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Table for One, Food for Two: A Socio-economic Perspective on American Obesity

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Table for One, Food For Two:

A Socio-economic Perspective on American Obesity

a thesis presented by

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to Johnson & Wales University Honors Department

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with Honors in Culinary Nutrition

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Abstract:

Research indicates that obesity is linked to socio-economic factors and genetics. Both have an impact on whether a person is or becomes obese. The paper focuses on the impact of the change in food supply along with socio-economic factors, specifically access, time, and cost, and how these factors have affected the American obesity epidemic. This was assessed in part through a case study of the Smith Hill area of Providence, Rhode Island, a food desert that is comprised mainly of Americans near the poverty line, and the Wellspring La Jolla camp—a camp for overweight children from upper-middle class families. The study of this food desert is juxtaposed to a community of greater affluence. The availability of resources for both food and physical activity are considered. The poor rely on federally implemented physical activity programs to lose weight whereas the affluent are able to invest in a wellness program to lose weight. The obesity epidemic is examined, as it affects both the poor and affluent, as well as the institutional influences behind them.

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Obesity is prevalent in the United States, and rates of obesity are increasing throughout the world. Obesity is related to both genetic and socio-economic factors. Although human bodies respond differently to food because of genetic predispositions, external factors have a significant effect as well.

Genetics

It has been suggested that the biological mechanisms of satiety make some people genetically predisposed to obesity (Heijboer et al, 2006). When a person consumes food, the gut releases peptides, such as cholecystokinin (CCK), ghrelin, peptide YY (PYY), glucagon-like peptide (GLP-1), and oxyntomodulin (OXM) that affect the hypothalamus in the brain. The neuropeptides in the hypothalamus regulate food intake (Heijboer et al, 2006). The hypothalamus is the “feeding center” of the brain, and the ventromedial nucleus area in the hypothalamus is the “satiety center” (Smith, 2008). Hormones secreted from the peripheral tissues bind to receptors located in the hypothalamus. Leptin, a satiety suppressant, is secreted from the adipose tissue while the stomach secretes ghrelin, an appetite stimulant (Heijboer et al, 2006). Simultaneously, dopamine, a neurotransmitter in the brain, signals when rewards and pleasure are present. This receptor is turned on when pleasurable foods are consumed. Those who are obese have fewer dopamine receptors and therefore have to eat more to experience the same reward (Peeke. 2012). Such people are more prone to obesity.

External Factors

On top of these genetic predispositions to obesity, external factors play a role in the current obesity epidemic. The affluence and expanding consumerism of the post-World War II time period reduced Americans’ access to disposable time and increased their desire for faster, more technologically advanced items, including processed, packaged, and pre-prepared food

products. As scientific advances were made, food scientists in the 1950s and 1960s began to develop edible oils and created processes to refine corn, which has led to today's low-cost of sugar-sweetened beverages (Popkin, 2012). Earl Butz, the Secretary of Agriculture during Nixon's presidency, approved subsidies to corn farmers in 1973 (Albritton, 2013) Since the initiation of this subsidy system, corn production has risen (Corn: Background, 2013). From 1970 to 2000 American corn production nearly tripled (Profiling Food Consumption in America, 2013). Higher yields were the result of improvements in technology. This overproduction of corn led to a large amount of unused corn, 90% of which is used for animal feed (Figure 1), and it is also milled to make high-fructose corn syrup, which is used to sweeten most soft drinks (Corn: Background, 2013). As a result today's diets are much sweeter than before; 75% of sugar-sweetened beverages in the U.S. contain added caloric sweeteners, usually high-fructose corn syrup (Popkin, 2011). The excess of corn has also led to major increases in the consumption of beef, pork, dairy products, eggs, and poultry across low- and middle-income populations around the globe (Popkin, 2011).

Food Supply

The food supply has changed significantly. Our beverages and foods are highly sweetened by high fructose corn syrup and our foods are becoming more processed and refined. In a 2011, CDC National Youth Risk Behavior Survey determined that at least 11% of high school teens consumed three or more servings of soda per day (The Obesity Epidemic, 2011). This same data shows that teens are consuming a great deal of calories from sugar-sweetened beverages rather than from food sources; though these statistics are looking at the teenage population, it certainly is a good representation of what is happening across the board. Americans are consuming a large number of calories via beverages, rather than food, which leads

to a daily intake of too many calories, fat proliferation, and eventually obesity. Almost 17% of all children and adolescents aged 2-19 years are obese. Sugar-sweetened beverages provide empty calories, meaning that they are calorie dense, but provide no nutrition (Odgen et al, 2010).

The shift in our food supply from mainly grain and legume-based to animal-based diets has become even more apparent in recent years (Daniel et al, 2010). The NHANES (2003-2004) data from a single 24-hour dietary recall indicates that approximately 58% of the meat consumed in the USA was red meat, 32% poultry, and 10% fish. Processed red meat intake constituted 22% of the total meat consumed (Daniel et al, 2010). Total meat consumption has increased notably over the past century and has nearly doubled between 1999 and 2007 (Daniel et al, 2010). In 2000, the average American consumed 195 lbs. of meat in one year, in comparison to 138 lbs. per year in 1950 (Profiling Food Consumption in America, 2013). The NHANES data suggests that recent meat consumption patterns differ within the U.S. according to various demographic factors, reflecting cultural, social, regional, and financial influences on diet, (Daniel et al, 2010) (Figure 2).

For much of the history of domestication, animals roamed freely and consumed grass. Some farmers still practice this method of husbandry. They herd cattle 2-3 times per day allowing cattle to graze on pastures to gain 1.5-2 pounds per day (Whisnant, 2013). In contrast, corn-fed cattle are confined to small lots where they are fed several times a day and put on high poundage. The initial shift from grass-fed beef to corn-fed beef was a major turning point in the American food industry (Beardsworth, 1997). The overabundance of corn is used to feed and quickly fatten cattle in feedlots. Corn-fed cows allow for greater profit because these cows are brought to market seven months faster than grass-fed (Whisnant, 2013). Once placed in the feedlot, the cow is fed growth hormones, grains, and corn. While in these lots cows gain an

average of 2.5-4 pounds per day on feed comprised of 70-90% grain and 10-30% protein concentrates (Corn: Background, 2013). Grass-fed beef has recently made a comeback; however, corn-fed beef is the average American farmer's preference to produce meat quickly, for less cost and greater profit. For these reasons we have seen a decline in the production of grass-fed beef and increase in the use of corn to feed cattle, over the past fifty years. Cows are ruminants that have adapted to consuming grass and converting it into meat or milk (Kiernan, 2012). Feeding cattle with corn drastically changes the meat they produce by increasing levels of omega-6 fatty acids, while decreasing levels of omega-3 fatty acids (Kiernan, 2012). Grass-fed beef has high levels of conjugated linoleic acid (CLA), an anti-carcinogen, anti-diabetic and anti-atherosclerotic. This change in the omega-3 to omega-6 ratio in meat greatly impacts the healthiness of meat for human consumption. Lower levels of CLA, found in corn-fed beef, have paved the way for an epidemic explosion in rates of cancer, weight gain, diabetes, and heart disease in humans (Kiernan, 2012). Heart disease rose as a cause of death from 9% of deaths per 100,000 to over 26% of deaths, in the past century (Figure 3). Americans' health has been greatly affected by shifts in the nation's food supply.

Americans have such accessibility to meat in part because of Earl Butz's decision to subsidize the U.S. corn industry. Low-cost meat and corn-fed cattle allowed for the establishment of inexpensive fast food chains throughout the United States (Beardsworth, 1997). This has led to a rate of consumption of meat in the United States that is three times more than the global average (Daniel et al, 2010). Fast food chains, such as McDonald's, capitalized on the lower costs by creating a "McDonaldization" of the fast food industry, a term coined by sociologist George Ritzer; the efficiency dimension of McDonaldization has influenced

American society by finding the optimum means to push towards higher profits and lower costs with little regard to the external public health impact of those choices (Beardsworth, 1997).

Time

The American embrace of McDonaldization fits with the American idea to attain efficiency, to perform in the best possible manner with the least expenditure of time and other resources. This cultural value is deeply rooted in America's core. The New World was first colonized by highly motivated people who had defined goals: to attain religious freedom, to gain economic freedom, and to develop new social arrangements (Grove, 1992). The colonial life was difficult, and more than half the settlers died within the first year. It was essential that everyone worked continuously and that the work was completed on time because it was literally a matter of life or death. This idea of making a better life by coming to America is what our nation's philosophy is based on; you can arrive with nothing in your pockets, work hard, and climb your way up the socio-economic ladder in one to two generations. The American dream is the foundation of our nation, which is why Americans still believe that time is of the utmost importance. However, as the nation progressed there were visible ethnic inequities when climbing this ladder and members of many groups were and are denied the opportunity to ascend that ladder. Through there is no one direct line that connects the 17th century British colonization to the early 20th century this is just one theory illustrated above.

Americans believe that "time is money" and other aphorisms, such as "first-come-first-served," and "strike while the iron is hot." These proverbs all denote that time is perhaps one of the most important American values. In comparison to most European nations, where employees receive upwards of twenty annual paid leave days and greater than five paid holidays, United States employers do not pay employees in either of these instances (Miller, 2010). Companies

value the great performer, and employees believe that they must be highly productive to maintain their job. In United States, one is viewed by one's accomplishments; therefore, these accomplishments should be noticeable, quantifiable, and increasingly more extraordinary (Grove, 1992). This seems to be the reasoning as to why Americans value timeliness of action; the more quickly one acts to resolve an issue, the faster he or she will reap the potential reward. In the United States the past is left behind and room is made for new. We see an example of this in Las Vegas, Nevada; fifty-year-old hotels are imploded and replaced by newer, better, and brighter structures. There is no formation of a lasting physical history, like in Europe. Here in America we want it new and we want it now! Time is the answer to all. This hinders American's ability to see far into the future; they seemingly plan only for the short-term and next-quarter's profits.

Americans have a fast-paced mentality in every aspect of their lives. They rush to get to work where they will rush all day long, then they rush to eat lunch, then rush to get home to relax, etc. This combined with the quintessential value of American efficiency and a further outgrowth of mid-20th century technocratic values have fueled American's desire for convenience. Laborsaving devices, developed out of World War II, in the home were the first step towards convenience through efficiency in all aspects of life, and time and effort to perform daily chores has been reduced (Grove, 1992). This philosophy of efficiency and convenience extends to the food industry. Since World War II there has been a massive shift in many facets of the American life; home chores became easier, women left the home to work, and a shift from nightly home-cooked meals to eating out and consuming convenience foods occurred. This is a very broad view of what actually occurred. In 1965, non-working women spent more than two hours per day cooking and cleaning up after meals; in 1995, forty years later, the time to prepare

a meal and clean was reduced by half (Harris, 2007). Though women are very successful in the work place they are still expected to replicate some aspects of traditional domesticity, a clean house and hot dinner on the table every night. The idea that women should take care of the home is still an expectation of the culture. We see this in the way convenience foods are marketed towards the workingwoman or working parent, who comes home after work to make a hot dinner for her family. However, in spite of these convenience-based developments, Americans, not just women, seem to have become increasingly time-poor.

Time poverty can be defined as not having enough discretionary time, or time used for any purpose other than work obligations (Merriam-Webster, 2013). There has been a shift over the past fifty years towards people having less discretionary time. Convenience products and machines have given people more time, but people tend to spend that added time at work, or doing other sedentary activities. Discretionary time is important to one's health and is also important for social inclusion (Kalenkoski, 2013). Although every individual has 24 hours in a day, different people face different discretionary time constraints depending on their life circumstances. Kalenkoski determined that time poverty may be a greater barrier than income poverty to regular physical activity. Time-poor individuals spend almost 18 minutes less per day on exercise than non-time-poor individuals. Time-poor individuals are at a risk of obesity because they expend fewer calories through exercise than do non-time-poor individuals. Those who are non-time-poor were able to consume smaller meals more frequently, which leads to a lower risk of obesity. It was also noted that non-time-poor individuals had time to prepare and clean up meals. Kalenkoski's study concluded that time-poor individuals are 4% less likely to purchase fast food than non-time-poor individuals, which is reason to believe that these time-poor individuals are purchasing prepared convenience foods from grocery stores or other local

stores. This was also seen in a food-buying-preference study conducted by Walker, in which those who lacked time were more influenced to purchase convenience foods. Those who lived in “food oases” rated corner convenience, and convenience foods in general, higher than those in “food deserts” (Walker).

Technological advancements and the lack of time have consequences for American households. Americans spend about 12% of their income on food purchases, compared to 32% 35 years ago (Figure 4) and (Johnson, 2001). Americans, even those classified as poor, can budget their money differently. As a result of lower food costs, fewer meals are made in the home and more are being purchased outside the home (Figure 5). These meals being purchased outside the home are not necessarily all being eaten outside the home. About 90% of Americans purchase convenience foods, foods that are pre-prepared and either frozen or canned, or have added preservatives to allow them an extended shelf life (Harris, 2007). Many will pay the slightly higher prices for reduced time and less effort to cook a meal after a long day at work.

Time is a key ingredient as to why people choose to eat out. The average American eats out 4-5 times a week to save time, reduce stress, reduce exhaustion, and to allow people to feel as though they live a more leisurely lifestyle (Bogue, 2013, Epter, 2009). It has been engrained in Americans that time is money, and the faster we work the more money we can make, the driving force of everything (Grove, 1992). It comes down to the fact in order to cultivate a leisurely lifestyle Americans become preoccupied with attaining efficiency in all facets of their daily lives, including eating. The differences among this attainment of efficiency affect how Americans allocate their income towards food purchases. Those who do not have enough money to purchase and prepare good food in decent quantities are less worried about the finer nuances of nutrition. Their first priority is to just have food, regardless of its nutritional value. Calorie-dense fast

foods such as hamburgers and french fries, are by no means the most nutritionally sound meals, but they do fill the stomach. This idea mirrors Satter's Hierarchy of Food Needs (Figure 6), an application of Maslow's Hierarchy of Needs theory to food management, where "enough food" sits at the bottom of the pyramid. This category is comprised of those who are food insecure. These people eat to be full rather than for taste or nutrition. Nutritious foods are in the "instrumental food" level of the hierarchy of food needs chart. In contrast, those who are affluent can afford not only to eat out for convenience but can also have the luxury of choosing healthier options, regardless of the price of the meal and the time they must wait for that meal to be made. All Americans eat out; food choice can be based on time, availability, and calorie-dense foods.

Food Insecurity

There seems to be a significant relationship between obesity and food insecurity. Food insecure households lack availability and access to foods. Obese individuals have an increased risk of coronary heart disease and type-2 diabetes; these were originally diseases of affluence, but today they have morphed into diseases of poverty stricken population. There are a number of factors that affect the food-insecure obese (poor): available resources, external factors, and location of residence that aid in the perpetuation of obesity (Finney et al, 2010).

Neighborhoods have great influence on food cost and accessibility. Food deserts are defined having less accessibility and availability of fresh, healthy, and affordable food produce. These are usually urban communities and rural towns with a low socio-economic population (Finney et al, 2010). Rather than supermarkets and grocery stores, these communities may have no food access or are only served by fast food restaurants and convenience stores that offer few affordable, healthy food options. These low-income neighborhoods have less access and availability to nutritious foods. Poor diet quality and physical inactivity are also contributors to

obesity. Of those that fall within the poverty level socio-economic bracket, the lower 20% of earners only spend 16% of their money on food, but the majority of this is spent on food at home (Thompson, 2013). The consumption of less costly, less varied, high-energy, nutrient-poor food and lower consumption of fruits and vegetables may be the cause of excessive weight gain (Finney et al, 2010). This lower quality diet consists of energy-rich starches, such as potatoes, rice and pasta, foods with added sugar, such as packaged candy and sodas, and foods with added vegetable fats, such as chips and other processed foods. Such foods are the least expensive way to subdue a hungry stomach. The food choices of these individuals reflect Satter's Hierarchy of Food Needs (Figure 6). These people are driven by hunger and anxiety about getting enough to eat that they select foods that they know to be primarily filling and sustaining, secondary to nutritional value.

Food Desert: Smith Hill, Providence, RI

Smith Hill in Providence, Rhode Island is considered a food desert. According to the 2000 census, Smith Hill is comprised of 2,229 households, of which 36.4% are Hispanic, 28.9% are Caucasian, 13.2% are African American, 14.4% are Asian, and the remainder are of multiple races. Median household income is \$21,432, lower than the statewide average, and 33.1% of families are below the poverty level, higher than statewide average (Smith Hill Information). Communities with a poverty rate over 20% are considered low-income communities; Smith Hill fits this profile (Food Deserts, 2013). The people of this community have very little access to fresh, healthy foods, and lack easy access to supermarkets and are therefore more apt to shop at their local corner store that provides them with fat-laden snacks, sugar-sweetened beverages, and prepackaged convenience meals that are mainly calorie dense, nutrient poor, and relatively inexpensive. However, this area has multiple fast food restaurants including Burger King,

Poppye's, Little Caesars Pizza, and Subway (Figure 7). Energy-dense foods and energy-dense diets, like those being consumed by the residents of Smith Hill, may predispose the consumer to overeat (Darmon et al, 2008). These calorie-dense foods, in combination with large portion size, may lead to excess caloric intake and weight gain. Accessibility to healthy food options is only one component of lowered obesity rates; this type of community usually lacks opportunities or facilities for physical activity. Parks are scarcely found in these neighborhoods, forcing children to play in the street, if they go out to play.

These factors as well as being raised in impoverished areas represent in themselves a major risk factor for obesity. In a 2008 study from the CDC, adults whose family income was above the poverty level were more likely to meet the CDC: Physical Activity Guidelines for aerobic activity than adults whose family income was at or near the poverty line (Facts about Physical Activity, 2012). It was also determined that Americans living in the South are more likely to be less physically active and have higher rates of obesity than Americans living in the West, Northeast and Midwest regions of the country (Facts about Physical Activity, 2012). The states with the highest percentages of food insecurity in America are all Southern states; 19.2% of households in Arkansas and Mississippi experience food insecurity, and 18.5% of Texas households experience food insecurity (Hunger & Poverty Statistics, 2013). The CDC's distribution of obesity by state reveals that Arkansas and Mississippi are also the states within the top three of the highest percentages of obesity. Arkansas' population is 34.5% obese and Mississippi's population is 34.6% obese (Adult Obesity Facts, 2013).

The government does have programs such as SNAP, the Supplemental Nutrition Assistance Program, to help low-income families purchase the foods they need for good health. Families participating in SNAP receive a card, similar to a debit card, which they can use to

purchase any food; excluding hot ready-to-eat foods and foods intended to be eaten in the store (Supplemental Nutrition Assistance Program Eligibility). While this program does give users money to purchase healthy food options, it does not necessarily mean that they are taking advantage of this opportunity. Those on SNAP are able to use their card at their corner store to purchase sugar-sweetened beverages and calorie-dense snack foods.

Residents of low-income neighborhoods are less likely to own a car, and may find it more difficult to reach supermarkets in the more affluent areas of the city (Darmon et al, 2008).

Smith Hill residents need transportation to go to a supermarket where healthy foods are available. In the Smith Hill area there are two major bus routes that lead to supermarkets, but carrying large amounts of groceries on the bus is not always a convenient arrangement. Going to the supermarket on the bus can also be very time consuming; one must wait for the bus, take the 15 minute ride to the outskirts of the city, shop for an hour, and then hopefully make it to the bus stop before the bus leaves so as not to have to wait an hour for the next one. We see here that proper grocery shopping for those in Smith Hill can be very difficult and time consuming; for those who are time-poor, this can mean less time working or less time with family.

There is one small, fairly limited grocery store, Aldi Supermarket, which provides a decent rotation of fresh produce, dairy products, and whole-wheat starch options at a very low cost. Though Aldi Supermarket does not have the selection of produce that one would find at a large supermarket, what they do offer allows Smith Hill residents the access to a small variety of fresh foods. Recently, Aldi Supermarket has also incorporated organic products, and items that are marketed as high fiber. Aldi Supermarket is aiding in the step in the right direction to eliminate the food desert of Smith Hill. Unfortunately, just because these items are available does not mean that those who truly need them are purchasing them.

Food Security

Those who have access to a variety of foods on a regular basis, the food secure, are less apt to be obese. Affluent Americans have greater resources at their disposal, thereby allowing these people to purchase higher quality products more frequently. A diverse diet and regular meals are the most beneficial tactics to promote healthful living (Oellingrath, 2013). This does not necessarily mean eating every meal at home either. Wealthy Americans spend nearly five times as much on dining out and three times more on food than the poorest Americans (Thompson, 2013). Affluent Americans are not purchasing a greater quantity of food than the poor; they spend a greater amount of money on higher quality food items. While food is marketed differently to the wealthy, the greatest difference is that the affluent have more choices than the poor; the affluent are better educated and better resourced to be able to filter through the barrage of ads and marketing tactics than the poor. The Hierarchy of Food Needs demonstrates this point well; those who are affluent consume enough “rewarding” food and therefore have the “food acceptance skills” to consume a variety of foods, and choose these foods based for “instrumental reasons: to achieve a desired physical, cognitive, or spiritual outcome” (Satter, 2007). Essentially, the wealthy are able to buy better health by being able to afford high quality foods, and the burden of disease falls disproportionately towards those with limited resources and availability.

We see this in a statistic from the CDC: Adult Obesity Facts, which reports lower prevalence of obesity in the Northeast (25.3%) and the West (25.1%) compared to the Midwest (29.5%) and the South (29.4%). The distribution of obesity rates follows a socio-economic gradient; in general the regions with lower obesity prevalence and higher food security have larger, more affluent metropolitan cities (Figure 8). Northeast and Western states have lower

prevalence of obesity, and we see that those who are wealthier live in either the Northeast or Western states. Let us not discount that there are poor in those urban areas as well, but overall in the Northeast, Bridgeport, CT, Trenton, NJ, New York City, NY, and Boston, Massachusetts fall into the top ten of Business Insider's top 21 Cities Where Most Rich People Live list. These are all urban areas in the Northeast U.S. where obesity is less prevalent. Low obesity rates also exist in the Western states. When we look at the West, San Jose, San Francisco, Oxnard, and Napa, are all cities in California that fall into the top ten of this list (Durisin, 2013). There is a geographic pattern that can be inferred from this data. While there are large cities in both Midwest and South, they are more spread out and less accessible by foot. The affluent have the money to be able to live in metropolitan areas, which are found predominantly in the Northeast and on the West coast. These areas usually have relatively short walking distances to access healthy foods, leading to a higher quality of life.

Socio-economic Distribution of Obesity

Though a great deal of data supports this socio-economic distribution of obesity, there are still people who are 350% above the poverty line who are obese. Odgen reports 30.1% of non-Hispanic white males below the poverty line are obese in comparison to 32.2% of non-Hispanic white men 350% above the poverty line. The study found that the prevalence of obesity among men was greater in those with a higher income. Women in the study were marginally less obese as affluence increased. Though a great deal of emphasis is placed on the obese poor, those who have access to a variety of foods can also be obese. There is not a large gap in obesity percentages between those below the poverty line and those above the poverty line (Figure 9). This is not so strange when we consider that even though the affluent have access to fresher and better quality produce, they are exposed to many of the same external factors as those who are

poor. The same fast food restaurants, processed, packaged, and pre-prepared foods exist in both worlds, regardless of income, and are readily accessible to everyone.

In a data analysis conducted by University of Iowa, a team examined data from the government's National Health and Nutrition Examination Surveys, in which people's anthropometrics are utilized to determine obesity percentages. Researchers determined that obesity rates in those with an income of greater than \$60,000 a year have nearly tripled, 9.7% to 26.8% from 1971 to 2002. Compared to households making less than \$25,000 the increase was much smaller, because the percentage was already high, from 22.5% to 32.5% (Hellmich, 2005). The study's lead author, Jennifer Robinson, commented that the general consensus was that poor people were more likely to be obese and rich people were more likely to be thin, the highest income groups seem to be catching up. Those with higher incomes tend to have more sedentary jobs, and once again time plays a role. Many work 40+ hour workweeks and bring work home, leaving little time for physical activity. Time-poor individuals are not necessarily poor individuals; those who are affluent can suffer from time poverty as well. Those time-poor are at greater risk for obesity and spend, on average, 18 minutes less on physical activity than non-time-poor individuals; hence, time-poor individuals are at risk for obesity because they tend to expend fewer calories through physical activity than non-time-poor individuals (Kalenkoski, 2013). Also due to the lack of time, the affluent are more likely than the poor to purchase ready-made convenience foods; for every one-percent increase in household income, convenience food expenditures increases by 0.15 (Harris, 2007).

The Wellspring Weight Loss Plan

As Americans excel in the workplace and climb up the social and economic ladders in their field, there seems to be less time to focus on themselves and their health. This was quite

apparent during a culinary-nutrition internship at Wellspring La Jolla, a wellness-weight-loss camp for affluent children. Obese children from affluent families are sent to camps to lose weight and handle their weight issues. Dr. Daniel Kirschenbaum Ph.D, ABPP, created The Wellspring Weight Loss Plan to coach young teens and adolescence towards successful lives as long-term weight controllers. The plan consists of a very low fat diet, daily activity, and a lifestyle change over the course of a three to eight week summer camp experience. Dr. Kirschenbaum's plan utilizes scientific data from numerous studies regarding weight loss in adolescence. For example, Dr. Kirschenbaum cites a study by Ferster (1962) that demonstrated that weight problems can be viewed as a learned behavior and can therefore be unlearned and replaced by new habits via a combination of classical and operant conditioning techniques where principles of stimulus control, shaping, and reinforcement may help patients learn new, more effective ways of eating. Dr. Kirschenbaum cited a study by Brownell (1978) that determined that a strong familial support system and cognitive behavioral therapy might aid in weight loss and sustained control. Self-monitoring proved to be a necessary tool for successful weight control, as well as consuming a very low calorie diet. Dr. Kirschenbaum cited a study conducted by Perri (1992); it demonstrated that long-term treatments produce better outcomes when completed in combination with all of the tactics from the research stated above. The key to enhanced long-term outcomes begins with "self-control + external control = weight control." Essentially, self-monitoring in combination with creating a positive environment for oneself will lead to an optimum situation for long-term weight control. This program has been proven to work; patients who participate fully in the Wellspring plan are more apt to lose upwards of 25lbs in a fully immersed eight-week period, than those who attend an outpatient program or those who do not attend Wellspring at all (Figure 10).

Through a first-hand experience of Wellspring La Jolla, I witnessed physical, emotional, and even nutritional transformation in some the campers. Many came from wealthy families and were forced by their parents to attend the camp in order to become healthy and lose weight. For some, the weight loss was necessary, while others were unnecessarily sent to this camp to lose vanity weight, an extra 5-10lbs. Regardless of the reason for attendance; the typical camp day consisted of a pre-breakfast morning walk, breakfast, a physical activity period, a class period, lunch, two physical activity periods, dinner, personal activity time, and free time. All meals consisted of extremely low-fat controlled and uncontrolled sections; entrées and snacks were controlled, but campers were allowed to regulate uncontrolled items themselves. At every meal, uncontrolled foods were available: fruits and fat-free yogurt at breakfast and salads and soups at lunch and dinner. As a counselor, I encouraged the campers to self-monitor their fat and caloric intake at each meal. Self-monitoring put the responsibility of what the campers consumed into their own hands.

The campers were fully immersed in this Wellspring environment; not only did they participate in diet and activity changes, they also attended bi-weekly cognitive behavioral therapy groups, and culinary and nutrition classes. The cognitive behavioral therapy was conducted in a group setting as well as one-on-one check-ins, by cognitive-behavioral oriented therapists who taught the campers stress management techniques (Kirschenbaum). They focused on establishing specific goals related to eating and activities, self-monitoring practices, and other worries the campers may have had regarding weight loss or relapse.

In the nutrition class that I taught, the campers learned about the possible biological barriers that may be hindering weight loss, techniques on how to combat these hindrances, and how to read nutrition facts on food items. I stressed that being an informed consumer is an

essential aspect of breaking the barrier to weight loss. The campers were taught what to look for to understand the contents of a product and its macronutrient components, which are essential to maintaining a balanced, healthy diet. I had the campers utilize the Calorie King book to determine caloric and fat counts of their normal diet. This was an eye-opening exercise for most; many did not realize the high caloric and fat intake they were consuming in one sitting. We then discussed how they could change their habits by utilizing a restaurant's menu to their advantage to create an "on plan" meal when they go out to eat. Many campers were concerned that they would no longer be able to go out to eat with friends. This class provided them with the tools needed to modify a restaurant menu to fit their Wellspring plan. Prior to leaving camp, all of the campers attended a grocery store tour and "dine-out challenge." The other nutritionists on staff and I would take the campers to a local grocery store and allow them to look at different products and compare fat content; here the campers utilized the label-reading techniques they learned in nutrition. While on this tour I placed great emphasis on substitutions and alternatives to high-fat foods. The campers looked at a variety of products: cheeses, meats, cookies, cereal, yogurt, ice cream, frozen prepared meals, and fresh produce. If questions arose, I was present to explain and answer any inquiries or worries, and then provide possible alternative food options. After the grocery store tour, the campers dined out in a casual family-style restaurant. The restaurant provided nutritional information for all of the items on the menu. The campers were asked to utilize the skills they acquired in nutrition class to make an informed decision about their meal choice. This reinforces Dr. Kirschenbaum's research that states, "self-control + external control = weight control" (Kirschenbaum).

The culinary component reinforced what I taught the campers in nutrition and exposed them to cooking for themselves, something many had never experienced before. I structured the

class around teaching campers basic culinary skills: chopping, baking, dry sautéing, and roasting. Emphasis was placed on allowing the campers to experiment with new foods, spices, and techniques. I wrote low-fat recipes for them to make, but I also encouraged them to be creative and change the recipes to their liking. They gained the knowledge and tools necessary to sustain the lifestyle they learned at camp so they could maintain healthy weight loss at home.

This total immersion camp is quite an investment; tuition for an eight week program is \$13,250. Obviously the campers who can afford to attend this camp come from wealthy families. These types of full-immersion summer camp weight loss programs are usually geared towards the more affluent, or those who can afford to pay for better health and to “fix” their child’s obesity “problem.” Obesity is not exclusively a problem of the poor since nearly 3 million (24%) of the 12 million children and adolescents who are obese come from households 350% above the poverty level about 4.5 million (38%) fall into the middle class, and only 4.5 million (38%) live below the poverty line, according to the CDC’s Obesity and Socioeconomic Status in Children and Adolescents (Figure 11). One difference seems to lie in how obesity is treated.

Federal and Inner City Weight Loss Programs

Those who cannot afford these expensive camps must resort to federally funded or state funded physical activity and nutrition programs. The First Lady, Michelle Obama, has initiated the Let’s Move! Campaign to promote physical activity in children and adolescence, around the nation. The basis of this optional program is the Presidential Active Lifestyle Award challenge, which helps individuals commit to regular physical activity and healthy eating, and then rewards them for it. The program provides recommendations for healthy life changes for children and teenagers 6-18 and adults 18 and older. Children and teenagers’ goals consist of participating in 60 minutes of physical activity a day, at least 5 days a week, for 6 out of 8 weeks. Similar to

Wellspring, this plan suggests counting steps: girls' goal should be 11,000 steps and boys' goal 13,000 steps. Adults' goals consist of participating in 30 minutes of physical activity a day or 8,500 steps, at least 5 days a week, for 6 out of 8 weeks. Children, teenagers, and adults are encouraged to focus on one of eight weekly healthy eating goals over the course of the program, while adding a new goal weekly and continuing with the previous goals until all are incorporated. The goals come from the President's Challenge list and they consist of: consuming a plate half fruits and vegetables, consuming half whole grains, consuming fat free or low fat dairy, consuming water instead of sugary drinks, consuming lean sources of protein, consuming foods with less sodium, consuming seafood, and monitoring portion size (8 Ways to Eat Healthy: Get Motivated, 2013). The Let's Move! Campaign encourages family participation. Familial or spousal support typically improves weight loss and weight maintenance (McLean, 2003). Losing weight by oneself can be a scary feat; familial or spousal support is vital to a prosperous weight loss endeavor. Not only is it important that parents are on board, but it is also important that children feel supported at school by their peers and educators.

Many children consume at least half their meals at school, and for many children, the food served at school may be the only food they regularly eat. The Let's Move! Campaign encourages public schools to offer a School Breakfast Program in addition to the National School Lunch Program to provide at least two healthy meals to children who may not consume these meals otherwise. Partnered with the Let's Move! Campaign, the U.S. Department of Agriculture released new rules that will boost the nutritional quality of school meals. The rules ensure that children's lunches and breakfasts will include more whole grains, vegetables, fruits, less fat and sodium, and set calorie limits based on the age of the children. The children should be consuming the Recommended Dietary Allowances and following MyPlate to see a visual of the

distribution of what they should be consuming. Many schools are incorporating healthy foods onto their menus as well as matching local chefs to schools to work to create nutritious and delicious meals. As the program's name states, Let's Move!, the campaign encourages schools to hold recess prior to lunch to increase physical activity before meal time, as well as reincorporate physical education classes back into their curriculum. Promoting movement in children is essential, especially at such a young age when the habits they form will remain with them for the rest of their lives.

The Let's Move! Campaign suggests that communities focus on providing children with safe bicycle routes and safe sidewalks to facilitate the promotion of bicycling or walking to school or a park; the Safe Routes to School movement has proven to be an effective way to promote this action (Let's Move!, 2013). Providing these safe routes for children is the responsibility of a city or town and its mayor. The Let's Move! Campaign provides cities and towns with the tools needed to begin implementing these suggestions.

Federal and Inner City Weight Loss Programs Success

The success of the Lets Move! Campaign has been seen mainly in elementary schools throughout the nation; Philadelphia, New York City, California, and Mississippi have utilized schools as a medium to implement the Let's Move! Campaign, and these cities and states have observed decreased rates of obesity. Mississippi, mentioned earlier as a state with 19.2% food insecurity and population where 34.6% are obese, has seen a 13.3% decline in obesity among elementary school children. By providing healthy meals, Mississippi schools are lowering the risk for food insecurity while decreasing obesity. This was accomplished by setting new food and beverage standards in school vending machines, replacing fryers with combination oven steamers, and serving more fruits, vegetables and whole grains (Duswalt, 2013). Inner city

schools in Andalusia, Alabama increased their fruit and vegetable offerings to include dark green and orange vegetables several times a week after winning the Gold Award of Distinction for their healthy elementary school from the Healthier U.S. School Challenge. With the help of this USDA Fruit and Vegetable Grant, the schools are able to expose children to fun and unusual fruits and vegetables, like dragon fruit, ugli fruit, brussels sprouts, kiwi berries, and avocados. By exposing children to such a variety of fruits and vegetables at a young age it will instill in them healthy practices for the rest of their lives. These schools are also incorporating the importance of nutrition into the classroom; in English class, teachers ask students to describe fruits and vegetables to explain adjectives (Watson, 2013). With the Chefs Move to Schools component of the Let's Move! Campaign children are experiencing nutrition education from actual chefs. Fremont Elementary School in Alhambra, California launched a Chef Move to Schools program with the help of Chef Melinda Burrows. Chef Burrows led three harvest-focused cooking demonstrations school assemblies. The chef used ingredients such as spaghetti squash, pumpkins and other healthful foods to teach the children and inspired them to cook (Fox, 2011).

Success has not only been seen through changes in nutrition, but also through increased physical activity. October is National Walk to School Month, and in 2010 over 3,500 school communities participated in this celebration. Houston Elementary School in Spartanburg, South Carolina embarked on a fitness endeavor with a "Walking and Wheeling Wednesdays" program that was held over the course of five Wednesdays leading up to the school's official Walk to School Day event. The intent of this program was to promote a sense of community and healthy lifestyles, even for families that did not live within walking distance. Walk to School Day at Pioneer Elementary School in Bismarck, North Dakota served as a stepping-stone for safe walkways to schools. As a result of Walk to School Day, the school was able to get a crossing

guard at a busy street that children cross while traveling to school. For the tenth year, the Alhambra Unified School District in Alhambra, California celebrated Walk to School Month for an entire week. Students created and carried signs that promoted healthy breakfasts and daily physical activity during their before-school celebrations (Figure 12, Marchetti, 2010). Walking and bicycling to school are more than good transportation options; they are steps towards healthy choices for a lifetime. On the state and city levels, Let's Move! has brought about tremendous success in reducing the childhood obesity epidemic. This does not mean that the work is done, but rather these successes provide hope because visible change is taking place.

Let's Move! Smith Hill, Providence Success

Once the residents of Smith Hill, or any food desert, have access to fresh foods, will they have proper cooking equipment or skills to do so? Programs such as the Captain Nutrition Enrichment Program, developed by Chef Michael Makuch of Johnson & Wales University, teach nutrition to children in the elementary schools of Inner City Providence, RI. It is imperative that children are introduced to fresh fruits and vegetables at a young age, especially children who live in food deserts. Chef Makuch, along with students from Johnson & Wales University, participates in several cooking demonstrations a month to introduce healthy, nutritional choices and expose the children to new and delicious foods. As the years have progressed, Chef Makuch has observed changes in the children's attitudes towards healthy foods. After the demonstrations, the children go home, tell their parents what they learned, and ask their parents to replicate the recipes from the cookbook.

Mark, Set Go!, a program from the Chad Brown Health Center in the Smith Hill area of Providence is an inner-city nutrition program geared toward increasing nutrition awareness and fruit and vegetable awareness. Johnson & Wales University's Assistant Professor Barbara B.

Robinson, MPH, RD, CNSD was a nutrition consultant for a research study where the aim was to promote better knowledge of nutrition along with changes in food consumption behaviors and healthy lifestyle encouragement in elementary school children at inner-city Providence elementary schools. Professor Robinson taught necessary nutritional information to high school students at the MET school. The trained students, “peer health educators” went into the elementary schools to provide children with nutritional education.

Let’s Move! Campaign in Rhode Island and Massachusetts

Rhode Island’s Let’s Move! Campaign success has been seen in the program’s Child Care Initiative. The state has the highest percentage of early education and childcare programs signed up as participants in the Let’s Move! Child Care initiative (LMCC) (Reynolds, 2013). The LMCC is a nationwide initiative aimed at empowering childcare programs to encourage positive health changes in young children. These early education and childcare programs are instructed to limit screen time, provide physical activity, serve fruits and vegetables, provide water, low-fat milk, and 100% juice, and encourage infant breastfeeding options for mothers (RI.gov, 2011). The Dr. Day Care Learning Center in Pawtucket, Rhode Island creates nutritionally sound monthly menus for their students. The first two weeks of every month introduce the children to new and excited fruits and vegetables (Dr. Day Care Learning Center). The last two weeks of the month repeat the first two weeks in order to allow the child to see the foods again. A student who may not have eaten the meal in its entirety the first time may be more apt to try it the second time. In a day care environment or even at school, where children are surrounded by their peers they are more apt to try new fruits and vegetables if they see others enjoying these foods as well. The Dr. Day Care Learning Center not only emphasizes the importance nutrition but also stresses the significance of physical activity to their students, to foster this, the center built a rock-

climbing wall to give children a new way to be active (Figure 13).

Public elementary schools in Somerville, Massachusetts utilize farm-to-table programs as a tool to introduce students to healthy eating. This school system created a “corn-shucking day” where the students shucked a few ears of corn after their school breakfast. Some may have only seen corn as kernels in canned or frozen form; this experience provided the students with a very different perception of where their food actually comes from and allowed them to partake in making their lunch. At lunch the children were excited to think that the ear of corn they were consuming could have been one that they shucked earlier that day (Mancini, 2013).

Massachusetts received a governmental grant to adopt an expanding learning time model (ELT). Twenty-two schools in Massachusetts have incorporated more time for activities by including adding or expanding physical education classes, adding or expanding recess, and adding new health and fitness electives. Several schools in Boston have initiated a range of community partnerships to offer a multitude of health and fitness electives led by teachers and community partners, including a running club, a step team, and competitive basketball, football, volleyball, and dance teams (V. Increasing Physical Activity).

Massachusetts’ Let’s Move! Campaign community initiatives seem to be working. Over the past 5 years, Massachusetts has seen a significant reduction in the prevalence of obesity throughout their elementary schools. The percentage of obese students dropped 3.7 percentage points to 30.6% (Lazar, 2013).

Rhode Island and Massachusetts have taken the initiative on suggestions put forth by the Let’s Move! Campaign and both states have succeeded. On a national scale, the Let’s Move! Campaign has shown success as well. For a free, government-implemented weight loss program the Let’s Move! Campaign has seen fantastic results; however, how do these results compare to

an expensive weight loss program like Wellspring?

Comparison Between Wellspring and Let's Move! Programs

The basic goals of the Let's Move! Campaign and Wellspring Camp are very similar. Both program's major goals are to promote a physically active lifestyle, and healthy nutrition with the ultimate goal of weight loss. Just walking to school or after dinner with the family can help to promote a healthful lifestyle; 10,000 steps or 5 miles is the minimum amount of daily walking suggested by Wellspring Camp whereas the Let's Move! Campaign suggests a daily goal of 11,000 for girls and 13,000 for boys. Walking is the minimum amount of daily physical activity suggested for both programs. They both encourage participation in sports and games that involve physical activity.

The programs take different approaches towards their definitions of proper nutrition. The Wellspring Camp instills the idea of a very low-fat diet as proper nutrition to its campers. However, diets too low in fat can be detrimental to one's health. Added fats of the monounsaturated and polyunsaturated varieties are actually beneficial to one's health. Consumption of omega-3 polyunsaturated fats found in flax seed oil, walnuts, and vegetable oil have been shown to reduce harmful cholesterol and improve healthy cholesterol (Palmer, 2013). Unlike the Wellspring plan, the Let's Move! Campaign does not restrict a specific macronutrient; rather, it provides goal suggestions from the President's Challenge list to ensure that children incorporate fruits, vegetables, whole grains, low-fat dairy (in lieu of sugary beverages), lean protein, and low sodium food choices throughout their day. These suggestions are more than a governmental suggestion for weight loss; these tips are preparing children for a healthy life by encouraging them to experience a wide variety of fruits and vegetables while suggesting they restrict overly sweetened beverages. While the goals of the Let's Move! Campaign are far less

specific than those of Wellspring Camp, they allow the program follower more flexibility and freedom in their food choices. Wellspring Camp focuses on weight loss as the major factor, putting a healthy nutrition lifestyle on hold until after the weight is lost. Wellspring Camp allows its campers to consume diet beverages and artificial sweeteners at all meals to make the transition easier. Adopting a healthy lifestyle after having experienced a life of unhealthy choices may not be an easy transition, but utilizing artificial products that mimic sweetness is not a proper tactic to use when trying to teach children that fruits are sweet and taste amazing on their own!

There seems to be proof that both programs are effective in completing their ultimate goal of weight loss. Wellspring Camp provides graphed data to show that their low-fat diets, daily physical activity, and self-monitoring practices are effective to long-term weight loss. The Let's Move! Campaign has shown actual success in its individually implemented state programs. Though the obesity percentage changes may be occurring slowly, there are visible transforms taking place throughout the nation (Figure 14).

Higher Price Does Not Mean Better Weight Loss

Paying for a weight loss program does not necessarily mean that there will be greater weight loss success. The Wellspring Camp is an eight-week program that costs \$13,250. The Let's Move! Campaign, a government implemented program, costs families nothing more than taxes and is a daily aspect of their child's life at school for at least nine months of the year.

Wellspring Camp fully immerses the campers in the Wellspring-frame-of-mind for eight weeks, but after that the campers are on their own. If the campers do not have a strong support system they may not be successful in keeping the weight off. Although Figure 10 shows proof that the program works, I can report that a good majority of the campers were veterans to

Wellspring Camp and were on their second or third summer endeavoring to achieve weight loss and many still continued to struggle with weight loss. For those attending their third summer, their parent's would have paid nearly \$40,000 for unsuccessful weight loss.

The program itself set the campers up for success at home, but this did not necessarily mean that the campers would follow through with the tactics they had learned. It was evident that if they had been forced to attend Wellspring Camp, the campers were much less receptive towards the program and taking what they had learned home with them. Another factor for success was familial support; those lacking a familial support unit were far less apt to be successful in the program. The majority of population of campers at Wellspring consisted of children of wealthy individuals who sent their children away for the summer in order to handle their obesity problem. The campers who were successful in the program were those whose families visited during family weekend and who answered their phone calls during the weekly, half hour allotted call time.

The Let's Move! Campaign utilizes public elementary, middle, and high schools as the medium by which to educate the nation's youth about the importance of good health, proper nutrition, and physical activity. This exposes children to healthy food options during two meals a day (breakfast and lunch), five days a week, for nine months out of the year.

Nationwide, schools have implemented breakfast and lunch menus that have been designed by chefs to promote increased fruit, vegetable, and whole grain intake in their students. Many schools have created a student garden in which students plant the seeds, tend to the vegetables, and then pick them for lunch when they are ready. The children are learning more than where their foods comes from, they are learning about the time and effort it takes to grow the delicious fruits and vegetables they will consume. Understanding the process may help them

appreciate where their foods come from and further entice them to try different varieties of fruits and vegetables. Some schools have gone so far as to involve their students in helping to prepare lunch. As mentioned earlier, a school in Massachusetts implemented a corn-shucking day so the students could have fresh corn for lunch that day. Involving the children in the food making process heightens their interest in both the food they are consuming and in the nutrition behind the food.

Many physical education classes were removed from school curriculums as a result of the economic recession. The Let's Move! Campaign has helped to reinitiate physical education programs in schools, thereby encouraging children to move and exercise at least several days per week. Other schools have promoted walking to bicycling to school on safe routes created by the local town or city officials. As mentioned earlier schools in Boston, Massachusetts have incorporated more time for activities by including, adding, or expanding physical education classes, adding or expanding recess, adding new health and fitness electives, and initiating a range of community partnerships to offer a running club, a step team, and competitive basketball, football, volleyball, and dance teams (V. Increasing Physical Activity). Getting children involved in activities outside of the scholastic environment is imperative to fostering healthy lifestyles.

The Let's Move! Campaign involves parents in the experience because the schools keep them informed. In Massachusetts, children are annually assessed for Body Mass Index and the results are sent home to the parents. The parents are informed if their child is underweight, of normal body fat percentage, overweight, or obese. This information is eye opening and can potentially inspire the parents to participate with their children in the adoption of a healthy lifestyle. Because the Let's Move! Campaign has great influence on such a large scale, for little personal cost it is most definitely the better means by which to solve the nation's obesity issue.

Conclusion

While a genetic predisposition for obesity does play a role in gut hormone secretion in the stomach and in the reward center of the brain, external factors have a great impact on weight gain and the proliferation of obesity throughout the United States. Just as in the brains of those with less dopamine, Americans want more and are not satisfied until they have it all and feel full. Time consumes our lives; “I do not have time for that” seems to be our nation’s mantra. Both the media and food suppliers have been feeding this message of time-lack to consumers of all socio-economic groups for years. The evening news shows report busy moms shuttling their children to chain-restaurants for a quick meal while advertising announcers proclaim the efficiency and nutritional value of a new breakfast or lunch-on-the-go!

Efficiency and convenience is what all Americans seek, and they have permeated every aspect of Americans daily lives. This ideology has been more than half a century in the making; gradually in the post-World War II era day-to-day chores became a hassle, lives became more fast-paced, and families began to rely more on ready-made meals. These shifts led to the development and the rapid growth of the convenience food industry that is marketed heavily towards workingwomen with families as well as time-poor individuals. These women are expected to be super-heroines—working forty hours a week, rearing the children, while maintaining the quintessential house wife duties of cooking and cleaning. As the years have progressed, convenience products have simplified monotonous chores of our lives, but our lives have become increasingly more hectic so that these products are necessary to maintain a sense of stability.

Discretionary time decreases and time poverty increases as one climbs the socio-economic ladder. In general, those who are affluent actually have less time. The lack of time is

directly related to higher rates of obesity especially among affluent men. Households that are 350% above the poverty line may have of two or more income earners increasing the time poverty of these individuals. Men of great affluence are slightly more apt to be obese than men of middle class and those at or below the poverty line (Figure 9). This distribution is not expected, but further investigation revealed that it was accurate. Affluent men endure long hours at their desk jobs and have little time to participate in physical activity and in healthy meal preparation. Convenience is greatly valued by those of affluence. The convenience foods these men, and affluent people in general, purchase are caloric-dense coffee drinks and pastries from Starbucks and other foods of this sort. Starbucks are strategically placed in more affluent areas of New York City, Chicago, and Washington D.C. (Chang, 2013). The obesity distribution of affluent women, on the other hand, follows the trend that one would expect: obesity rates decrease the higher one climbs on the socio-economic ladder (Figure 9). This may exist because women of affluent households may choose not to work and therefore have more discretionary time to consume smaller, healthier meals more frequently. This is a more balanced means of eating and is helpful in maintaining a healthful weight. The vast majority of the middle class consists households in which both spouses work. This decreases the amount of discretionary time the family has as a whole thereby encouraging the use of convenience foods in this population. As mentioned earlier, the average working family is the target market for convenience foods. The poor lack the access to quality foods and are subject to consume large amounts of processed and refined convenience foods such as potato chips and sugar-sweetened beverages. The typical happy-meal bundle combinations found at fast-food chains are a bane to the healthy existence of what should be a nutrient-rich meal.

The affluent and poor are both apt to consume convenience foods, but for different reasons. Affluent people frequent Starbucks for a morning coffee and a pastry instead of making coffee and breakfast at home, not because it is a more affordable option, but because it is a fast and easy option. The poor frequent the corner store for a breakfast consisting of Doritos® and a 20oz bottle of Coca-Cola because that is all they can afford, and/or they lack the resources to make a proper breakfast. In the Northeast in particular, the poor also purchase items from Dunkin Donuts that are usually found in the less ritzy, more ordinary, areas of a city (Chang, 2013). Those who are food insecure, those who choose chips and a soda for breakfast, will choose calorie-dense foods over healthier options in order to satisfy Satter's lowest level of food needs, "enough food" to feel full (Figure 6).

Again we see efficiency as the driving force in all aspects of American's daily life decisions. All Americans, affluence aside, eat out or purchase various convenience foods outside the home, but reasoning differs based on time, availability, and the caloric density of the food. Those who are time poor have less discretionary time for aerobic activities, which leads to increased risks of obesity; we see this happening in affluent men and throughout the child to adolescent population. Availability of food depends on upon the affluence, or its lack, within a section of the city or town as seen with Starbucks and Dunkin Donuts or corner stores. Convenience foods, regardless of where they are being purchased, have a tendency to be very calorie dense and usually unhealthy.

In populations with lower incomes the prevalence of childhood obesity is greater than in those of greater affluence (Figure 15). The Let's Move! Campaign has specifically targeted the high percentages of obese children and adolescence ages 2-19 by implementing programs in elementary schools, middle schools, and high schools where the greatest problems lie. The

program allows America's youth to have daily access to fresh fruits, fresh vegetables, and other healthy food choices. While exposing children and adolescence to proper nutrition it is also important to stress the benefit of physical activities. Incorporating both concepts into their daily lives is vital in order to decrease rates of obesity at a younger age, throughout the population, but especially in the poor and middle class. Essentially, children are encouraged to move and eat differently, which are the two largest issues leading to obesity in our nation.

Stemming, initially, from the post-World War II "convenience is good, I want it now" mentality and the corn subsidies of Earl Butz leading to overly-sweetened foods and beverages, our nation has witnessed a dramatic shift. Families have spent less time together, and children have been left to entertain themselves by watching television and playing video games. Lives became more sedentary and overconsumption of calorie-dense food items such as chips and sugar-sweetened beverages became commonplace while zoning out to the television. The Let's Move! Campaign has taken on the task of teaching an entire generation of young Americans how to play outside and have fun without technology.

This concept was especially difficult for the campers at Wellspring to grasp. Upon arrival, their cell phones and other electronic devices were taken from them and kept in the office. The campers were only allowed to use their cell phones once a week for 10 minutes. As they progressed, and completed various tasks they were allowed more time on their cell phones and eventually on the computers. There were a multitude of reasons for cell phone confiscation; cell phones are distractions, and campers would be more focused on the latest Tweet or status update instead of focusing on themselves and the exercise. The CDC states that children from 8 to 18 year of age spend an average of 7.5 hours a day using entertainment media, including TV, computers, video games, cell phones, and movies (A Growing Problem, 2013).

The camp was geared toward trying to instill the fact that technology is not necessary to have fun; group activities and games were an integral aspect of the camp life. As a camp counselor, I taught campers how to play team sports and play with others in an outdoor environment. Having grown up in a big city, it was customary to run home after school, have a quick snack and then play outside with my neighbors until I was summoned to go inside for dinner. Even when taking into account that the majority of the campers came from suburban areas where homes are spread out and the fact that their friends may not live within a reasonable distance, I was still baffled by the camp experience. Children ages 13 and 14 did not know how to throw a football, or basketball, lacked the coordination to kick a soccer ball, and lacked the imagination to play games with their peers. When the campers had fifteen minutes of downtime, they would spend it sitting on the ground talking. It was evidence that their time-poor parents had no time to introduce these children to sports let alone the time to actually play with them. Again, the lack of time is the culprit; here it is indirectly causing obesity in the children of time poor, affluent parents. Parents over-schedule their children, from planned play dates when they were toddlers to copious numbers of extracurricular activities like piano lessons; as they get older children are being raised increasingly more rigidly. However, it seems as though these planned activities, are necessary since parents do not have time to spend with their children. Without such planned activities the children will sit on the couch and eat snacks while playing video games or watching television, thereby fostering sedentary lifestyles that lead to obesity. This horrid cycle is the reason the majority of these children were at Wellspring Camp parents that did not care, or that did not have time shipped their children away to learn how to play and lose weight.

Surprisingly, children of the poor have less to be taught about playing outside. In the Smith Hill area of Providence, a city environment, children congregate at the local park with their skateboards, bicycles, and copious amounts of sports balls to play with. Because these children do not have a lot of technology-driven gadgets, they are more apt to go outside, play with their peers and use their imaginations. For these children the issue is not about having the knowledge to play outside, but rather the accessibility to a safe environment in which to play. The Let's Move! Campaign aims to increase opportunities for kids to be physically active by promoting active community programs to increase safe routes for kids to walk and ride to school and by revitalizing parks, playgrounds, and creating fun and affordable fitness programs (Let's Move!, 2013). Through school programs the importance of physical activity is being reinforced, and physical education programs, cut during the economic recession, are resurfacing in elementary schools and middle schools throughout the nation.

Children who live in more urban areas seem to be more apt to go outside to play. As stated earlier, when the country is divided into four regions: Northeast, West, Midwest, and the South, we see that the Northeast and West have decreased rates of obesity. Children are more likely to be physically active in area with urban cities that are more densely populated; the larger cities of the Western states of California and Washington as well as the Northeastern states of Massachusetts and New York have seen great declines in obesity since the establishment of the Let's Move! Campaign in 2010. It seems to be less of a regional disbursement of obesity and breaks down to urban versus suburban environments.

In the comparison between Wellspring Camp and the Let's Move! Campaign we see that the rich are able to purchase better health. Though this may be true, the obesity gap between the affluent and poor seems to be decreasing. What was once a disease that fell disproportionately

towards the poor, obesity is now similarly affecting a broader spectrum of Americans (Figure 9). It is not only the poor who consume fast foods and convenience foods, but the affluent and time-poor also favor convenience in their fast-paced lives. The time-poor, those who work more than 40 hours a week in sedentary jobs are at much greater risk of becoming obese. These people consume calorie-dense convenience foods, Starbucks or food from a fast-food drive through, before work. They then sit for several hours at a desk, expending little energy, go out for an oversized lunch, and return to the office where they will sit for another five or more hours. America has shifted from a nation built on physical labor work to one of corporate offices. People are moving less throughout the day, and because these corporate jobs are so demanding, these people have less time to be physically active in their time away from work.

Regardless of affluence or poverty, Americans are almost equally affected by obesity. The affluent, despite a wider array of options to address obesity, are not necessarily immune to it. Whether “affluent and time-poor” or “poor and lacking availability to resources,” obesity is prevalent. There are numerous pathways to becoming obese; however, it is apparent that it does affect all people, regardless of socio-economic status.

The prevalence of obesity surrounds us but should not daunt us from making the world a healthier and happier place. With the information I have acquired, I can create change in the environment and involvement within my own small sphere of influence. On a local scale, the Harry Kizirian Elementary School in the Smith Hill area of Providence would be a great place to initiate a program to teach children about nutrition and the importance of where their food comes from. In the long-term I plan to increase my knowledge of healthy cooking concepts by working in restaurants geared toward fresh, sustainable, and nutritious ingredients. Attending graduate school for wellness promotion and registered dietitian accreditation would be the next step.

Changing the world would be an amazing feat; however, one must begin small, with one person, and eventually gain a larger sphere of influence. Through the art of personal-chefing, I want to help those who have true aspirations to become healthy and change their lives for the better. Giving people the resources and knowledge to live healthfully will benefit them immensely, even more than just supplying them with healthy foods. Like an apple a day, a nutritionist-chef a day can bring healthful meals and joy to life, one cover at a time.

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Figures:

Figure 1

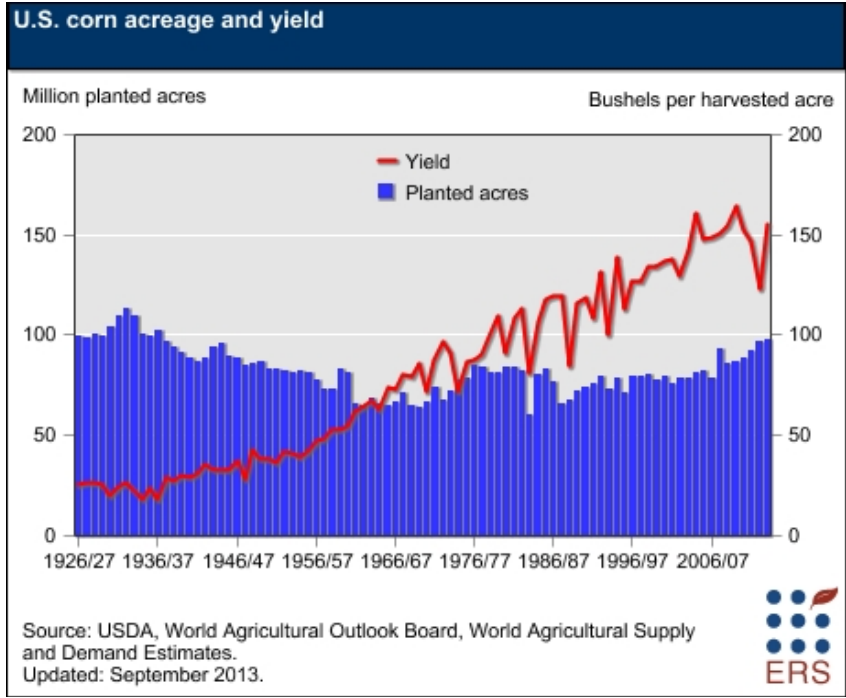


Figure 2

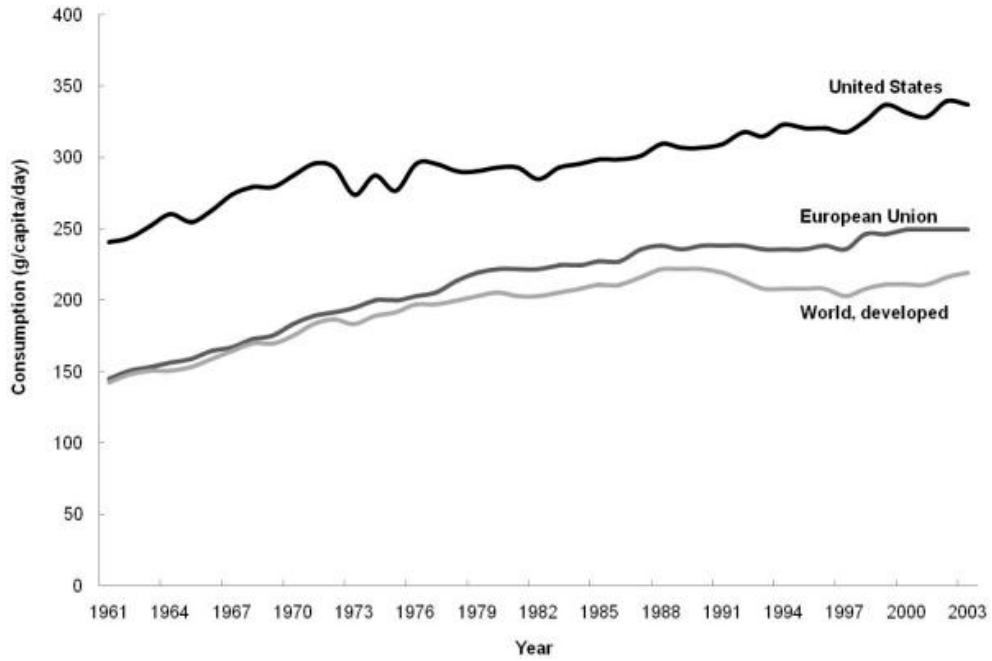


Figure 3

US Death Rates per 100,000 Population 2005		
Cause of Death	Deaths	%
1 All causes	798.8	100.0
2 Heart diseases	210.3	26.3
3 Malignant neoplasms (cancer)	183.8	23.0
4 Cerebrovascular diseases	46.6	5.8
5 Chronic lower respiratory diseases	43.2	5.4
6 Accidents	38.1	4.8
7 Diabetes mellitus	24.5	3.1
8 Alzheimers disease	22.9	2.9
9 Influenza and pneumonia	20.3	2.5
10 Nephritis, nephrotic syndrome and nephrosis	14.3	1.8
11 Septicemia	11.2	1.4
12 Suicide	10.6	1.3

US Death Rates per 100,000 Population 1900		
Cause of Death	Deaths	%
1 All causes	1548.1	100.0
2 Pneumonia	202.2	13.1
3 Tuberculosis	194.4	12.6
4 Diarrhea, enteritis, and ulceration of the intestines	142.7	9.2
5 Heart diseases	137.4	8.9
6 Intracranial lesions of vascular origin	106.9	6.9
7 Nephritis	88.6	5.7
8 Accidents	72.6	4.7
9 Cancer and other malignant tumors	64.0	4.1
10 Senility	50.2	3.2
11 Diphtheria	40.3	2.6

Figure 4

Chart 2. Shares of average annual expenditures on selected major components by ethnicity and race, 2012

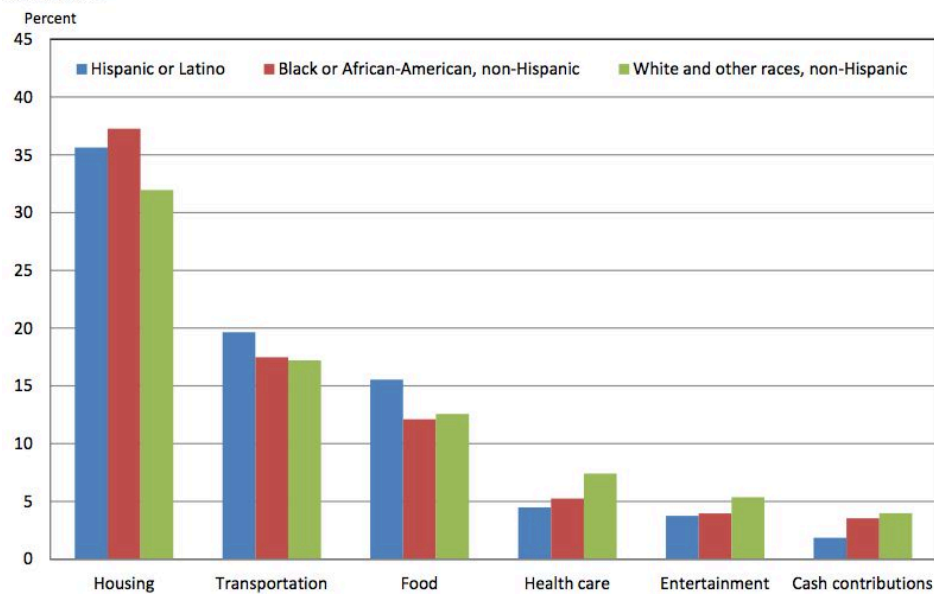


Figure 5

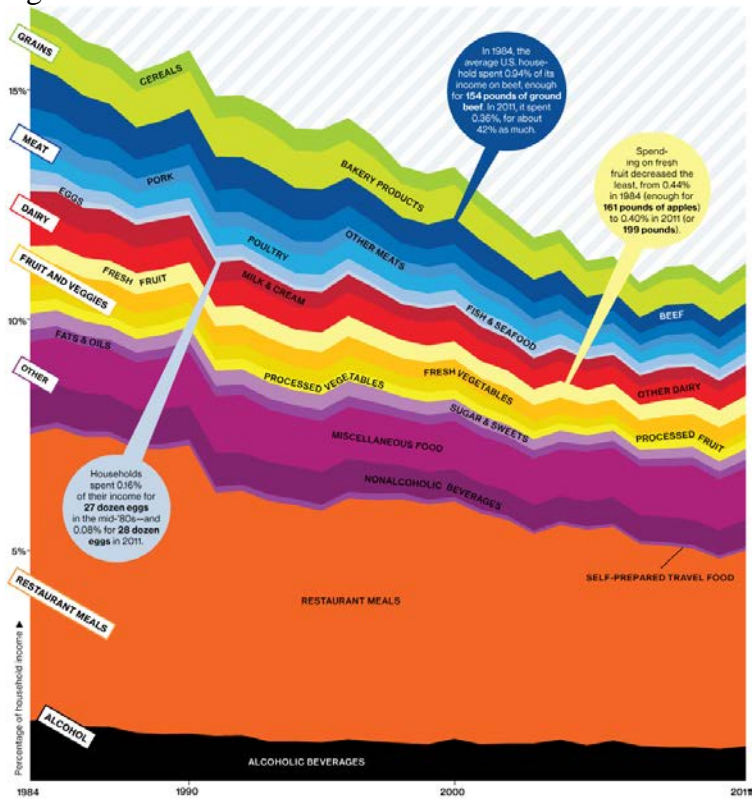


Figure 6



Figure 7

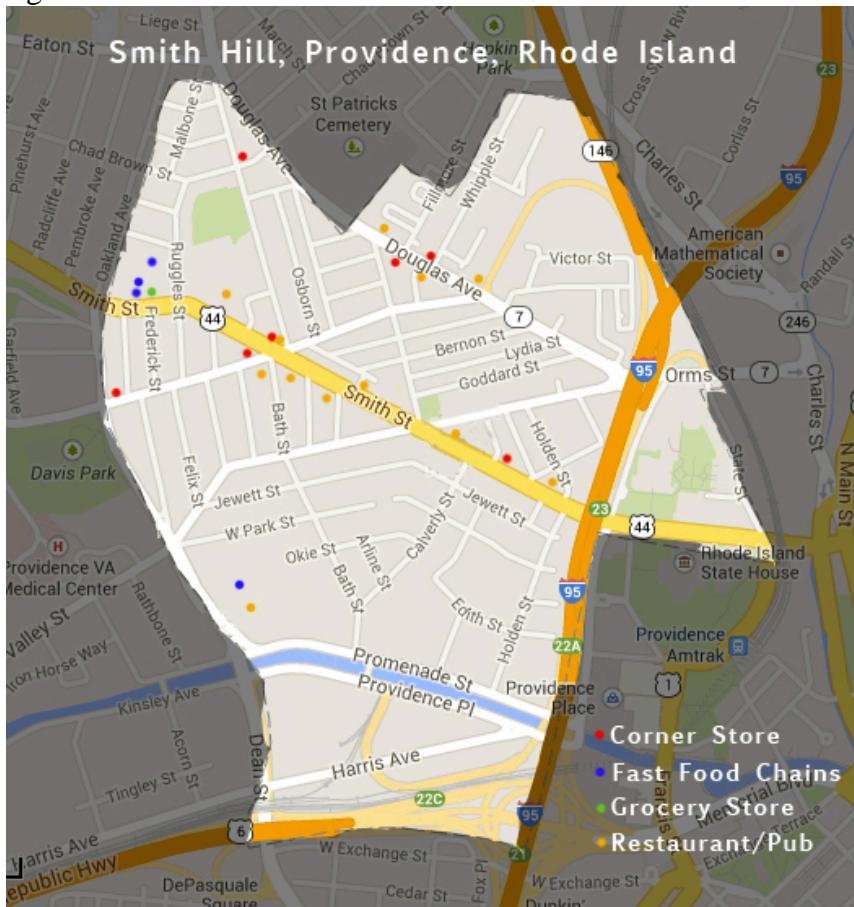


Figure 8

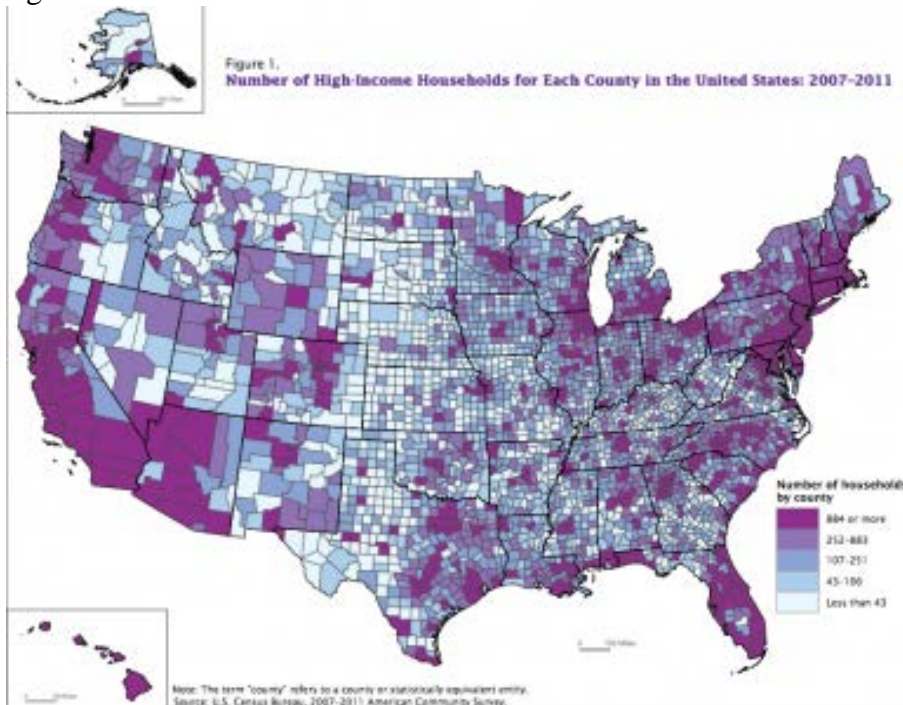
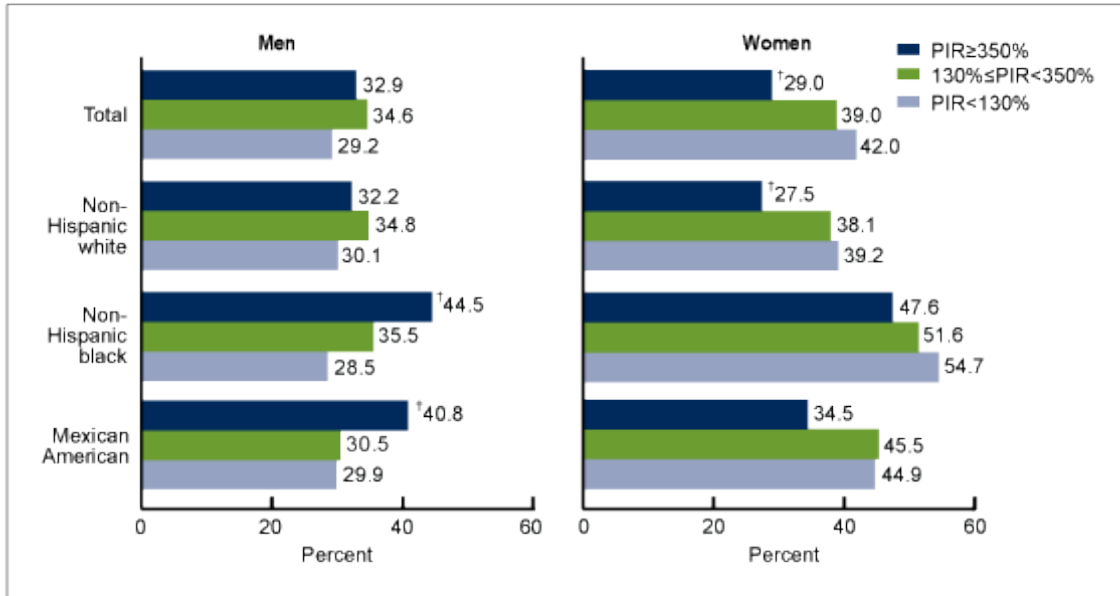


Figure 9

Figure 1. Prevalence of obesity among adults aged 20 years and over, by poverty income ratio, sex, and race and ethnicity: United States 2005–2008



*Significant trend.

NOTES: PIR is poverty income ratio. Persons of other race and ethnicity included in total.

SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey, 2005–2008.

Figure 10

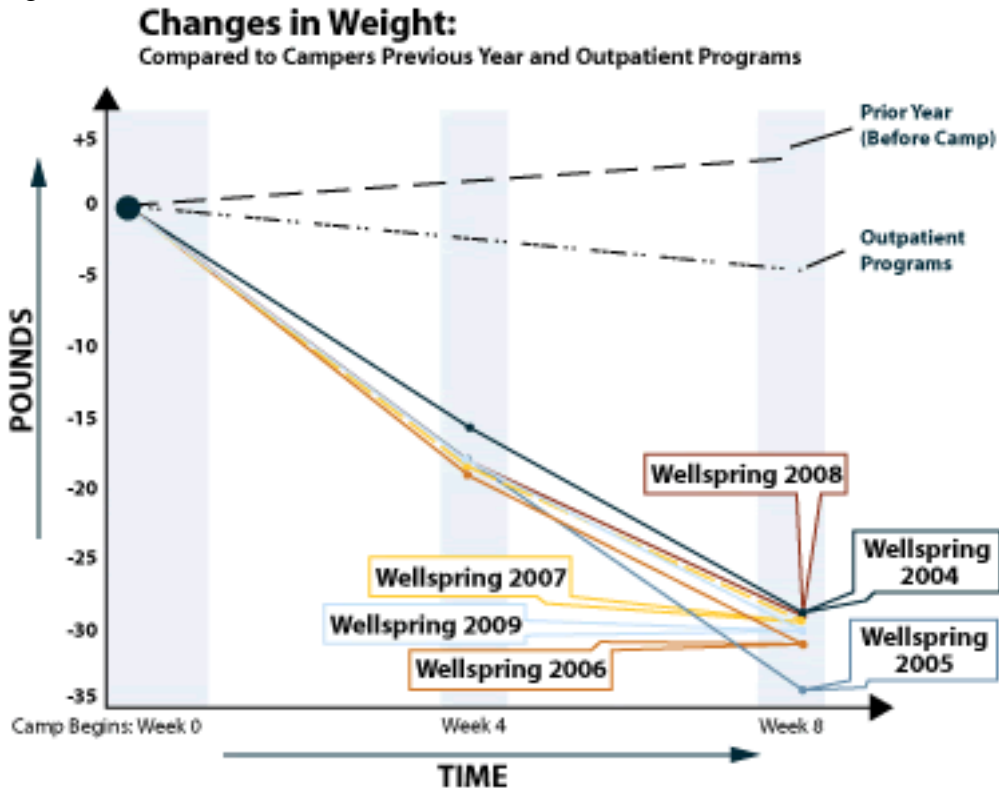
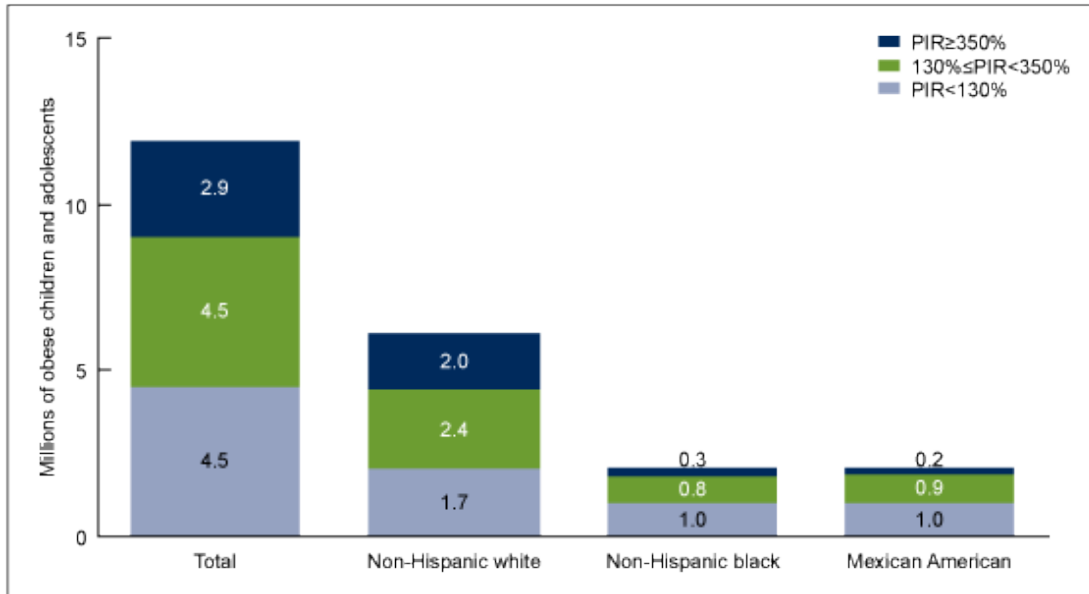


Figure 11

Figure 2. Obese children and adolescents aged 2–19 years, by poverty income ratio and race and ethnicity: United States, 2005–2008



NOTES: PIR is poverty income ratio. Persons of other race and ethnicity included in total.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey, 2005–2008.

Figure 12



Figure 13



Figure 14

From 2008 to 2011, there was widespread progress in reducing obesity among preschool children from low-income families

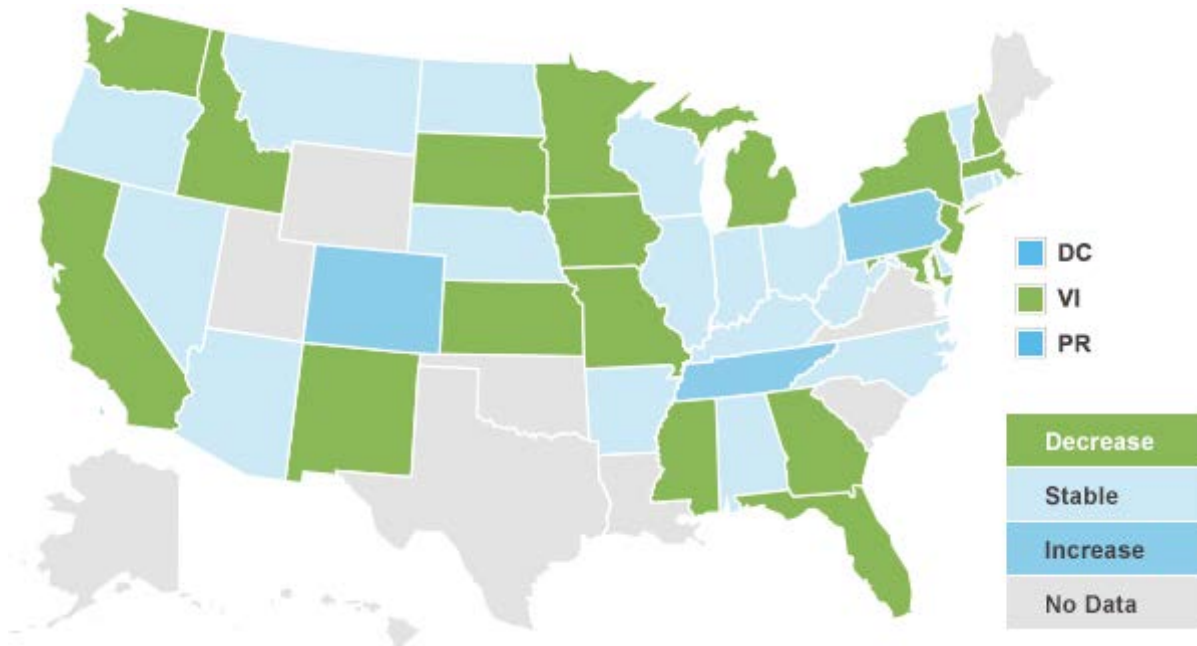
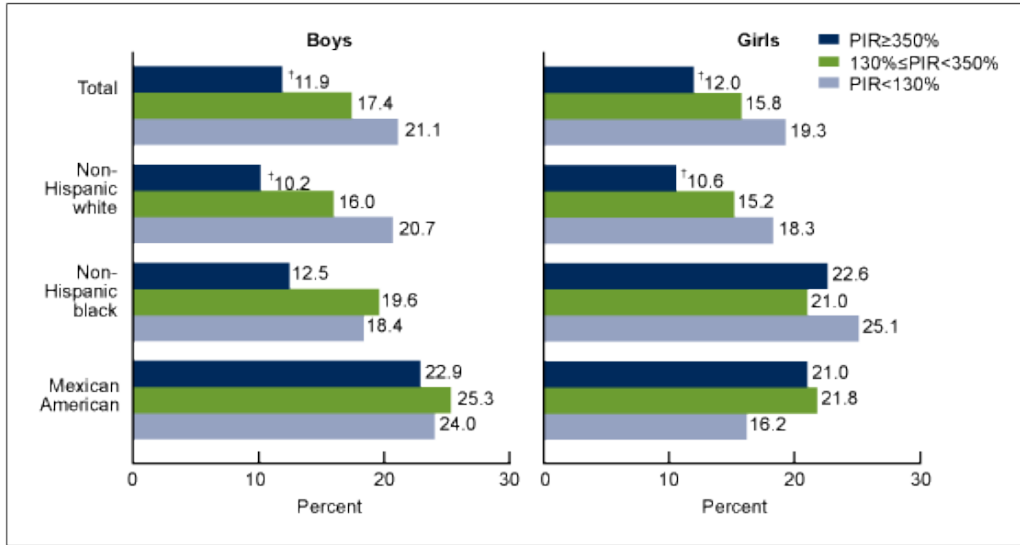


Figure 15

Figure 1. Prevalence of obesity among children and adolescents aged 2–19 years, by poverty income ratio, sex, and race and ethnicity: United States, 2005–2008



†Significant trend.

NOTES: PIR is poverty income ratio. Persons of other race and ethnicity included in total.
SOURCE: CDC/NCHS, National Health and Nutrition Examination Survey, 2005–2008.