and despite all of this, research of many sociologists reveal that whites believe that the socioeconomic statuses of blacks are better than they actually are." This shows that white people demonstrate a general ignorance of social injustices. These injustices are also apparent with who can and who cannot afford more healthful foods. According to (Walker et al. 2010 p.881) urban

areas with fewer supermarkets and small grocery stores experience higher food prices. It is later noted that predominately Black neighborhoods have fewer supermarkets compared to predominately White neighborhoods, and often lack the financial ability to buy or access healthy foods. This is important to consider because white people are also ignorant to the social injustices that occurs in our food system. Not everyone has equal access to healthful food. Bell et al. (2013, p.19) state:

> Healthy food retailers—grocery stores; farmers' markets; cooperatives; mobile markets; and other vendors of fresh, affordable, nutritious food—are critical components of healthy, thriving communities. Without access to healthy foods, a nutritious diet and good health are out of reach, and without grocery stores and other fresh food retailers, communities are also missing the commercial vitality that makes neighborhoods livable and helps local economies thrive.

Based on this quote, I argue that although retailers have the potential of serving as a catalyst for healthy food access, the lack of these establishments serving more healthful alternatives serve as the biggest barriers within marginalized communities. For example, a food justice initiative surveyed residents from six flatland neighborhoods in West Oakland, an area without any supermarkets, in which all reported having to travel outside of Oakland to purchase affordable, healthy food (Alkon & Agyeman 2011). It is imperative that city planners and policy makers prioritize the construction and implementation of healthy foods in low-income neighborhoods, for without such structural intervention, I argue that the city is in violation of the human right to nutritionally adequate food. And there are many non-profit organizations such as Phat Beets, Mandela Market Place, Food First, and the Oakland Food Policy Council, all founded in Oakland that would argue the same. I would continue to argue this from a public health food systems framework. Bell et al. (2013 p.19) state:

> Comprehensive equity-oriented approaches are needed to improve health, and research suggests that healthy food access is an important component to improving health outcomes. After years of battling an obesity crisis—with food environments that make unhealthy food fast, cheap, and easy to find and physical environments that make regular exercise difficult—small decreases in childhood obesity rates are finally being achieved in a handful of cities, regions, and states across the country. All of these places attribute their progress to broad sweeping and comprehensive reform across multiple sectors: policy and environmental changes such as regulating the types of foods and beverages available in schools and government work sites, building new pedestrian and bicycle routes, improving the purchasing power of consumers with vouchers for fresh produce at farmers' markets, implementing financing initiatives to attract grocery stores and other healthy food retailers, providing nutrition education to children and adults, and a plethora of other healthy community strategies.

Bell et al. (2013) also state how special attention needs to be paid to communities of color for these are the communities most in need, and who often experience longstanding inequities. Understanding the inequities that communities of color have faced in history, and presently, is essential to understand when proposing solutions that aim to resolve the vast differences and systemic factors that contribute to higher obesity rates among communities of color based on the lack of healthy food access. Bell et al. (2013 p.19) state:

> In the places that have seen improvements in health outcomes, only in Philadelphia have trends improved for both white children and children of color. Previous experience tells us that resources must be targeted to those communities most in need to alleviate long-standing inequities, and emerging evidence suggests that the greatest benefit is reaped from interventions that address access in places where the need is greatest. For example, Philadelphia, which saw these improvements across racial lines, employed a citywide approach called Get Healthy Philly that included nutrition education and wellness activities in every school. In addition to these efforts, a robust network of community farmers' markets, fitness initiatives, community gardening, and a network of over 600 corner stores (bodegas) selling healthier options in areas of need were made possible through the Pennsylvania Fresh Food Financing Initiative.

These equity-oriented approaches to healthy eating and active living can further wage success by forming alliances with best practice pediatric healthcare facilities in order to create social change that will truly tackle childhood obesity. By implementing systemic solutions that aim to acknowledge these inequities placed upon communities of color, we can have a real chance at attaining successful intervention with those greatest at risks.

Exploring Social, Cultural, Structural, and Economic Transformations in US History as it Relates to Food and Food Systems

Examining societal transformations throughout a period of time is essential when defining systemic factors as catalysts to increasing trends of obesity in the context of US history. This section explores the social, cultural, structural, financial, and political drivers of childhood obesity. In the context of food, I define social as what society has determined to be normal human behavior with the roles and responsibilities of food preparation and food consumption. I define cultural as the way food is portrayed in society and how it is consumed based on this portrayal. I define structural as planned infrastructure that is not natural, but human constructed, to offer or disallow the availability of food. I define financial as the primary determining factor that allows or disallows how much and what quality of food is permitted in one's diet based on income and budget for food. And lastly, I define political as being the influential factor that affects wage ordinances, price settings, and city planning that all are influential to one's monetary and geographic access to food. All of these factors reinforce social inequities within the food system, whether it is by gender, race, or income, and each take a different approach to disabling some communities from accessing healthful foods, while enabling others. This is essential to consider when discussing the contributing factors to childhood obesity and how it affects different demographics.

The social drivers of child obesity can include the shift in food work roles in which food has often been outsourced through grocery shopping with either little to no cooking preparation at home, or simply dining outside the home. During World War II, women heavily entered the labor force. While men were away to war, women began working in factories outside of the home (Akbulut 2010). According to Akbulut (2010) "total service sector employment increased from 58 percent to 75 percent during this period, constituting a significant social change… although more women as well as men entered service occupations, the data clearly documents women's higher tendency to enter the service sector"(Akbulut 2010). Deutsch (2011) states that gender and women's history of food work are necessary to fully understand the widely held belief that women's food shopping is both the cause of enormous social problems, such as childhood obesity, and the key to fixing them. Although I disagree with blaming women's food shopping as cause to childhood obesity, given prior knowledge concerning social transformation of female displacement from the home to the workforce, this shows how women often fall burden to performing food work. And although Deutsch (2011) claims that women's food shopping should be reformed in order to help alleviate childhood obesity, this can be a way to blame women for childhood obesity. It is clear that there are many other factors missing, which should be considered when aiming to decrease childhood obesity rates. Finding ways to discourage the self-blame often put on women to perform food work can be achieved by challenging food outlets to sell healthier options, or challenging women's salary inequities as possibilities for social reform.

Culture is another driver of childhood obesity. With the increased amount of food and beverage advertisements today on billboards, television commercials, as well as mobile advertising in the US, it is clear that there remains a constant exposure or pressure to eat. And

although eating is vital for survival, what is often marketed for the public to eat is not always the most healthful. For example, during the 20th century, fast food franchises were becoming the next place for providing ready-made meals and snacks. The McDonald brothers' Speedee Service System revolutionized the restaurant business (Schlosser 2002). From this, we can see how fast food businesses were becoming more aware of how to save money, time, and energy on producing large amounts of food at a time. This in turn had an effect on how and where one purchased food. Because prices were made affordable, customers were eager to buy because they would receive more food for their money. As American fast food businesses became more about seeking profit, American people became more about seeking delicious, yet affordable and easily accessible foods (Schlosser 2002). Schlosser (2002) argues that this trend continues to persist. Schlosser (2002) reinforces the notion that individuals are the source of intervention in terms of his or her choice of consumption. He therefore promotes the individualistic approaches to diet-related illness by perpetuating the discourse that diet is determined by individual choice to resist or immerse in fast food culture.

Like many others, Mead (2013 p. 19) argues that "the problem for a great numbers of Americans is not how to get enough food or how to be well-nourished, but instead it is how to fend off the insistent pressure to eat" (Mead 2013 p. 19). I challenge this perception by asking further about from where does this pressure come from and to what extent does it appear in our built environment? This leads to further discussion about the structural and built drivers of childhood obesity in which it is imperative to examine history more closely. With the automobile industry booming, fast food drive-ins were at the center of revolutionizing how Americans ate. Knowing how popular fast food restaurants were becoming, these establishments were becoming

more apparent in one's built environment. But how dispersed were these fast food locations being established? According to Block et al. (2004 page unknown)

> predominantly black neighborhoods have 2.4 fast-food restaurants per square mile compared to 1.5 restaurants in predominantly white neighborhoods, and studies conclude that the link between fast food restaurants and black and low-income neighborhoods may contribute to the understanding of environmental causes of the obesity epidemic in these populations.

And with this information it is clear to see how white children are diagnosed less often than black children to be obese. More fast foods are marketed and made available in low income communities of color than in white neighborhoods.

City planning, fast food establishments, proximity of restaurants, wholesale versus liquor stores, are all structural features that although have been presumed to be beneficial, also serve as a factor that compromises public health. This affects marginalized communities disproportionately from their affluent counterparts. For example, while garden and green spaces are made available for affluent white communities, there remains a lack of green/garden space for low income communities of color. Alkon and Agyemann (2011) describe the urban streetscape as a metaphor in which a moral standoff between garden and liquor store, nutrition and intoxication, growth and senescence, and stewardship and abandonment are easily viewed between the class and color difference between communities. With the lack of green spaces to grow produce and provide foods and community building, coupled with the presence of unhealthful, high processed packaged goods, low-income communities of color have been marginalized from their affluent counterparts in having similar opportunities to achieve optimal health related to diet. What makes these differences prevail has everything to do with economy.

The financial drivers of childhood obesity include familial low income[1] status resulting from unemployment or minimum wage, increased cost of living, and increased pricing of "organic" and high quality foods. Because of these factors, there remains a limited amount of monetary resources to obtain healthful food. CDC (2015 p.1) states "Overall, obesity prevalence among children whose adult head of household completed college was approximately half that of those whose adult head of household did not complete high school (9% vs 19% among girls; 11% vs 21% among boys) in 1999–2010" (CDC 2015). And the amount of education often serves as a primary determinant of income. The National Center for Children in Poverty states that "Poverty can impede children's ability to learn and contribute to social, emotional, and behavioral problems. Poverty also can contribute to poor health and mental health. Research is clear that poverty is the single greatest threat to children's well-being" (National Center for Children in Poverty 2015)[2]. This quote shows that children of poverty are more likely to stay in poverty with the high obstacles that impede opportunities for success.

Financial factors are also dependent on political factors of setting wage ordinances that are established amongst those of higher authority to determine wages, compensation, and salaries. Examples of policies affecting childhood obesity rates and risks, can be viewed as the amount of time one has to resume work after giving birth to a child, disallowing the child to receive optimal breastfeeding nutrition that can aid in protecting against factors leading to future susceptibility of obesity as described by (Collins 2015). Another example could be the absence of policies that hinder fast food establishments to appear and multiply in certain areas with little

---

[1] Low-income is defined as having a relatively small income, or used by people on a relatively small income (Encarta Dictionary accessed 2016).

[2] Poverty is defined as the state of being extremely poor (Oxford Dictionary accessed 2016).

purchasing power.

Individuals are often seen as being responsible for their own consumption, regardless of high prevalence of unhealthy food options from major food and packing industries, and this separatism of who or what is at fault ignores the damages that fast food corporations commit daily. Fast food corporations capitalize on the profits made of low quality food that low-income communities resort to from being financially deprived and marginalized into neighborhoods with little to no other food options in order to sustain a more healthful diet. Using financial community capital frameworks is necessary to help invest in the betterment of impoverished communities so that there are no social inequities, whether it is food or other resources. Financial capital is often seen as a competitive system where prosperity and poverty is mandatory to coexist, but I challenge this theory by advocating for equity and that everyone has the right to healthy food to sustain life, and money should not be a factor to determine one's fate.

Oppression and Obesity

This limitation of healthful food options I argue is in fact a subtle form of oppression. Oppression is defined as inclusive of exploitation, marginalization, powerlessness, cultural imperialism, and violence towards social groups that have historically and presently been discriminated against (Young 1990 39-65). These types or faces of oppression according to Young (1990), occur more so towards people of color. I argue that the disproportionate prevalence of obesity within children of color is a result from systems of oppression in which food systems in these communities are often the cause of health disparities resulting from poor diets. For example, parents and individuals are often to blame for their predisposition of becoming obese or overweight but this is not entirely true. "Exploitation is the act of using people's labors to produce profit while not compensating them fairly" (Young 1990). Parents'

financial ability is exploited by government sanctions on wages and earnings from employers. Parents' demands to provide and sustain their family on low wages often leave them to succumb to convenient fast food establishments with little to no effort of performing strenuous food work. "The idea of powerlessness links to Marx's theory of socialism: some people have power while others have-not," and in this case some people have the ability to afford and attain more healthful foods than others (Young 1990). Children also feel powerlessness because they depend on their parents who are unable to provide them with healthy food. People of color and people in poverty are often marginalized because of residing within impoverished communities.

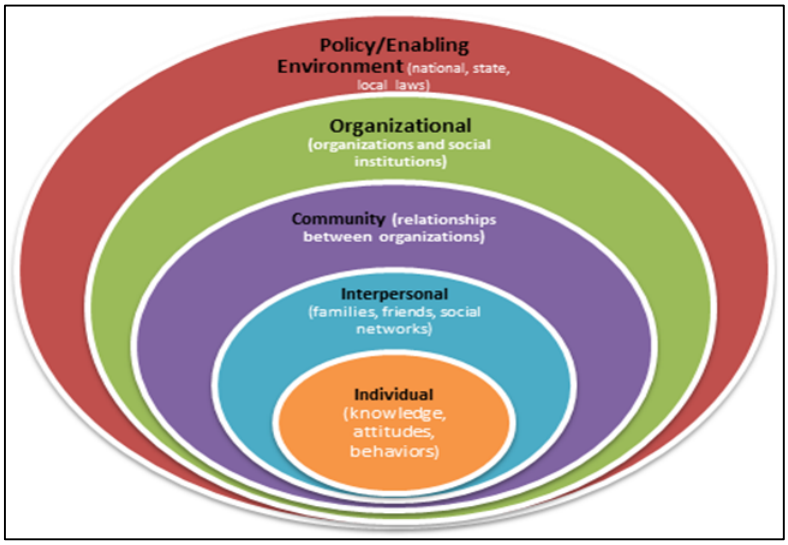
Young 1990 states that "Marginalization is the act of regulating or confining a group of people to a lower social standing or outer limit of society" (Young 1990). This marginalization has a lot to do with communities of color lacking healthy food access from built environments that do not provide these opportunities to attain a healthful diet. Also, with a high presence of fast food establishments in these communities, most families resort to consuming foods that are not nutrient dense.

Cultural imperialism is also apparent within these communities in which skinny is seen as better within affluent white American culture, and where child obesity is seen as not only a health issue but an issue of undesirable appearance. Young (1990) states that "Cultural imperialism involves taking the culture of the ruling class and establishing it as the norm" (Young 1990). These culturally influenced norms are what also contribute to obese and overweight children having low self-esteem, behavioral problems, while being at risk for depression.

And last but not least, violence. Communities of color experience violence in the food system in two ways: one is through neglect from being able to receive healthy foods in order to

live more healthful lives, and the other is by a great influx of cheapened, calorie-dense and unhealthful foods that take a gradual effect on one's own body and overall health. Fast food and packaged goods create gradual and long term turmoil on one's health and this occurrence is yet not viewed as violence, and thus is decriminalized and seen as a non-liable entity. Violence can be visible and invisible. Young (1990) states that "Members of some groups live with the knowledge that they must fear random, unprovoked attacks on their persons or property. These attacks do not necessarily need a motive but are intended to damage, humiliate, or destroy the person" (Young 1990). Because childhood obesity is a symptom of oppression, addressing child obesity requires more than just nutrition education and physical activity. It requires political efforts that challenge the operations of fast food corporations in low income communities, as well as efforts to increase minimum wage while providing more healthful food establishments.

Figure 1. The Social Ecological Model



I use the Social Ecological Model (SEM), "a framework for understanding the multiple levels of a social system and interactions between individuals and environment within this system" Figure 1, along with the seven community capital frameworks listed in Table 2 to

further operationalize points of inquiry and improvements when it comes to childhood obesity interventions (UNICEF C4D 2009). SEM is "a theory-based framework for understanding the multifaceted and interactive effects of personal and environmental factors that intermediaries for health promotion within organizations" (UNICEF C4D, 2009).

Figure 2. Corresponding Approaches to Behavioral Social Change

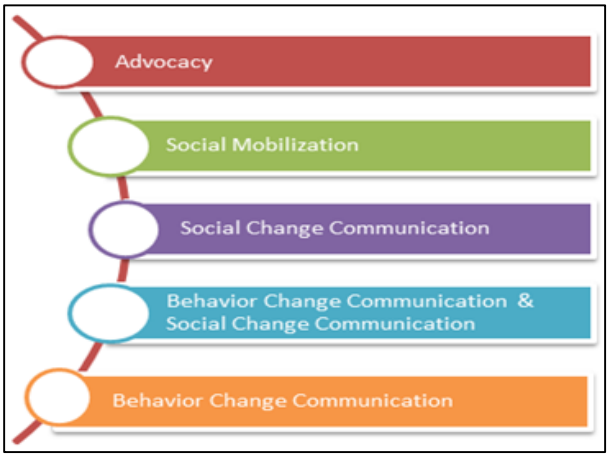


Figure 2 is an image depicting color coded schemes to compare respectively to the levels at which approaches for behavioral change can be appropriated. Behavior change communication starts at the individual level and then continues and progresses to social change communication at the interpersonal level. This social change communication progresses to the community building level to encourage social mobilization at the organizational level. And last but not least, these efforts build up to advocacy at the political level to implement change in society.

Table 1. Social Ecological Model Levels

SEM Level	Description
Individual	Characteristics of an individual that influence behavior change, including knowledge, attitudes, behavior, self-efficacy, developmental history, gender, age, religious identity, racial and ethnic identity, sexual orientation, economic status, financial resources, values, goals, expectations, literacy, stigma, and others.
Interpersonal	Formal (and informal) social networks and social support systems that can influence individual behaviors, including family, friends, peers, co-workers, religious networks, customs or traditions.
Community	Relationships among organizations, institutions, and informational networks within defined boundaries, including the built environment (e.g., parks), village associations, community leaders, businesses, and transportation.
Organizational	Organizations or social institutions with rules and regulations for operations that affect how, or how well, for example, MNCH services are provided to an individual or group.
Policy Enabling Environment	Local, state, national and global laws and policies, including policies regarding the allocation of resources for maternal, newborn, and child health and access to healthcare services, restrictive policies (e.g., high fees or taxes for health services), or lack of policies that require childhood immunizations.
	Source: UNICEF C4D (2009)

Table 1 shows a reference to SEM levels in which the:

> individual level is defined as characteristics of an individual that influence behavior change, including knowledge, attitudes, behavior, self-efficacy, developmental history, among many other identifiers. The interpersonal level involves formal and informal social networks and social support systems that can influence individual behaviors. The community level describes relationships among organizations, institutions, and informational networks within defined boundaries, including the built environment. The organizational level involves organizations or social institutions with rules and regulations for operations that affect how, or how well services are provided to an individual or group. The policy enabling environment level is defined at local, state, national and global laws and policies, including policies regarding the allocation of resources, or lack of policies for allocating services or resources (UNICEF 2009).

Using the SEM is essential when analyzing the different drivers of childhood obesity, and I argue that this systemic approach would further operationalize success by examining community capital frameworks to target areas/ideas for intervention. As discussed earlier, the social drivers in which there is pressure to self-blame for women to perform food work, can be associated with the self -blame that consumers might feel when being held responsible for his or her own consumption as described later in the social community capital framework. The cultural drivers in which there remains a constant pressure to eat can be challenged with the belief that "you can only get what you pay for" or in other words, food quality is measured by monetary quantity, and for those who have less or no capital at all don't deserve equal access to the best foods for better health. This can be seen in the cultural community capital framework. The structural drivers in which city planning in regards to fast food establishments, wholesale versus liquor stores, and the lack of green space are all a part of the built/natural environment community capital frameworks that compromises public health in which there remains a lack of access within certain communities to obtain a healthful diet. The financial/human drivers in which familial low income status resulting from unemployment or minimum wage, increased cost of living, and increased pricing of "organic" and high quality foods can definitely make healthful food purchases difficult. The political drivers in which policies such as unfair wage ordinances that low income families face, limited maternity leave, and fast food venture allowances within an impoverished community also limits financial, political, and human capitals in regards to preventing community members to attain ownership in their own land in which they reside and their health.

Table 2. CCF, SEM, and External Drivers of Childhood Obesity

Community Capital Definitions	Capitals Applied to Childhood Obesity	SEM Levels

Social - The social glue of a community - includes levels of mutual trust, reciprocity, and a sense of shared identity and future.	Social - the shared understanding about "you are what you eat" cliché that oftentimes mimics the self-blame that consumers might feel when being pressured to eat all the time or by being limited to certain foods	(Individual, Interpersonal)
Cultural - Institutionalized (widely shared) cultural symbols - attitudes, preferences, beliefs - that shape how we see the world, what we take for granted, and possible alternatives for social change	Cultural - To eat as much as one pleases...television, billboards, mobile advertisements from fast food companies that all reiterate and entice consumers and potential consumers to this notion which is built on seeking a capital driven profit through marketing unhealthful food. The culture or belief of that "you can only get what you pay for" or in other words, food quality is measured by monetary quantity, and for those who have less or no capital at all don't deserve equal access to the best foods for better health.	(Although this can be viewed at all levels, I primarily focus my definition to the organizational and policy enabling level i.e. in which pediatric institutions I argue have the potential to be instrumental in targeting current food systems creating major health issues such as McDonalds, other fast food organizations and corporations)
Built - Infrastructure (also includes built "natural" areas, like reconstituted wetlands, ski runs, and artificial coral reefs)	Built - The lack of access within certain communities to obtain a healthful diet. Lack of supermarkets, overabundance of fast food establishments, limited transportation to grocery stores, lack of produce at local liquor stores, lack of farmer's markets, lack of recreation, low walkability scores.	(Community, organizational, and policy enabling environment levels)
Financial- The financial resources available to invest in things like community capacity building and social entrepreneurship	Financial - The inability to invest in any other financial capital because of the lack of disposable income resulting from food costs. Low income families suffering from minimum waged labor makes healthful food purchases difficult.	(All SEM levels)
Political - Access to structures of power and power brokers as well as the ability to influence the rules and regulations that shape access to resources	Political - Policies based on minimum wage ordinances and price settings to certain healthful and nutritious goods, as well as city planning, and sanctions on cottage food laws, as well as large or small business allowances or limitations are some examples of political hindrance of access towards healthful, and communicable foods.	(All SEM levels)
Natural-The natural biophysical assets of any given locale – can include natural resources (e.g.	The lack of clean water, soil, air, minerals that make it less likely for food or green spaces to prevail and	(Community, organizational, and policy enabling environment levels)

water, soil, air, minerals), amenities (e.g. trout streams and sandy beaches) and natural beauty	provide nutrition for communities in need. The lack of amenities and natural beauty that deter community members to be active outside.	
Human - Includes the skills, knowledge, and abilities of the people within a community to enhance local as well as access outside resources.	The lack of knowledge, skills, but most of all the power and abilities of a people within an impoverished community to enhance their local and access financial capital and political ownership in their own land in which they reside.	All SEM levels
*Source Carolan 2012; Flora 2008; Flora et al. 2009		

Table 2 shows the community capital framework and how it applies to childhood obesity. Table 2 also shows access points for interventions addressing childhood obesity prevention on a societal scale. This research considers social capitals at an individual and interpersonal level, which mean that social intervention can occur to stop or discredit the self-blame that often times makes individuals and communities feel guilty or hopeless about themselves and their self-worth when it comes to his or her own dietary consumption. This relates to childhood obesity because often times depression simultaneously occurs with the presence of this "self-blame" belief that society has pressured obese individuals into believing.

Although, it can be argued at all levels, I argue cultural capitals on an organizational level in which I argue that pediatric healthcare institutions have a huge potential to combat big food industries like McDonalds and Burger King as huge contributors of obesity. Because consumers can easily access unhealthful foods, in which each individual is taken advantage of by such low prices, our food system is in great need for reform to better serve the nutritional needs of our society. Fast food culture needs to be reformed and have limitations in the number of establishments allowed because these foods often have low nutritional value, and can influence further rises in obesity if consumed more often.

The built community capital framework involves the lack of access within certain communities to obtain a healthful diet such as the lack of supermarkets, the overabundance of unhealthful fast food establishments, and limited transportation to grocery stores, among many other structural problems. These built systems contribute to obesity by disallowing marginalized low income communities of color to access the same privilege or convenience of possessing healthful foods that other affluent communities obtain. I argue the built and natural frameworks on a community, organizational, and policy level enabling environment level because one's environment has much to do with the lack of healthful foods, or surplus of unhealthful foods within a community. And asides from the community itself, organizations, whether local or companies at large, in addition to city permits and violations contribute to what does and does not exist within regions.

The natural community capital framework involves the lack of clean water, soil, air, minerals that make it less likely for food or green spaces to prevail and provide nutrition for communities in need. Often times, our built environment interferes with such green space to prevail, and this contributes to obesity by yet again disallowing communities from attaining land rights to grow, harvest, and consume their own food and produce that can be beneficial for the health of community members.

Financial community capital frameworks involve low income families suffering from minimum waged labor which makes healthful food purchases difficult to implement. This contributes to obesity because despite having knowledge of nutrition, budgeting on a limited income makes any nutrition education hard to realistically apply in decision making in terms of food products.

Political community capital frameworks involve present policies that determine minimum wage ordinances and some price settings to certain healthful and nutritious goods, as well as city planning that can be a hindrance of access towards healthful, and communicable foods. This contributes to obesity because its policies like these that are problematic because it influences financial sanctions that families experience when making healthful food purchasing difficult, as well as the absent of policies that allows fast food businesses that serve unhealthful foods to proliferate in communities that lack other healthful avenues such as groceries.

Human capital frameworks involve the lack of knowledge, skills, but most of all the power and abilities of a people within an impoverished community to enhance their local. This contributes to obesity because with the disinvestment in community members being part of the decision making in securing public land rights in order to grow food and produce along with having the ability to decide how wages, food prices, and what food establishments should be existent and non-existent are integral concepts that serve as pivotal in creating social and environmental justice within our food system.

I argue that the financial, political, and human frameworks to be seen at all levels in which the lack of capital of many individuals can affect the lack of capital in communities, which can then affect the lack of investment to the lives or betterment of a community experiencing much need, whether it is capital, political ownership, knowledge, or health.

By operationalizing the SEM to identify systemic drivers of obesity, we can further use the community capital frameworks to serve as points of intervention that can help facilitate successful interventions in preventing those most at risk, whom are low income communities of color from being diagnosed with obesity and related health complications. When these platforms

are adopted food system equity is achieved in order to provide everyone with optimal nutrition for optimal health.

Research Questions

There are some key questions to consider before knowing how to develop more appropriate interventions for childhood obesity. These questions are the research questions upon which the remainder of this thesis is predicated. In order to explore why obesity often is associated with individual choices rather than systemic causes, I first ask what are current measures of "success" for existing pediatric health care intervention and treatment programs geared toward addressing childhood obesity? I ask this because it provides an overview of what is currently being done to monitor or screen interventions related to child obesity. Referring to medical specialists' treatment and intervention methods is a starting point to finding out whether or not there are strategic approaches involving community food security, and food assistance towards accessing healthy food as a human right. From this, I also ask if health programs can find areas for improvement.

After finding information on how success is measured within pediatric health interventions, I question if measure of success incorporates the patient's circumstances outside the hospital when a patient is discharged. In order to attempt to answer this, I argue it is critical to ask to what extent pediatric health care interventions and treatment programs address the social, cultural, built, political, financial, human, and natural drivers of childhood obesity. This question is logical because each driver serves as an example of systemic factors outside the individual that can affect one's predisposition to being diagnosed with childhood obesity. When we evaluate outside medical practice based on these external factors that serve as potential

causes to increased rates of obesity in youth and adolescents, better assessments of the measurements of successes will be made including all contributing factors.

Given the results from prior research questions, it is logical to further inquire about how pediatric health care organizations can operationalize external interventions. This leads me to my last question in which I ask how could these programs better address childhood obesity as a systemic issue? By asking these questions, we can encourage and challenge pediatric health care programs addressing childhood obesity to initiate preventative protocols addressing these external factors. By using community capital frameworks to analyze current strategies and the SEM to encourage behavior and social change, childhood obesity, hunger, and poverty can all be further addressed when promoting food equity and optimal nutrition. This question is answerable and feasible based on the availability of local city officials and nonprofit organizations that share similar interests and that are willing to make sure that children are provided, and can easily access food that promises optimal health.

These questions are essential to ask because this encourages the reader to question "successful interventions" in which often times what is published as "successful interventions" creates this hegemony of beliefs that are accepted and then reiterated as truths of solutions to childhood obesity. For example, there is a belief that if you just fix your diet and exercise more, your problem will go away, or decrease in severity. But this is not always true. There are many examples of systemic factors outside the individual that can affect one's predisposition to being diagnosed with childhood obesity and hence is why these questions of social, cultural, financial, built, natural, human, and political factors need to be considered within interventions.

Chapter Three

Methodology and Methods

This chapter explains the methodology and methods for this study. I first explain my positionality. Then I explain that I use a qualitative methodology where I introduce my case studies and employ the SEM and CCF to analyze areas of external intervention.

Researcher Positionality

My position as a graduate student, a student of color, a female student, a student who is a mother and wife, an employee, an American born citizen, a UC Berkeley graduate, a past WIC recipient, a child who was at one time supported on WIC inform my interests, my approach to childhood obesity, and my interpretation of society. My volunteer experience with Camp FUN, part of the Children's Hospital Oakland HEAL program offered in Concord has also informed my attitudes about addressing childhood obesity at multiple levels. As I volunteer in the summer of 2012, where I assisted kids with cooking lessons, I learned that there was a great emphasis on intervening the child and involving the parents with nutrition education, cooking demonstrations, and encouraging physical activities. And although these are all great activities, I wasn't too sure how applicable this would be once the program ceased based on other factors such as income, and convenience to recreation. At the time, I was finding it difficult to volunteer with the program while having expenses of my own, while having to withstand public transportation that still required me to walk 30 minutes from BART (Bay Area Rapid Transit system) to the community center.

Methodology

To answer my research questions, I conduct a qualitative methodology to analyze approached to childhood obesity. I aim to critique current efforts according to if they address an

individual's social landscape or blame the individual for his or her health condition. There are many societal factors contributing to what an individual might consumes, such as the person's location, ability or inability to pay for foods, cultural preferences, agricultural resources, or parental or caretaker work schedule. There is plenty of quantitative data on childhood obesity statistics, and although this is important, I argue the more challenging question requires a qualitative approach. Silverman (2010) points out a main difference between using qualitative methodology versus quantitative methodology. Qualitative questions usually center around asking how while quantitative approaches ask how many. The qualitative approach is essential for questioning our social world and challenging societal implications to social problems. Therefore, it is important to ask how childhood obesity programs address the social, cultural, built, financial, political, natural, and human capital aspects of one's susceptibility to and risk of becoming obese? For instance, why does childhood obesity occur more often in Black, Latino, and American Indian communities? This thesis challenges health programs initiatives by asking these type of questions.

Methods

Case Studies

It is essential to look at real health programs to closely examine current efforts being made to address childhood obesity. HEAL and New Balance Foundation are good cases to examine current program efforts in addressing childhood obesity because both obtain high rankings according to the US & World News Reports, and both exude a pediatric care specialty. I use program descriptions, mission statements, about pages, and background information about hospital ranking to answer my research questions.

Healthy Eating Active Living (HEAL) is a multi-disciplinary program that is designed to prevent and treat childhood obesity and related illnesses, such as diabetes, heart disease and high blood pressure (Children's Hospital Oakland HEAL 2016). Patients referred to HEAL receive care and counseling over the course of six visits, about two – four weeks apart, with follow-up visits at three and six months after completion of the program (Children's Hospital Oakland 2016). During the visit, the child and parent or guardian meet a physician, as well as one of the team specialists: a dietitian, exercise specialist or psychologist. I reference games and activities described within the Camp FUN Newsletter as well as Concord's Community Youth Center website. I continue to use HEAL platforms and other sponsored projects that promote this idea from their website and other related publications. I provide a historical analysis on home economics in school institutions and its disappearance and reuse within the HEAL program as one form of social intervention that can be further advocated for in its reuse within local schools. New Balance operates six services that are both clinical and outpatient interventions within Boston. The Preventive Cardiology Clinic offers state-of-the-art services aimed at identifying and medically managing the risk factors that lead to cardiac events in adulthood. Its goals are to prevent heart attack, stroke and other acute cardiac events later in life; to decrease mortality; and to increase a child's future quality of life. New Balance is a nonprofit organization that "has long-term partnerships with organizations that share goals of building healthier, stronger communities with a specific focus on the prevention of childhood obesity" (New Balance Foundation 2016). I examine websites and publications associated with the New Balance program such as the Members of Boston Children's Hospitals Community Benefits team including the Office of Government Relations and the Office of Child Advocacy. I analyze the three success stories of enrolled patients' testimony published online in addition to analyzing a video illustrating the

OWL on the Water program. I explore additional Boston Children's Hospital Obesity efforts such as the Preventive Cardiology Clinic, PREP, the Adolescent Bariatric Surgery Program, Fitness in the City, the I'm IN Charge (INC) program, Healthy Kids/Health Futures, and the Healthy Family Fun Social Marketing Campaign.

To analyze these two cases, I examine the external drivers of childhood obesity such as social, cultural, financial, built, and political capitals. My analysis critiques current measures and initiatives at UCSF Benioff Children's Hospital Oakland and Children's Hospital Boston in order to help them better address child obesity.

Table 3. Documents Analyzed

Type of Publication Accessed	HEAL/Camp FUN	Type of Publication Accessed	New Balance/OWL program
Internet based –about pages from hospital website	Children's Hospital Oakland (2016)	Internet based – about pages from hospital website	Children's Hospital Boston (2016)
Downloadable CYC Newsletter from PDF internet access	CYC (2016)	Youtube video stream posted on hospital website about OWL	OWL/Youtube (2016)
Phat BEETS internet publication	PhatBeets (2016)	Internet access to New Balance website	Children's Hospital Boston (2016)
CAMP FUN about page from CYC website	Camp FUN (2016)		

Content Analysis

I employ direct content analysis by using the SEM, which emphasizes "multiple levels of influence (individual, interpersonal, organizational, community and public policy) and that behaviors both shape and are shaped by the social environment" (UNICEF 2009). I use SEM to

address the multifaceted contributions of childhood obesity (UNICEF 2009). “The goal of a directed approach to content analysis is to validate or extend conceptually a theoretical framework or theory” (Hsieh and Shannon 2005). I extend the SEM to conduct content analysis along with community capital frameworks (Table 2). I code for tenets of community capital frameworks, and then explore the relationships between codes. Mayring (2000) refers this as a deductive category application. I use the seven CCF and the SEM to code when critically analyzing the content of websites and other informative platforms.

Methods for Each Research Question

My first research question asks: What are the measures of “success” for existing pediatric health care intervention and treatment programs geared toward addressing childhood obesity? To answer this research question, I refer to the U.S. News & World Report Children’s Hospital Rankings from 2015-2016. I describe the U.S. News &World Report as a hegemonic institution that is viewed as a credible source of successful measures of clinical practice, among many other aspects of society such as news and education that is made public. By hegemony, I refer to a Marxist definition of “a comprehensive system of social distinction produced and reinforced through culture and discourse” (Williams 2013). The theory in which ruling institutions contribute to a “common sense” thinking also shows how institutions of authority shape discourse in society (Williams 2013). Using this definition, I define the U.S. News & World Report as a hegemonic institution because it ranks and transmits pediatric medical health practice for the public and serves the purpose of a trusted source of information.

According to the U.S. News & World Report (2016), their

> rankings help guide families of children with rare or life-threatening conditions to the best medical care available. According to the report in 2015-16, UCSF Benioff Children’s

> Hospitals San Francisco and Oakland are the best in the Bay Area for five pediatric specialties, and among the nation's premier Children's hospitals in nine pediatric specialties. UCSF Benioff Children's Hospitals earned its highest rankings in diabetes and endocrinology, cancer, neurology and neurosurgery, neonatology and nephrology (U.S. News & World Report Rankings, 2015-2016).

I selected Children's Hospital Oakland in particular because of my personal involvement with Camp FUN and the HEAL program through volunteer work, in addition to my current employment as a Dietetic Assistant within the Food Service Department. Children's Hospital Boston was ranked number one in all specialty areas, making it a good case for comparison.

My second research question asks: To what extent do pediatric health care intervention and treatment programs geared toward addressing childhood obesity address the social, cultural, built, political, and financial drivers of childhood obesity? To answer this question, I utilize the CCF to interrogate the extent to which these programs are treating childhood obesity as a social problem instead of an individual problem. I use these seven capitals and the SEM to analyze their level of intervention. I use scholarly research Tippet (1991), (Block, et. al 2011), Coats (2011), and Cobb (2011), to discuss how these programs support or neglect external drivers of childhood obesity. These scholarly articles provide information about proposed studies about solutions for childhood obesity.

My third research question asks: How could these programs better address childhood obesity as a systemic issue? To answer this research question, I discuss the findings from the first two research questions. It summarizes what each program is already doing to address external factors, and highlights areas of opportunity and improvement.

Chapter Four

Results, Analysis, and Contribution

In this chapter, I answer my research questions. I organize my research and analysis by first examining the measures used by the U.S. World & News Report. Then I use the CCF to explore my two case studies: HEAL and New Balance. I suggest areas of opportunities for potential stakeholders, political, and nonprofit actors to facilitate a food systems approach to addressing childhood obesity. Finally, I discuss the role of the food rights framework to help reform societal implications contributing to this vast issue.

Research Question 1. Measures of Success

First I present the results of my first research question, which asks: what are the measures of "success" for existing pediatric health care intervention and treatment programs? To answer this question, I examine both general pediatric healthcare interventions and interventions geared toward addressing childhood obesity.

Because Type II diabetic interventions are most relevant to childhood obesity complications, I examined the Diabetes and Endocrinology Specialty rankings. The list of factors for specialized treatment and intervention for diabetes and endocrinology rankings ranged from having highly credentialed medical staff with doctorate level degree along with physician specialists. The list of factors is presented in Table 4.

The factors taken into consideration include: "having a pediatric trauma center, diabetes support staff, remote access to records, diabetes patient services, and support services" (Table 4). Each factor is scored on a point scale, and higher points are associated with better rankings. In addition to the factors listed in Table 4 the following measurements in Table 5 also contribute to how rankings are conducted.

Table 4. Advanced Clinical Services by Specialty

Service	Description*	Points
Pediatric trauma center	Level 1 or 2 pediatric trauma center certified by American College of Surgeons or state licensing board (A19)	4
Diabetes support staff	Having the following staff, who are Certified Diabetes Educators, provide diabetes education to patients: • Nurses, pharmacists, social workers, psychologists (C5a and C5c) • Dietitians(C5c) Having at least 1 of the following staff provide onsite services to pediatric endocrinology patients: Social workers (C6a) Psychologists (C6b) Genetic counselors (C7a) Certified exercise physiologists or physical therapists (C7b) Psychiatrists (C7c) Pharmacists (C7d)	2 points for CDE staff, and 6 points given to facilities having at least 1 staff providing pediatric endocrinology services.
Remote Access to Records	1 point for providing physicians with remote access (e.g., EHRs) to patient records or 2 points for providing remote access for both inpatients and outpatients (C8)	2
Diabetes patient services	Provides the following services onsite (C9): • Written educational protocol used to evaluate and prepare patients for use of an insulin pump Certified pump educators to provide insulin pump training to patients and their families Written education program used to evaluate and prepare patients for use of continuous glucose monitors (CGMs) Certified CGM trainers to provide CGM training to patients and their families Written educational program for families of new-onset diabetes patients Formal diabetes educational program for school nurses through a yearly school nurse education conference A specified RN or CDE who is responsible for advising and supporting schools in setting up safe programs for managing diabetes	7
Support Services	Offered the following programs or services in the last calendar year: Hosted or was actively involved in organizing diabetes specific support group for parents and families (C12) Took a leadership role in organizing or supporting family support groups for special populations other than diabetes (e.g., Turner syndrome) (C60) • Had a Family Advisory Board that includes families of non-diabetes Endocrinology patients (C61)	3
Source: Methodology US News & World Report Best Hospitals 2014-2015 p.11-14, 80.		

Table 5. Supplemental List of Successful Measures

1) Having pediatric diabetes staff take a leadership role in a formal advocacy effort supporting the rights of patients
2) Hosting or actively involved in organizing a diabetes-specific technology education program
3) Administering a formal, written assessment of diabetes management knowledge after initial education and

yearly thereafter
4) Having ≥90% of diabetes patients on insulin therapy admitted as inpatients to other services, but seen by providers in the pediatric diabetes program.
5) Having a formal written transition program to prepare pediatric patients for the transition to an adult diabetes program.
6) Having ≥90% of both diabetic inpatients/outpatients receiving a written (or electronic) report of their diagnosis/findings and a treatment plan at the conclusion of their most recent visit.
7)Having a clinical database of attributes of current, active diabetes patients that is used for quality assessment and improvement
8) Having outpatient management of both pre diabetes and diabetic patients who typically have obesity and insulin resistance
9) Performing care review for all patients admitted with a primary diagnosis of diabetes at an interdisciplinary team prior to discharge.
10) Having regular scheduled interdisciplinary care conferences to discuss diabetes patients with poor control 12+ times/year
11) Having written protocols for identifying “high-risk” patients and enrolling them in special pathways
12) Having ≥75% medical nutrition therapy and Diabetes education with CDE or equivalent
13) Having a social worker or psychologist assessment
14) Making information on when and how to contact the Diabetes Center, inclusive of complete insulin dosages, blood glucose testing and record keeping recommendations, referrals made for lab, dental, and mental health before next visit, next visit scheduling date and time, A1C values from today, and behavior goals
15) Having ≥50% of both Type II and Type II* primary care diabetes patients aged 13-17 screened for depression in the past calendar year.
16) Having 5% or fewer children attending school who are on private insurance miss more than 5 days of school in the past calendar year for diabetes-related reasons
17) Having 10% or fewer children attending school who are on Medicaid miss more than 5 days of school in the past calendar year for diabetes related reasons
18) Diabetes staff taking a leadership role in organizing and running a diabetes camp
19) Diabetes education program recognized by American Diabetes Association or American Association of Diabetes Educators as of Dec 31, 2013
Source: Methodology US News & World Report Best Hospitals 2014-2015 p.11-14, 80

As shown in Table 4 and Table 5, Children’s Hospitals that have at least one Diabetes Support Staff on site, (which includes clinical social workers, psychologists, certified exercise physiologists, or psychiatrists), are ranked more highly. Having written education tools for patients, diabetes education programs for growth and certification offered to employees, and written protocols for patient instruction also associated with higher scores. These measures show that there is more emphasis on patient care conference and review, than on outside preventative initiatives and programming. Based on this emphasis, less is being done systemically to understand the causes outside the hospital and individualized treatment is prioritized over prevention. Extra points were earned if leadership roles were taken from diabetes staff to run

diabetes camps recognized by the American Diabetes Association. Additional criteria include Family education and support groups, regular visitations, depression screening, and few reported sick days.

The US & World News Report states that…

> The US News gathered clinical data from a detailed questionnaire sent to 184 pediatric hospitals, and a sixth of the score came from annual surveys of pediatric specialists and sub-specialists in each specialty in 2013, 2014 and 2015 (US & World News Report 2014-2015). They were asked where they would send the sickest children in their specialty, setting aside considerations of location and expense. It was later noted that UCSF Benioff Children's Hospital Oakland's research arm, Children's Hospital Oakland Research Institute (CHORI), is internationally known for its basic and clinical research. CHORI is at the forefront of translating research into interventions for treating and preventing human diseases (US & World News 2016 p. unknown).

With such high ranks, it is easy to see how reputable Children's Hospital Oakland is in the US, and any initiatives deriving from it.

Research Question 2. Systemic Analysis

Next, I present the results of my second research question, which asks, to what extent do pediatric health care intervention and treatment programs geared toward addressing childhood obesity address the social, cultural, built, political, and financial drivers of childhood obesity?

I conduct a case study on the HEAL program provided by UCSF Benioff CHO and New Balance provided by CHB, and compare current efforts with creating a "comprehensive, equity oriented approach to healthy eating and active living" (Bell et al. 2013). I refer to **Error! Reference source not found.** list of keywords that I screen website platforms and associated outpatient partnerships that HEAL and New Balance provides for patients.

Figure 3. Organizational Chart: Children's Hospital Oakland

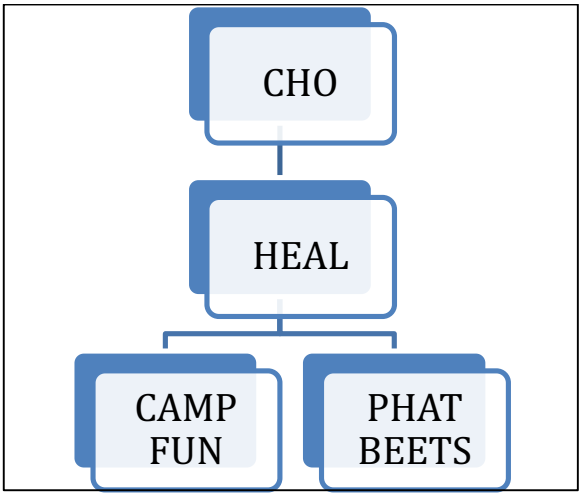


Figure 4. Organizational Chart: Children's Hospital Boston

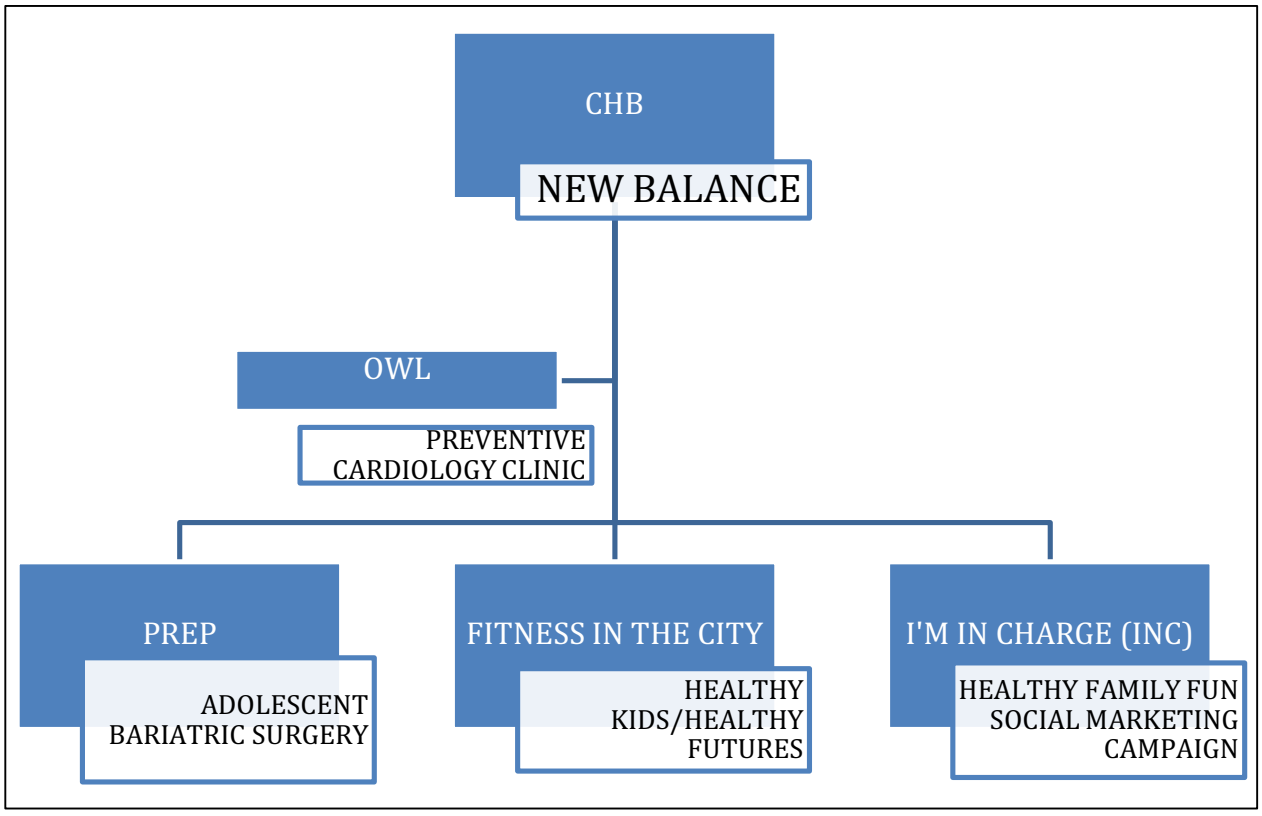


Figure 5 shows an organizational chart that depicts inpatient and outpatient services that correspond to each case study in pursuit of addressing obesity. The HEAL program operates

under CHO, and under the HEAL program does Camp FUN and Phat Beets collaboration exist. The New Balance Foundation is provided under CHB and operates the OWL program and many other services specific to obesity such as the Preventive Cardiology Clinic, PREP, Fitness in the City, I'm in Charge (INC), Adolescent Bariatric Surgery, Healthy Kids/Healthy Futures, and Healthy Family Fun Social Marketing Campaign.

Case Study Overview: Healthy Eating Active Living (HEAL)

INTRODUCE THIS QUOTE:

> Healthy Eating Active Living (HEAL) is a multi-disciplinary program that is designed to prevent and treat childhood obesity and related illnesses, such as diabetes, heart disease and high blood pressure. Patients referred to HEAL receive care and counseling over the course of six visits, about two – four weeks apart, with follow-up visits at three and six months after completion of the program. During the visit, the child and parent or guardian meet a physician, as well as one of the team specialists: a dietitian, exercise specialist or psychologist. A healthcare professional builds a relationship with the patient and family. The visit includes a thorough physical exam and establishes program goals. Next, a registered dietitian discusses healthy eating choices, including current food options and offers an individualized nutrition plan. Then, an exercise specialist discusses active living habits and offers exercise prescriptions. After this, a mental health specialist discusses body image and self-esteem, as well as parenting, family dynamics and cultural issues. Families discuss with the dietitian or exercise specialist their progress in self-managing their goals or how to modify them as needed. Lastly, the team and family assess accomplishments and progress toward goals, and develop a plan for sustaining healthy eating and active living habits (Children's Hospital Oakland HEAL 2016 p. 1).

Healthcare professionals closely work with both parent and child by devising plans fit for each family when discussing and encouraging positive nutrition habits and self-encouragement when reaching individual health goals. According to their website, the Oakland YMCA, Phat Beets Produce, Girls on the Run, and Endurance, are community partners that serve as external

resources to facilitate physical fitness and activity along with encouraging healthful living (Children's Hospital Oakland HEAL 2016).

According to (Cobb 2011), a clinical sample of obese youth in Georgia were evaluated on child and parent readiness to change. She argues that there is a "positive relationship between child readiness to change and the child's own report of social anxiety symptoms" (Cobb 2011). In other words, a child didn't feel the need to change until recognizing social displeasure and difference. Also noted is the "parent's readiness to change was positively related to child's age and BMI status" (Cobb, 2011). Here again, parents didn't see a need to change until child became older and bigger than usual. One of the ways that the HEAL program extended help to families was running a summer camp called Camp FUN, in which the goal was to boost fitness and sign up for activity in fall, as well as to involve parents in weekly mandatory meetings discussing eating behaviors and more healthful habits to implement at home, while providing nutrition education and hands-on cooking experiences.

INTRODUCE QUOTE:

> Camp FUN is an intensive six- summer camp for kids ages 9-12 with a doctor's referral. The camp combines CYC's usual fitness conditioning activities with additional programming in nutrition, cooking, motivation, field trips, and family support. Daily activities include campers participating in various physical activities such as boxing, basketball, bike riding, hiking, weightlifting, slack line walking, and relay races. The Goals of Camp FUN are (a) to provide families with a low-cost opportunity to implement a healthy lifestyle in a fun and supportive environment (b) to provide campers with a knowledge base of activities that promote physical fitness (c) to focus on increasing stability, strength, flexibility, conditioning, and speed (d) to enhance nutrition knowledge through weekly nutrition and cooking classes (e) to provide camper support to enhance motivation and confidence through a group led by a child psychologist and (f) to provide parent support for lifestyle changes at a weekly parent group led by a psychologist (CYC, 2016 p. 1).

Each goal focuses on supporting the individual, and his or her family in a more healthful lifestyle intervention that promotes nutrition and physical fitness. Also, there is an emphasis of "low cost opportunity" stated within the goals to portray that achieving this change is possible because it is made affordable to all people. But how accessible is this program to all people? And more importantly, how can we measure the retention of such intervention? I ask, although recreational space is made available to those children who qualify and enroll, what happens after they return home? What else do we need to consider? Let's discuss one's built environment first.

Some may argue that Healthy Hearts creation of Camp FUN serves as an effective strategy to implement recreation and activity in a space that allows this to happen at the CYC in Concord, but it ignores the fact that more can be done to create safe and recreational space in patient residencies. As mentioned before, Coats (2011) discusses how community health is dependent on a collaboration between public health officials and city regional planners, and I argue this is useful when strategizing for solutions that require children to become more active in their own neighborhoods (Coats 2011). This same type of intervention is needed to increase walkable neighborhoods, in order to help promote a more active lifestyle amongst individuals' residencies.

Unfortunately, there are many factors that hinder the general issue of childhood obesity and one being is the easy access to fast food restaurants. As a result of the mass expansion of fast food franchises in the early twentieth century, an individual can drive almost anywhere and at any moment can find a fast food stop (Block, et. al 2011). This is significant because the convenience of fast foods and inconvenience of recreation makes preventing child obesity much more challenging, let alone the yearning for child and parent readiness to change current conditions almost impossible. With Camp Fun's set goals and nutrition education as part of

camp's curriculum, these issues are addressed and implemented to combat these challenges to resist fast food by practicing more home cooking as well as making recreation available during program. But what else can be done to deter this immense pressure that comes with such fast food convenience? I argue there needs to be a limitation or ban in these type of fast food establishments while replacing them with food establishments that have to abide by nutritional guidelines such as offering high-nutrient dense foods established by city ordinances predetermined by local health experts such as Dietitians. With political advocacy of such laws, can goals of reducing childhood obesity become that more effective.

Balanced Nutrition

Balanced Nutrition is eating meals that include the right proportions of four main food groups: whole grains, fruits and vegetables, and protein. As we refer back to our fast food menu, we can see that fruits, vegetables, and whole grains, are often missing or appear in small amounts within meals on display. The HEAL team at Camp FUN divides the six weeks into six themed lessons going over nutritional concepts introduced and taught by Registered Dietitian, and then reinforced with interactive games that involve active learning from children participating in the program. Parents and children are encouraged to practice mindful eating habits and positive eating behavior, as it relates to giving our bodies balanced nutrition. Although families are shown and encouraged to select more healthful alternatives, how far does this information go? It is important to consider family constraints such as one's residence and convenience to these foods, as well as whether their income provides a budget that allows for these dietary changes to apply to every member in the household. Unfortunately, I could not find any information about interventions addressing these issues.

The HEAL Youth Empowerment Program partnership with Phat Beets Produce operates a 10,000 square ft. plus vegetable garden in Oakland's 1st edible public park at the Dover St. Park behind the Children's Hospital Oakland Research Institute. This garden is in partnership with the Dover St. Neighborhood Group and the Healthy Hearts Youth garden hosts 3 intensive youth teen programs each year that works to empower youth ages 13-19 to engage in and shape their food system using participatory, food justice based curriculum.

INTRODUCE QUOTE:

> Since 2009 Phat Beets Produce and the Dover St Neighborhood Group have been transforming the 1/4-acre perimeter of Dover Park from weeds to a free food forest garden that produce over 3000 lbs. of fresh produce (including 30+ fruit trees) each year to share with the community through free clinic based farm stands. In addition, the Dover St. Edible Park, Healthy Hearts Garden hosts ayouth food justice program "Fresh Fellows" with teenage patients from the Healthy Hearts Clinic that are at risk of diet related illnesses such as Heart Disease and Type II Diabetes. Since 2009 over 60 youth leaders were trained in the tactics of building just food system by leading a healthy lifestyle given all the barriers they face. In 2014, a youth pickle business was launched to create self-sustaining jobs for graduates of our youth program, as the saying goes "nothing better stops a bullet than a job (Phat Beets Produce 2016 p. 1).

This quote elicits a notion that providing jobs for youth will not only provide financial incentives, but it will stop crime and violence in communities. I challenge the reader to ask what other crimes are we not acknowledging that are committed ever day? Is the presence of hunger not criminal? Doesn't everyone deserve the right to optimal health regardless of ability to pay?

Home-Economics: Its Revitalized Role in HEAL

According to the Obesity Action Coalition, eating at home is more health beneficial than eating out at a restaurant or fast food place and this is mainly because of variant portion sizes. Portions tend to be bigger at restaurants than if to be made at home, and thus heavily contribute

to difference with the amount of food we consume in order to reach satiety. This same recommendation is advised in Camp FUN summer program where cooking lessons are taught daily to kids and families.

In 1917, the Smith-Hughes Act established home economics as a part of vocational education in the public schools. Federal legislation has determined the direction of the vocational home economics programs in the US and has reflected concerns of society. Some purposes stipulated for vocational consumer and homemaking programs by the 1976 legislation was to:

> (a) encourage participation of both males and females to prepare for combining the dual role of the homemaker and wage earner, (b)To prepare males and females to enter work of the home, (c) to give greater consideration to economic, social, and cultural conditions, and (d) to emphasize consumer education, management of resources, promotion of parenthood education in order to meet societal needs (Tippett 1991 p. unknown).

s Today working for pay outside the home is a necessary part of many women's lives. This is significant to note because it is this change coupled with the convenience of buying fast food and tailored made products sold in markets and grocery outlets made it easier for women to provide for family, while working outside the home. This could be a possible factor contributing to the rise of child obesity based on the lack of parents cooking at home. Teaching children how to cook healthy foods is great, but how often can this really occur? Ultimately, parents perform food shopping and food work labor for whole families, and although children can help with this, often times the burden lies on parents or caregivers. Asides from this general occurrence, how can we ensure that time is available to perform such labor if parents or caregivers are required to work an immense amount of hours and be paid so very little. What type of initiatives should be made to encourage both children and parents to cook foods from home? Perhaps higher wages, home-economic programs in schools, accessible farmer's markets within food insecure

communities. How can pediatric institutions further advocate for their patients? Acknowledging healthy food as a right, and combating food insecurities are some food system platforms that should be adopted to further prevent the occurrence of childhood obesity.

Case Study Overview: Children's Hospital Boston

New Balance operates six services that are both clinical and outpatient interventions within Boston as seen in (Figure 3). The Preventive Cardiology Clinic offers "state-of-the-art services aimed at identifying and medically managing the risk factors that lead to cardiac events in adulthood. Its goals are to prevent heart attack, stroke and other acute cardiac events later in life; to decrease mortality; and to increase a child's future quality of life" (Children's Hospital Boston 2016). The PREP program offers evaluation and treatment of obesity for teens with a BMI above the 85th percentile. The clinical approach includes promotion of health and weight loss, recognition of co-morbidities (health conditions caused by or correlated with obesity), education of teens and their families on weight and fitness and the prevention of obesity. The Adolescent Bariatric Surgery Program are for teens whose weight exceeds the 99th percentile, surgery may be a part of the long-term (indeed, lifelong) treatment plan. The Adolescent Bariatric Surgery Program provides education, nutritional planning and psychosocial support as necessary adjuncts to minimally-invasive weight -loss surgery. Fitness in the City is a weight management program operated through Boston Children's Hospital's Office of Child Advocacy and working in conjunction with 11 community health centers in Boston, including Boston Children's own Martha Eliot Health Center in Jamaica Plain. Primary care physicians at these sites refer families to case managers (either nutritionists or social workers) who serve as healthy eating and activity coaches. **"**I'm in Charge" (INC) is a component of the Adolescent Services Program at Martha Eliot Health Center, in which youth diabetes prevention and healthy lifestyle

are promoted through a family-centered, community-based service that is culturally adapted to the needs of Latinos and African-Americans. Healthy Kids/Health Futures, launched in March of 2009, is an obesity prevention program focused on the pre-school population. And Healthy Family Fun Social Marketing Campaign, launched by Boston Children's Office of Child Advocacy in May of 2010, is a social marketing campaign supported by public transit posters and TV ads, designed to promote healthy community norms and bolster the use of existing community-based resources that promote healthy behaviors. The Owl on the Water Program is an outdoor recreation activity that takes obese and overweight youth and involves them in rowing activities, which allows members to bond and exercise while losing weight.

Success Stories

The CHB website presents several patient success stories. They show Diego, a 5-year-old boy with chronic asthma, muscle aches, and weight gain from poor diet and taking steroids due to his asthma. In the transcript, Diego's mother claims that an appropriate intervention requires a family effort in changing dietary habits and trends within the home. This theme is also elicited within Josia's success story, a sixteen-year-old boy. Josia and his mother are noted for having two ingredients that would prove crucial to his success in the following months: motivation and a willingness to make changes together. They also show Delroy, an eighteen-year-old Jamaican boy who immigrated to the US when he was five. Delroy attributes diet, exercise, and nutrition education as pivotal to success with weight change. Within the video, he described that the "food part was not hard when you are taught what foods are good" (CHB 2016). This raises the question: is food education sufficient? There are many platforms and beliefs that share this same notion, and emphasize that nutrition education, alongside an individual's willingness to change,

is the solution. While nutrition education is important, there are other aspects to consider when discussing food such as its price and availability.

New Balance's partnership with the Members of Boston Children's Hospital's Community Benefits, the Office of Government Relations, and the Office of Child Advocacy commit to enlightening policy makers at all levels on the impact that research, care and medical education has on youth. In their efforts, specialists throughout Boston Children's bring extensive data and clinical testimony to (a) improving school nutrition in Massachusetts (b) supporting local coalitions like the Boston Public Health Commission (c) supporting the Boston Bicycle Show and (d) securing funding for obesity prevention and legislating consensus for a sugary beverage tax at the federal level. Each goal elicits external efforts to prevent childhood obesity in which funding and political advocacy are the focal points for intervention which is a great start to what other health organizations should be doing to implement change politically. Although the tax on sweetened beverages might prove effective, I question whether this request to be on the ballot request would change consumer behavior and purchases? If we assume that change does not occur, and no other affordable healthful alternatives are provided, the risk of health remains compromised. The physical change in reducing supply with such political bans, along with more healthful alternatives made available at affordable prices, can make a social change in dietary consumption patterns that is beneficial to the consumer's well-being.

Table 6. Analyzing HEAL and New Balance Programs

HEAL	**CCF/SEM level for Communication Change**	**New Balance**
With the use of child psychologists to help motivate and empower children and families to overcome social anxiety and behavioral depression that comes with the social burden of being obese and overweight.	Social (Individual and Interpersonal level)	With the use of behavioral guidance specialists and psychosocial support to empower children and families, social anxiety is also addressed and suppressed when countering mainstream perceptions that blame individuals for his or her condition.

The nutrition education and counseling and home economics and cooking curriculum taught within HEAL and Camp FUN is what counteracts the cultural pressures to overeat by teaching the benefits of portion sizes.	Cultural (Individual and Interpersonal level)	The nutrition education and counseling taught within New Balance and several service program is also what counteracts the cultural pressures to overeat by marketing schemes through ads. Also, the INC program explicitly states how you diabetes prevention and healthful lifestyles are culturally appropriated to Latino and African American populations.
HEAL partnership with Phat Beets is an example of collaboration that provides youth empowerment by providing a space to produce and provide free produce making healthy foods available to surrounding communities. Also, with the startup of a youth pickle business lead to self-sustaining jobs for graduates of the HEAL Youth Empowerment program.	Financial (All SEM levels were addressed with the HEAL program, but no levels were addressed with New Balance.)	There was no information on financial incentives for families or participating youth found on website or publications.
Natural Resources are restored and provided with the presence of the 10,000 square ft. plus vegetable garden in Oakland's 1st edible public park at the Dover St. Park behind the Children's Hospital Oakland Research Institute.	Natural (Community, Organizational, and Policy levels were seen with the HEAL program. None were seen with New Balance.)	There is no mention of natural resources provided externally through initiatives. Despite having access to water sports and lakes with the OWL rowing program, there was no allocation of natural resources to community members outside the program.
Asides from the physical skills that are taught and trained within the Camp FUN outpatient service, human skills and knowledge of local resources and local ownership is invested back into community members creating food justice, and food sovereignty with the use of the garden.	Human (All SEM levels were seen and invested in within the HEAL program, but only human physical skills are addressed on the individual and community level when it comes to exercise intervention within New Balance efforts.)	Asides from the physical skills that are taught and trained within the OWL program and the bicycle sponsored event, there is no mention of investing in human skills in regards to encouraging food sovereignty and providing local ownership of green spaces or small food businesses to help provide access and economic gain for communities in need.
The fact that the Edible Garden was created through the partnership with Phat Beets contributes to making healthful foods apart of the built environment. Also, Camp FUN allows enrolled students to have an opportunity to recreation and fitness that may not be available in their respective communities.	Built (Community, Organizational, and Policy Enabling were seen with both programs.)	The fact the New Balance's Fit in the City is connected with 11 community health centers shows that they are very much involved in the built environment. It is unmentioned to what these community health centers do, so it is hard to say healthful foods are made available, but recreation seems to be accessible with the use of water sports activities with the OWL rowing program.

Although there were no extensive citywide collaborations seen with HEAL, a food justice curriculum was mentioned on their website platform when partnering with Phat Beets Youth Program that teaches students about food ownership and harvest as a way to live more healthfully.	Political (All SEM levels were seen with New Balance Foundation, but all with the exception of the policy enabling level were viewed with the HEAL program.)	The partnerships with the Members of Boston Children's Hospital's Community Benefits, the Office of Government Relations, and the Office of Child Advocacy lead to political influence on holding schools, and cities accountable for being proactive in alleviating childhood obesity in the city of Boston.

CCF Analysis

Table 6 displays a comparative analysis of the HEAL program and the New Balance Foundation efforts for addressing childhood obesity externally. Table 6 summarizes this study's qualitative analysis in which CCF and the SEM are both used to categorize program interventions and activities.

The first community capital I explore is the social capital. Both Heal and New Balance use child psychologists and behavioral specialists to emotionally support and empower pediatric patients. This intervention addresses the social anxiety and behavioral depression that comes with the self-blame that patients might feel when being obese and overweight. I interpret these interventions to be on an individual and interpersonal level, for this support system focused on children and families.

The second community capital I examine is the cultural capital. Both programs use nutrition education to counteract a cultural pressure to overeat or over indulge. In addition to nutrition education, HEAL also used cooking demonstrations as a way to engage kids and their families. One of the programs for New Balance, called the INC program explicitly states that culture is appropriated to Latino and Black populations, but does not explain what this means or

how this is done. I interpret these interventions to be on an individual and interpersonal level, for nutrition education was directed to both children and families.

The third community capital I explore is the financial capital. HEAL's partnership with Phat Beets is an example of collaboration that provides youth empowerment by providing a space of ownership to community members in order to harvest and provide free healthy foods for other Oakland residents. Also, the youth pickle business sponsored by HEAL creates self-sustaining jobs for graduates of the HEAL Youth Empowerment program. None of these financial investments given back to communities were seen with New Balance. All SEM levels were seen with the HEAL program, but none were addressed in the New Balance program.

The fourth community capital I examine is the natural capital. Natural resources are restored and provided with the presence of the 10,000 square foot plus vegetable garden in Oakland's first edible public park at the Dover Street Park behind the Children's Hospital Oakland Research Institute. And although access to water sports and lakes were made possible with the OWL rowing program, there was no allocation of natural resources to community members outside the program. Community, organizational, and policy enabling environment levels was apparent with the HEAL program. None was seen with the New Balance program in regards to implementing allocation to green spaces within communities.

The fifth community capital I examine is the human capital. Asides from the physical skills that are taught and trained within the Camp FUN outpatient service, human skills and knowledge of local resources and local ownership is invested back into community members creating food justice, and food sovereignty with the use of the garden. Asides from the physical skills that are taught and trained within the OWL program and the bicycle sponsored event, there is no mention of investing in human skills in regards to encouraging food sovereignty and

providing local ownership of green spaces or small food businesses to help provide access and economic gain for communities in need. All SEM levels were seen and invested in within the HEAL program, but only human physical skills are addressed on the individual and community level when it comes to exercise intervention within New Balance efforts.

The sixth community capital I explore is the built capital. The fact that the Edible Garden was created through the partnership with Phat Beets contributes to making healthful foods apart of the built environment. Also, Camp FUN allows enrolled students to have an opportunity to recreation and fitness that may not be available in their respective communities. The fact the New Balance's Fit in the City is connected with 11 community health centers shows that they are very much involved in the built environment. It is unmentioned to what these community health centers do, so it is hard to say healthful foods are made available, but recreation seems to be accessible with the use of water sports activities with the OWL rowing program. Community, organizational, and policy enabling environment were seen with both programs in regards to the built capital.

The seventh community capital I examine is the political capital. Although there were no extensive citywide collaborations seen with HEAL, a food justice curriculum was mentioned on their website platform when partnering with Phat Beets Youth Program that teaches students about food ownership and harvest as a way to live more healthfully. The partnerships with the Members of Boston Children's Hospital's Community Benefits, the Office of Government Relations, and the Office of Child Advocacy lead to political influence on holding schools, and cities accountable for being proactive in alleviating childhood obesity in the city of Boston. All SEM levels were seen with New Balance Foundation, but all with the exception of the policy enabling level were viewed with the HEAL program.

My findings conclude that there are strategies to tackle systemic causes of childhood obesity within both programs, but it is also apparent that there are aspects in which each program can learn from the other about where to integrate other systems that can aid in reducing childhood obesity rates externally. For example, although the HEAL program did in fact offer green space and an opportunity for impoverished youth to attain capital to a small produce business, it lacked citywide political affiliation. The political component that is missing from the program, has the potential to be very beneficial on account of that one of their nonprofit partners, Phat Beets Produce, attains an explicit food justice platform. And in regards to New Balance, despite having such political advocacy within the city of Boston, these food security, food justice, food rights frameworks were absent from political platforms. In addition to this absence, there were no financial incentives to build human capital or opportunities of green spaces in areas that lacked it to be found.

I would argue the greatest potential for change can be seen in the cultural approach within both programs. Culture is being targeted at an individual level, when it should be targeted at a systems level. The culture in which fast food corporations are a part of society's norms is not addressed as points of intervention. The culture in which there is a vast difference of childhood obesity in communities of color, who experience poverty, hunger, and subsequently poorer health is not mentioned. The culture in which food is seen as a source to disable certain communities and enable others by virtue of nutritional quality is not recognized as a crime. When preventative health program interventions continue to ignore food systems as a problem, and food rights as something to be less prioritized, a holistic effort fails to be made when it comes to finding success with public health resolutions.

In examining each capital within both programs, I learned that although there are many community efforts made to involve individuals to be more active and eat healthy, these strategies lack communicating food as a human right to be advocated for in policy making. Also, challenging current food systems is another aspect that is ignored from conducting interventions to address obesity.

Research Question 3. Setting Systems Based Solutions

Lastly, I present suggestions for my final research question, which asks, how could these programs better address childhood obesity as a systemic issue? Findings from my previous research questions conclude that current measures of success do not prioritize systemic or community interventions as important as individual interventions into best practice methods addressing obesity complications. Also, findings concluded that although both the HEAL and New Balance programs offer many community effort interventions, more can be done systemically in regards to waging local political alliance to adopt healthy food as a human right, in addition to providing human and financial capital back into communities in need by offering green spaces that can encourage healthful produce avenues.

UNICEF Communication for Development (C4D) encourages health programs to operationalize the SEM in order to truly achieve behavioral and social change (Figure 2). This approach acknowledges every level in society, and this can serve as a useful tool when trying to decrease childhood obesity rates.

Table 7. Summary of UNICEF Key Features

C4D Approach	Key Features	Participant Groups
Advocacy	--Focuses on policy environment and seeks to develop or change laws, policies, and administrative practices --Works through coalition-building, community mobilization, and communication of evidence-based justifications for programs	--Policymakers and decision-makers --Program planners --Program implementers --Community leaders

Social Mobilization	--Focuses on uniting partners at the national and community levels for a common purpose· --Emphasizes collective efficacy and empowerment to create an enabling environment --Works through dialogue, coalition-building, group and organizational activities	--National and community leaders Community groups and organizations --Public and private partners
Social Change Communication	--Focuses on enabling groups of individuals to engage in a participatory process to define their needs, demand their rights, and collaborate transform their social system --Emphasizes public and private dialogue to change behavior on a large scale, including norms and structural inequalities --Works through interpersonal communication, community dialogue, mass media and social media	Groups of individuals in communities
Behavior Change Communication	--Focuses on individual knowledge, attitudes, motivations, self-efficacy, skills building, and behavior change --Works through interpersonal communication, mass media and social media campaigns	--Individuals --Families and households --Small groups (e.g. mothers' support group)
		Source: UNICEF C4D (2009)

Employing the C4D approaches described in (Table 6) in which advocacy, social mobilization, social change communication, and behavior change communication are approaches for social change, can be instrumental in operationalizing strategies drawn from conducting CCF and SEM analysis (Table 6) of preventative health programs. Table 7 illustrates how behavior change communication works through interpersonal communication, mass media and social media campaigns to eventually influence social change communication in which "public and private dialogue to change behavior on a large scale, including norms and structural inequalities" are emphasized (UNICEF C4D 2009). As social change communication progresses, social mobilization is encouraged and collective efficacy and empowerment to create an enabling environment creates a dialogue of coalition-building, and organizational activities. Last but not least, "advocacy can be seen in which the policy environment seeks to develop or change laws, policies, and administrative practices through evidence-based justifications for programs" (UNICEF C4D 2009).

Contribution

With such high precedence, Children's hospitals serve as powerful and primary stakeholders to children's health. From this, organizational efforts can communicate food rights platforms in a public health framework in order to encourage political action to help resolve systemic issues.

I argue food justice, food security, and food rights would create monumental social change. Holt-Gimenez (2011) describes food justice as being supportive of slow food movements, alternative fair trade, community sustainable agriculture, food policy councils, youth food justice organizations, as well as farm worker and labor organizations. Hot-Gimenez (2011) also describes food security platforms as being comprehensive of the UN Sustainable Development, the World Bank, food aid and food bank programs. Anderson (2012) envisions strategic approaches involving community food security, food sovereignty, and food assistance efforts to acknowledge access to healthy food as a human right in government policy. Each of these platforms contribute strategies where organizations can integrate political concepts and language in order to further collaborate strategies for intervention. In regards to childhood obesity, if healthcare initiatives incorporated a food systems intervention that supported small local food businesses, as well as small farmer's markets, within communities with low access to healthful foods, in addition to explicitly stating the need to acknowledge healthy food as a human right in order to prevent conditions like childhood obesity and associated health risks, there would be a call for food system reform. These external barriers such as issues of food access, food prices, and familial incomes need to be factored into strategy interventions when concerning patients and their diets influencing health. If finding solutions to these barriers are not prioritized, then I argue oppression will continue to exist and will manifest into yet another

generation of impoverished communities at risk of poor health conditions resulting from our current food system.

Recommendations involve New Balance implementing built spaces of healthy food access points such as farmer's markets and community food gardens in low income communities who are most at risk for suffering from health risks associated with poor diets. Fast food restaurant openings and expansion should be banned with specified limitations within city districts in order prevent further exposure of cheap and unhealthful foods. Other contributions can encourage the HEAL program and Children's Hospital Research Institute to become more politically involved with the city in its efforts to reform local food systems. Further community collaborations and engagement with the Oakland Food Policy council, Food First Institute, and People's Grocery are possible organizations that can help with tackling these external factors and leverage social change. According to the Healthy Food Access Portal, the Mandela Marketplace based in West Oakland, CA adheres to "an approach based on a systems model that addresses issues of economic disinvestment, food insecurity, and health inequity, building on community assets to cultivate a thriving food hub" (Mandela Marketplace 2016). This is one example that communities and Children's hospitals can foster when working to deliver real solutions in addressing healthy food access.

This study contributes to scholarship and practice by providing a community capital framework analysis to help identify external drivers of childhood obesity in order to employ SEM points of intervention adopted from UNICEF. With such knowledge and intervention, we can then propose new insights such as food system reform and food rights, food justice, and food security platforms that will help progress alternative food movements, but more so liberate certain disadvantaged communities from being diagnosed with obesity and related health

complications. These findings of external organizations and ideas that can leverage points of intervention inform recommendations of the possibilities that can help aid Children's Hospitals communal efforts with tackling childhood obesity in its respective community on a systems level.

Chapter Five

Conclusion

The purpose of the research is to learn how health problems and health solutions have often been associated with individual choices rather than systematic causes. I want to help academics, popular authors, and health and nutrition practitioners understand that is significant to employ the seven community capitals and the SEM in order to address the multifaceted contributions of childhood obesity. With this approach, health practitioners can forge relations with policy makers in which systemic strategies are used to decrease childhood obesity rates. Future scholars and practitioners can refer to CCF and the SEM to analyze health programs and create change by conducting similar table analysis where systemic approaches beyond an individual are critically examined. And then social mobilization can be implemented at organizational levels to influence both behavioral social change at the individual and interpersonal level as well as the political level through advocacy.

This research examined health program initiatives, specifically the HEAL program and Camp FUN and the New Balance and OWL Programs' ability to decrease childhood obesity rates in relation to their definitions for successfully doing so. My hypothesis was that they are not doing as well as they could because they're not treating it like a social problem. I found that great strides have been made, but much more needs to be done to address the systemic factors that contribute to high obesity rates amongst children. Although there are many communal efforts being made, there still remains areas for improvement in which each hospital can learn from another in creating possibilities for success. For example, while HEAL provided financial opportunities for impoverished communities to engage in while making healthy food accessible and free to those in need with the construction of a youth supported community garden, it lacked

a political advocacy platform like that of New Balance that was explicitly stated on homepage with its involvement with the city of Boston. While New Balance had political leverage, they often lacked financial or healthy food access points to communities in need of this support. Also, Phat Beet Farms presents potential for creating social change (see Figure 3). This non-profit organization embraces food justice and food rights platforms, and can be useful in progressing social change with HEAL outpatient initiatives. Instead of blaming the individual as the sole reason for his or her health issue, more needs to be done systemically in order to genuinely support healthful transitions that are long term. Also, there is great potential for guidance and collaboration with the Boston Medical Center, which provides free food for families of patients prescribed by physicians, under the utilization of the CHNA (Community Health Needs Assessment) to access community benefit funds allocated for nonprofit hospitals (Gearon 2015). As of a review in 2009, a majority of community benefit funds were used to help pay for care for the uninsured or underinsured — supporting charity care, uncompensated care, means-tested payer discounted care and Medicare shortfalls represented approximately 72 percent of hospitals' community benefit activities, while community health improvement and community building activities only represented approximately five percent of community benefit activities (Ernst & Young 2009). I argue that when nonprofit hospitals utilize community benefit funds to further invest into community capitals, successful intervention with systemic prevention of childhood obesity can be achieved.

I argue that we can serve those at greatest risks when addressing food systems and holding cities accountable to protecting public health in regards to advocating healthy food as a human right. This not only serve as a social change, but it addresses one of the many oppressions impoverished communities of color face from being undeserved. Until these questions are

thoroughly evaluated, solutions cannot be constructed holistically encompassing all of these intricate factors contributing to this public health issue so that children and families may have a real chance at combating childhood obesity diagnosis and risk factors. Integrating food rights within community capital frameworks is necessary to foster in order to facilitate change. Anderson (2012) envisions strategic approaches involving community food security, food sovereignty, and food assistance efforts to acknowledge access to healthy food as a human right in government policy. If healthcare initiatives incorporate food system interventions that aim to dismantle the immense presence of fast food franchises, while encouraging cities to employ farmer's markets, in addition to arguing that healthy food should be recognized as a human right in order to prevent conditions like childhood obesity and associated health risks, there would be a call for food system reform. And in regards to childhood obesity, food system intervention and food policy reform is important to implement when achieving goals, but more importantly it is key to achieving social change that is beneficial and fair to all.

References

Akbulut Rahsan 2010. *Sectoral Changes and the Increase in Women's Labour Force Participation.* journals.cambridge.org/abstract_S1365100510000040

Alkon, A., & Agyeman, Julian. (2011). *Cultivating food justice race, class, and sustainability* (Food, health, and the environment). Cambridge, Mass.: MIT Press.

Anderson, M.D. (2013). Beyond food security to realizing food rights in the US. *Journal of Rural Studies*, 29, 113-122.

Bell et al. (2013) - Access to Healthy Food and Why It Matters: A Review of the Research (Links to an external site.)

Beuchelt, T.D. and Virchow, D. (2012). Food sovereignty or the human right to adequate food: which concept serves better as international development policy for global hunger and poverty reduction? *Agriculture and Human Values,* 29, 259-273.

Block P. Jackson, Christakis A. Nicholas, O'Malley, James and Subramanian S.V. 2011. *Proximity to Food Establishments and Body Mass Index in the Framingham Heart Study Offspring Cohort Over 30 Years.* Correspondence to Dr. Jason P. Block, Department of Population Medicine, Harvard Pilgrim Health Care Institute, Harvard Medical School, 133 Brookline Avenue, 6th Floor, Boston, MA 02215

Cadieux, K.V. & Slocum, R. (2015). What does it meant to *do* food justice? *Journal of Political Ecology*, 22, 1-26.

Calancie L, Leeman J, Jilcott Pitts SB, Khan LK, Fleischhacker S, Evenson KR , et al. Nutrition-Related Policy and Environmental Strategies to Prevent Obesity in Rural Communities: A Systematic Review of the Literature, 2002–2013.

Campbell, Colin (1994). Consuming goods and the goods of consuming.

www.tandfonline.com/doi/abs/10.1080/08913819408443358

Carolan, Michael (2012) The Sociology of Food and Agriculture. Routledge Taylor and Francis Group London and New York.

Casagrande, Sarah Stark. 2009. "Walkability, Healthy Food Availability and the Association with Obesity and Diabetes in Baltimore City, Maryland."The Johns Hopkins University. http://search.proquest.com/docview/230880638?accountid=14496.

Centers for Disease and Control and Prevention. (2009). Overweight and obesity.

Retrieved October 14, 2009, from

http://www.cdc.gov/obesity/childhood/causes.html

Coats, Jacquelyn. 2011. "The Role of Planning Tools as Strategies for Combating Childhood Obesity. "Clemson University. http://search.proquest.com/docview/871109676?accountid=14496.

Cobb, Jean E. 2011. "Child and Parent Readiness to Change in a Clinical Sample of Obese Youth. "Georgia State University.

http://search.proquest.com/docview/1022336101?accountid=14496.

CYC Community Youth Center in Concord. Retrieved 2016.

Daniels, S. (2006). The consequences of childhood overweight and obesity. The Future of Children, 16(1), 47-67.

Department of Health Care Services. (2007). Pediatric Nutrition Surveillance System (PedNSS). Growth indicators by race/ethnicity and age: Children aged 5 to < 20 years. Retrieved October 14, 2009, from http://www.dhcs.ca.gov/services/chdp/Documents/PedNSS/2007/16B5to20.pdf

Deutsch, T. 2011. Memories of Mothers in the Kitchen: Local Foods, History, and Women's Work. *Radical History Review* (110):167-177

Ernst & Young. Results of the 2009 Schedule H Project, January 2012. http://www.aha.org/content/12/09- sche-h-benchmark.Trust for America's Health Issue Brief January 2013 accessed April 2016.

Exner, Amanda Leigh. 2010. "Impact of Cooperative Versus Competitive Exergame Play on Overweight and Obese Adolescents' Physical, Socio-Emotional, and Cognitive Health. "Georgetown University. http://search.proquest.com/docview

Gearon (2015). U.S. News & World Report accessed April 2016.

Guthman, J. (2012). California Studies in Food and Culture: Weighing in: Obesity, Food Justice, and the Limits of Capitalism. Berkeley, CA, USA: University of California Press. Retrieved from http://www.ebrary.com

"First Lady Obama at Let's Convention addressing Anti-Child Obesity Action Plan." *Sentinel,*2010, http://search.proquest.com/docview/631992461?accountid=14496 (accessed December 5, 2012).

Henry J. Kaiser Family Foundation, *Cost of Prescription Drugs* (May 31, 2010). http://search.proquest.com/docview/212379833?accountid=14496 (accessed December 5, 2012).

Hsieh, H., & Shannon, S. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research,15*(9), 1277-88.

Korgen and White (2015) What does a "Typical American Look Like Today? Race and Ethnicity." Chapter 8 in *The Engaged Sociologist: Connecting the Classroom to the Community.* (pp.134-146). Thousand Oaks: Sage.

Kyung E. Rhee, Suzanne Phelan, and Jeanne McCaffery, "Early Determinants of Obesity: Genetic, Epigenetic, and In Utero Influences," International Journal of Pediatrics, vol. 2012, Article ID 463850, 9 pages, 2012. doi:10.1155/2012/463850

Lears, T.J. Jackson 1995. Fables of Abundance: A Cultural History of Advertising in America.

Mayring, P. (2000). Qualitative content analysis. Forum: Qualitative Social Research, 1(2). Retrieved March 10, 2005, from http://www.qualitative-research.net/fqs-texte/2-00/02-00mayring-e.htm

Mead, M. (2013 [1971]). Why Do We Overeat? In C. Counihan & P. van Esterik, *Food and Culture: A Reader.* (pp.31-39). New York: Routledge.

Methodology US News & World Report Best Hospitals 2014-2015 p.11-14, 80. RTI International. Murrey G. Olmsted Emily Geisen Joe Murphy Denise Bell Melissa Morley Marshica Stanley

Moran, Kathleen. Theories of Consumerism/Issues and Debates. Examining US Cultures in Times. Birth of a Consumer Society. University of California. Fall 2012.

/823880264? accounted=14496.

National Center for Children in Poverty (2015). http://nccp.org/publications/pub_1074.html

Neff et al. (2009) - Food Systems and Public Health Disparities (Links to an external site.)

Ng, Corinne (2010). Childhood Obesity: Community Challenges: *Why we need more knowledge and skills.*

Schlosser, Eric (2002). Fast Food Nation: *The Dark Side of the All-American Meal.*

Tippett, D. T. (1991). *An analysis of smith v. board of school commissioners of mobile county: The impact on home economics curriculum.* The University of North Carolina at Greensboro). *ProQuest Dissertations and Theses,* 440 p. Retrieved from http://search.proquest.com/docview/303925941?accountid=14496. (303925941).

Tomlinson, Anna. 2009. "Effectiveness of Nutrition Education Instruction by a Dietetics Professional on Elementary School Students' Knowledge and Consumption of Fruits and Vegetables. "California State University, Long Beach. http://search.proquest.com/docview/305180672?accountid=14496.

Trumbull, Todd (2005). Child Obesity by State Assembly District. San Francisco Chronicle. www.sfgate.com/.../FATTER-THAN-EVER-Despite-alarms-over-chil...

"U.S. Department of Health and Human Services HHS;" *Women's Health Weekly* (2005) http://search.proquest.com/docview/212379833?accountid=14496 (accessed December 5, 2012).www.pubmed.gov. Accessed December 4, 2012.

Young, I. (1990). *Justice and the politics of difference*. Princeton, N.J.: Princeton University Press.