

Obesity and the Impact of Society on Obese Youth

Veronica Gallo

Psychology Department, Wagner College

Table of Contents

	page
ABSTRACT.....	3
CHAPTER	
1 A HISTORY OF ATTITUDES TOWARDS OBESITY.....	4
Fat and Morality.....	4
Physiological Blame	6
Psychological Blame.....	8
Societal Blame.....	10
Environmental Blame.....	13
Conclusion.....	14
2 RISK FACTORS OF CHILDHOOD AND ADOLESCENT OBESITY.....	15
Theoretical Model.....	15
Behavioral Sphere.....	16
Familial Sphere.....	17
Societal Sphere.....	18
Conclusion.....	19
3 DISPARITIES IN CHILDHOOD AND ADOLESCENT OBESITY.....	20
Problem.....	20
Potential Solutions.....	20
Conclusion.....	23
4 BLAME FOR OBESITY: CONNECTING THE PAST AND PRESENT.....	24
Conclusion.....	26
LIST OF REFERENCES.....	27

Abstract

The sociological and environmental analyses of obesity have left a positive mark on present-day attitudes towards obese individuals. Once regarded as immoral, unchaste, or psychologically weak, the obese individual is now largely recognized to be an inevitable product of an obesogenic or obesity-promoting environment. This thesis reviews the history of attitudes towards obesity as well as the current risk factors and disparities pertaining to childhood and adolescent obesity. Chapter 1 emphasizes the way in which the historical narrative surrounding obesity has reversed from one in which the individual is damaging to society to one in which society is damaging to the individual. Chapter 2 examines the behavioral, familial, and societal influences of the global issue of childhood and adolescent obesity. Chapter 3 discusses the racial and ethnic disparities in childhood and adolescent obesity, and presents three main solutions to this significant United States public health matter. Chapter 4 explores Chapter 1 in relation to Chapters 2 and 3, ultimately revealing the similarities and differences in ideas about obesity across varying time periods and perspectives.

Keywords: obesity, morality, weight stigma, obesogenic environment, childhood and adolescent obesity, racial and ethnic disparities, public policy interventions

A History of Attitudes Towards Obesity

The blame for obesity has changed drastically throughout history. In the 19th century, obesity had been regarded as a chief indicator of unvirtuous, personal behavior (Graham, 1839; Kellogg, 1891; Tompkins, 2009). With the rise of the field of endocrinology during the early 1900s, obesity came to be seen as a glandular disturbance particularly among endocrinologists (Lisser, 1924; Neville, 1921; Rasmussen, 2015, 2019). By the 1950s however, physiological explanations for obesity had been replaced by psychological explanations due to the groundbreaking work of psychoanalyst Hilde Bruch in children (Bruch, 1941, 1948; Farrell, 2011; Iversen et al., 1952; Rasmussen, 2015, 2019). Beginning in the 1970s, the stigma of obesity and its effects became a main topic of interest for sociologist Natalie Allon (Allon, 1973, 1979; Sobal, 1984) and the present-day blame for obesity largely became attributed to society (Major et al., 2014; Vartanian & Novak, 2011) as well as an obesity-promoting or obesogenic environment (Lake & Townshend, 2006). This paper reviews the history of attitudes towards obesity, emphasizing the way in which the narrative has reversed from one in which the individual is damaging to society to one in which society is damaging to the individual.

Fat and Morality

Personal responsibility for health was a prominent idea of the nineteenth century (Reiser, 1985; Tesh, 1982). In reaction to an “era of heroic therapy” marked by bleeding, rigorous purges, blistering agents, diaphoretic agents, cathartics, and emetics, a belief emerged in the first third of the nineteenth century that Americans should be self-sufficient, and seize control of their health away from orthodox physicians (Reiser, 1985, p. 11). Rejection and skepticism towards claims of medical competence had, in turn, become widespread, and nineteenth-century Americans

became inspired to understand the pragmatics of health care and rely on their own judgment in the use of less harsh or natural therapies and remedies.

Sylvester Graham

Presbyterian preacher Sylvester Graham was the most influential proponent and widely heard voice of health and dietary reform in nineteenth-century America (Tesh, 1982; Tompkins, 2009). Graham advocated for a low-fat, low-sugar diet, high in fruits, vegetables, and whole wheat products. A principle component of his dietary regimen was the use of whole grain wheat flour for baking, which later inspired the creation of the crackers that bear his name and still remain popular to this day. Most notably, Graham preached that it was the individual's responsibility to avoid meat, spice, tobacco, alcohol, coffee, and tea because these particular food and drink items would lead individuals to masturbate and have tarnished thoughts and sexual desires.

Graham's 1839 *Lecture to Young Men on Chastity* is one of the most prominent statements of the relationship between dietary control and moral well-being of that time period (Tompkins, 2009). One story in the *Lecture* discusses a family of considerable wealth and respectability. Graham (1839) makes specific mention of the eldest daughter who "long before this child could speak with sufficient distinctness..., she was taught to repeat, morning and evening, and on various occasions, little prayers and hymns, adapted to her age" (p. 150). Two years later, Graham revisits the family and was surprised to find the children, particularly the eldest daughter, disrespectful of religion, ill-behaved, and addicted to the practice of self-pollution, or masturbation. For Graham (1839), the blame lay with the mother who had "wholly disregarded the relations between the bodies and souls of her children- between their dietetic habits and their moral character... Indeed, she prided herself on setting the best table in

town. Highly seasoned flesh-meat, rich pastry, and every other kind of rich and savory food, and condiments in abundance, together with strong coffee and tea, and perhaps occasionally a glass of wine, were set before these children for their ordinary fare. The result was just what was reasonably to be expected; and sorrow and tears were the reward of the afflicted mother” (p. 152). By this anecdote, Graham (1839) promotes dietary restraint as a moral imperative, and clearly lays out the perceived nineteenth-century connection between dietary and sexual indulgence.

John Harvey Kellogg

Physician John Harvey Kellogg promoted and extended Graham’s philosophy (Jackson et al., 2004). Kellogg developed his own idea of “biological living” which involved vegetarianism, physical activity, drinking eight to 10 glasses of water per day, and avoiding meat, spice, tobacco, alcohol, coffee, and tea. Like Graham (1839), Kellogg (1891) emphasized that such stimulants have a powerful and direct influence on the reproductive organs as “they increase the local supply of blood; and through nervous sympathy with the brain, the passions are aroused” (p. 348). This idea encompasses the nineteenth-century medical explanation for the relationship between rich diet and sexual urges, and beyond doubt implies that fat was once a clear indicator of immorality or sexual promiscuity in America.

Physiological Blame

By the 1900s, endocrinology had gained some respectability and acclaim as a medical field (Rasmussen, 2019). In 1901, scientists J. J. Abel and Jokichi Takamine purified epinephrine, the adrenal hormone responsible for raising blood pressure, at John Hopkins University. Sixteen years later, scientist E. C. Kendall isolated thyroxine, the thyroid hormone responsible for the regulation of metabolism, at the Mayo Clinic. As endocrinology rose in

prominence in the 1920s, it claimed obesity as its intellectual and commercial property (Rasmussen, 2015, 2019).

In 1924, San Francisco endocrinologist Hans Lissner asserted that “the view that an overwhelming majority of obese individuals owe their adiposity to excessive food intake and lack of exercise is probably exaggerated” (Lissner, 1924, p. 509). Instead, Lissner (1924) argued and explained that most cases of obesity involve an additional fundamental “factor,” that is, “an abnormal faulty metabolism, the control of which is to a large extent dominated by the glands of internal secretion” (p. 510).

Among endocrinologists in the 1920s, insufficient function of the thyroid, pituitary, and/or gonads (i.e., ovaries in women and testes in men) was believed to invariably produce obesity (Neville, 1921; Lissner, 1924). Lissner (1924) indicated that radical diet restriction often reduces weight, but emphasized that this measure should, by no means, be considered a true cure for obesity. Proper treatment of obesity, as promoted by the endocrine community, entailed glandular therapy or expensive hormone drugs (Lissner, 1924; Rasmussen, 2015, 2019). Endocrinologists like Lissner prescribed a treatment plan that might last anywhere from four months to several years, which consisted mostly of taking powdered thyroid preparations or pills to adjust a slow metabolism and promote weight loss (Rasmussen, 2019). The main belief among endocrinologists at the time was, therefore, that obese individuals were not necessarily immoral or responsible for their fate, but simply suffered from a physiological illness that entailed medical treatment.

The Fall of Physiological Blame

By the late 1930s and early 1940s, physiological or endocrinological explanations for obesity fell into disfavor and were largely discredited (Rasmussen, 2015, 2019). Evidence had

accumulated that obesity, in almost all cases, was not caused by abnormal metabolic rates or by hormones that regulate metabolism (Newburgh & Johnston, 1930; Talbot & Worcester, 1940).

One of the most influential scientists in this arena was L. H. Newburgh, a physiologist at the University of Michigan (Rasmussen, 2019). Newburgh's various experiments in the 1930s revealed obese individuals and thin individuals have approximately the same basal or resting metabolic rates, proportional to body surface area. He acknowledged that there are certainly deviations from the average metabolic rate, but that they are the exception for a small group of individuals suffering from a rare endocrine disorder.

Newburgh and Johnston's (1930) main finding is that obesity is "never directly caused by abnormal metabolism" (p. 212) and "always caused by an inflow of energy that is greater than the outflow" (p. 211) or "the ingestion of more food than is normally needed" (p. 212). According to this view, obese individuals were considered to become obese simply because they eat more. In addition, Newburgh and Johnston (1930) briefly claim that, in most obese individuals, "the combination of weak will and a pleasure seeking outlook upon life, lays the background for the condition" (p. 212). This notion signifies the beginning of the shift to a psychological blame for obesity, which will be thoroughly discussed in the following section.

Psychological Blame

By the 1940s, endocrinologists and medical professionals came to agree that obesity is caused by overeating (Newburgh & Johnston, 1930; Rasmussen, 2015, 2019). This scientific consensus, however, prompted an even more challenging question: Why do obese individuals overeat?

Pediatrician, psychiatrist, and psychoanalyst Hilde Bruch was one of the most prominent figures in the psychological study of obesity (Rasmussen, 2015, 2019). In the early 1940s, Bruch

began her groundbreaking work on obesity in children who were predominantly of poor, Jewish or Italian immigrant families living in New York (Iversen et al., 1952). In collaboration with social worker Grace Touraine, Bruch made personal visits to the homes of these children. Each researcher observed the children play, eat, interact with other family members and, when possible, conducted interviews with the mothers and fathers (Rasmussen, 2019).

From her qualitative research, Bruch argued that the children were obese (i.e., ate too much and exercised too little) as a result of the overbearing and dominating nature and behavior of their strong-willed immigrant mothers (Farrell, 2011; Iversen et al., 1952; Rasmussen, 2015, 2019). Majority of these mothers had experienced great hardship and hunger throughout their childhoods and were left upon their own devices from as long as they could remember (Bruch, 1941; Farrell, 2011; Iversen et al., 1952). Bruch (1941) believed that the mothers, in an emotionally immature way, sought to create a normal, happy, safe, and carefree environment for their children of which they had been deeply deprived. For Bruch (1941), this typically manifested in an overt expression of overprotectiveness and in an overemphasis on feeding.

Beyond the mothers' attitude and actions, Bruch discerned the emotional immaturity and insecurity of the obese child (Iversen et al., 1952). According to Bruch (1948), "food has an exaggerated positive value for the obese [child]. It stands for love, security and satisfaction" (p. 79). Obesity, as concluded by Bruch's work, was therefore a response to a lack of love, security, and satisfaction typically received from mothers (Iversen et al., 1952). In spite of their mothers' relatively primitive conduct, Bruch (1941) makes known that "one may consider as a basic weakness in [the obese child's] behavior the fact that he does not rebel against excessive feeding and prolonged overprotection... He indulges in the continued and excessive gratification at this primitive level, and is unwilling to give up the pleasures and safety of infancy... It is as if he

sells his birthright of becoming an independent and mature person for the continued abundance of nourishment and protection” (pp. 471-472). Viewing obese children as psychologically weak and stunted in an infantile state, Bruch (1941), in turn, recommended and promoted therapy as the proper form of treatment.

A prominent study by psychiatrist Walter Hamburger (1951) later examined the emotional causes of overeating via intensive psychotherapy and interviewing. Hamburger (1951) discovered that obese adults typically fell into one of four main groups, those that overate in response to (1) nonspecific emotional tensions, (2) as a substitute gratification in reaction to intolerable life situations, (3) as a symptom of an underlying emotional illness (e.g., depression and hysteria), or (4) as a malignant addiction to food. Building on Bruch (1941)’s connection between obesity and oral gratification, Hamburger (1951) added that oral fixation, or the failure to move past the sucking stage, was a common underlying theme among the four main classes of obese adults that he studied. The idea that obesity was caused by oral fixation was quickly adopted by other psychiatrists and, by the early 1950s, it had gained widespread acceptance within the medical community (Rasmussen, 2015).

Societal Blame

With the exception of some early research, obesity was largely unstudied by sociologists prior to the 1970s (Sobal, 1984). Natalie Allon was a pioneer in the sociological study of obesity and, arguably, the most important and consistent spokesperson on the topic in the 1970s (Sobal, 1984). Allon’s invaluable and groundbreaking contributions to the sociological analysis of obesity are reviewed in Sobal (1984).

Natalie Allon was among the first researchers to focus on weight stigma, or the social devaluation and unfair criticism of people perceived to carry excess weight (Nolan & Eshleman,

2016). Her major published articulation on the stigmatization of obesity in American society appeared in 1973 (Sobal, 1984). Allon (1973) reinforces the idea that fatness is a handicap above and beyond the intrinsic characteristics and features of fatness itself. Obesity is portrayed predominantly in terms of a self-prophecy, where fat persons are discriminated against due to dominant values and expectations, are made to feel that they deserve the discrimination, and are made to regard their treatment as fair (Allon, 1973).

According to Allon (1973), the stigmatization of obesity in everyday life can be examined in four main disciplines: in religion, as a sin; in medicine, as a disease; in crime, as a misdemeanor or felony; and in aesthetics, as ugliness. As a sin, obesity is viewed as immoral and self-indulgent in accordance with the Protestant ethic of self control. By treating obesity as a disease or illness, Allon (1973) suggests that the sick role is detrimentally upon obese individuals, leading to physiological (e.g., sex issues) and psychological (e.g., anxiety and depression) problems which are more of a consequence of stigmatizing obesity as a sickness than the direct outcomes of being obese. In the realm of crime, obese individuals are held entirely responsible for their fatness, in a way in which helpless, sick victims are not and are to be socially punished for their delinquency or offense of overeating. As ugliness, obesity is considered to be a significant departure and deviation from United States beauty standards and ideals of thinness. Allon (1973) additionally notes and describes the countertrend of the fat acceptance movement, whose motto is that fat can be beautiful and whose main goal lies in redefining obesity as a nonstigmatized condition as opposed to remodeling individuals to conform to social ideals.

Allon's later research focused on the social aspects of obesity in children and adolescents (Sobal, 1984). Allon (1979) observes and draws three different themes among obese youth. First, some youngsters viewed obesity as completely their own fault, putting the blame on themselves

and feeling that they deserved to be punished. Second, others perceived their obesity as not their fault and essentially out of their power, classifying obesity as a disease and assuming the sick role. Third, another group of youth mixed the blame for obesity between their own actions and those which were out of their power, seeking professional advice for their condition but expecting punishment if they did not adhere to it. Allon's (1979) main finding is that the youth who believed that being obese was partly their own fault and partly out of their power lost more weight than those who believed that being obese was solely their own fault and also those who believed that being obese was solely out of their power. This underscores the often underrecognized importance and necessity of a middle ground in assigning responsibility for obesity.

More recent research suggests that the stigma of obesity can negatively influence healthy eating behavior (Major et al., 2014) as well as the motivation to exercise (Vartanian & Novak, 2011). A four-component model for coping with obesity stigma has been proposed by Sobal (1991). It includes (1) recognition, (2) readiness, (3) reaction, and (4) repair. Recognition involves an awareness and understanding of the stigmatization of obesity. Readiness entails an anticipation of specific settings and people involved in obesity stigmatization and a preparation for and prevention of weight stigmatizing actions. Reaction consists of immediate and long-term coping with weight stigmatizing actions. Repair incorporates recovery from obesity stigmatization as well as attempts at restitution and reform of the weight stigmatizing actions of others.

Environmental Blame

In relation to the recent rise in global levels of obesity, obesogenic environments are believed to be the primary cause (Lake & Townshend, 2006). The obesogenic or

obesity-promoting environment is specifically defined as “the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations” (Swinburn & Egger, 2002, p. 292). As human environments are incredibly complex, a multidisciplinary perspective is required in order to investigate and come to a true understanding of the relationships of both the built and food environments with obesity (Lake & Townshend, 2006).

Built Environment

The built environment includes physical design, land use patterns (for residential, commercial, office, industrial or other purposes), and transportation systems (Lake & Townshend, 2006). In San Diego, California, Saelens et al. (2003) revealed that residents of high-walkability neighborhoods on average walked 70 minutes more than those of low-walkability neighborhoods. While 35% of residents in high-walkability neighborhoods were overweight, this statistic rose to 60% for those in low-walkability neighborhoods (Saelens et al., 2003).

Food Environment

The food environment consists of food availability and accessibility as well as food advertising and marketing (Lake & Townshend, 2006). The fast-food restaurants of Chicago, Illinois have been shown to be clustered and concentrated in areas that are within short walking distances to schools, ultimately characterizing school neighborhood environments (Austin et al., 2005). In New Zealand, Carter & Swinburn (2004) found that the food environment was not encouraging of healthy food choices. Similarly in the United Kingdom, a large variety of

unhealthy foods and beverages made it challenging for students to make healthy choices (Ludvigsen & Sharma, 2004).

Conclusion

The sociological and environmental analyses of obesity have left a positive mark on present-day attitudes towards obese individuals. Sylvester Graham, a Presbyterian preacher, was one of the main figures of nineteenth-century America known for his emphasis on dietary control as a moral imperative. By the 1900s, the field of endocrinology had gained respectability and obesity began to be seen chiefly as a medical concern among endocrinologists. Largely due to the work of psychoanalyst Hilde Bruch however, physiological explanations for obesity had eventually been replaced by psychological explanations. From the 1970s onward, the sociological and environmental study of obesity gained ground and became a central component of the obesity dialogue. Once regarded as immoral, unchaste, or psychologically weak, the obese individual is now largely recognized to be an inevitable product of society as well as an obesogenic environment.

Risk Factors of Childhood and Adolescent Obesity

Childhood and adolescent obesity is one of the most widespread health concerns of the 21st century. Typically regarded as an issue of the United States, overweight and obesity is now on the rise across the globe, particularly in urban environments (World Health Organization, 2021). According to a World Health Organization (2021) news report, over 340 million children and adolescents between the ages of five and 19 years were classified as overweight or obese in 2016. Compared with children and adolescents who are of healthy weight, children and adolescents who are overweight or obese are more likely to have poor psychological and physiological outcomes, including depression, low self-esteem, type two diabetes, asthma, sleep apnea, musculoskeletal disorders, and cardiovascular disease (Sanyaolu et al., 2019; World Health Organization, 2021). As many of these negative consequences often do not manifest until adulthood (World Health Organization, 2021), it is of utmost importance to be able to recognize some of the early risk factors. This paper reviews the behavioral, familial, and societal spheres of influence, with a focus on their unique roles in the development of childhood and adolescent obesity.

Theoretical Model

A conceptual model of childhood obesity was proposed by Davison and Birch (2001). According to Davison and Birch (2001), behavioral habits such as dietary intake, physical activity, and sedentary behavior can place a child at risk for obesity. Specific child characteristics such as susceptibility to weight gain, age, and gender moderate the impact of these risk factors on the development of obesity. The occurrence of child risk factors is dependent upon family characteristics such as parent nutritional knowledge, parent weight status, and parent encouragement of child activity. On a broader scale, community, demographic, and societal

characteristics such as accessibility of recreational facilities, socioeconomic status, and work hours govern the development of childhood obesity as a result of their influence on family characteristics and child risk factors.

Behavioral Sphere

Low level of physical activity and frequent consumption of fast food and sweetened beverages are key behavioral factors that have been associated with childhood and adolescent obesity (Mistry & Puthussery, 2015; Porter et al., 2018). These findings fall in direct agreement with the World Health Organization's (2021) recommendations for childhood overweight and obesity prevention. The World Health Organization (2021) recommends increased intake of fruits and vegetables, limited intake of fats and sugars, as well as one hour of daily physical activity for children. In addition to physical inactivity and an unbalanced diet, skipping breakfast has been reported to increase the risks of overweight and obesity among children and adolescents (Monzani et al., 2019). Having a morning meal, therefore, serves a simple, yet crucial, undertaking in the maintenance or promotion of healthy body weight in youth.

Short durations of sleep and long durations of media use are two additional individual risk factors of excess body weight in children. Mexican American children between eight and 10 years of age who classified as short sleepers at baseline were associated with an increased risk of obesity over a 24-month period (Martinez et al., 2014). They were observed to have higher body mass index z-scores, higher waist-to-height ratios, and greater weight gains at the 24-month follow-up than those who were long sleepers, after the researchers controlled for child baseline weight, gender, maternal body mass index, and occupation. After adjusting for multiple confounding variables, Wada et al. (2019) found that Japanese school children between six and seven years of age who used cell phones had a greater odds for being overweight in comparison

to those who did not use cell phones. In addition, long duration of cell phone use and time spent watching television were both observed to be positively correlated with the risk of being overweight among the children of the sample. Taken together, Martinez et al. (2014) and Wada et al. (2019) suggest that long duration of sleep and reduced exposure to cell phones and screens may play an invaluable role in the mitigation or prevention of obesity development in children.

Familial Sphere

Recent research underscores the importance of familial factors such as parent nutritional knowledge, family structure, and maternal body mass index in the overall conversation surrounding childhood obesity (Dallacker et al., 2018; Gibson et al., 2016). As demonstrated by Dallacker et al. (2018), an astounding 74% ($n = 224$) of German parents in their sample underestimated the sugar content of foods and beverages frequently consumed by children (e.g., orange juice, cola, pizza, fruit yogurt, granola bar, and ketchup). After controlling for parental education and body mass index, the researchers concluded that a significant relationship exists between parent underestimation of sugar and childhood obesity. According to Gibson et al. (2016), mothers of overweight or obese children from a community-based sample in Australia had higher body mass indices than the mothers of healthy weight children and were, on average, more likely to be single as opposed to married parents. The strong observed relationship between child body mass index, maternal body mass index, and single-parent family structure overall points to the need to tailor childhood obesity intervention efforts towards the family, particularly families with single mothers who have minimal knowledge regarding nutritional value and/or are themselves struggling to lose weight.

Family meals may serve as an additional protective measure against childhood and adolescent obesity. The frequency of family meals is positively associated with greater intake of

nutrient-dense foods (e.g., fruits and vegetables), less consumption of soft drinks, and an overall more balanced diet in children and adolescents (Martin-Biggers et al., 2014; Verhage et al., 2018). Frequent family meals are negatively related to fussiness and positively related to food enjoyment in children (Verhage et al., 2018). In addition, high family meal frequency has been suggested to promote a number of positive health outcomes in children and adolescents, such as decreased risks of overweight, obesity, as well as eating disorders (e.g., binge eating) (Martin-Biggers et al., 2014). According to Martin-Biggers et al., (2014), the mechanism for this relationship may mostly have to do with parental control of the mealtime atmosphere. Although not always possible, family meals therefore have much to offer when it comes to overweight and obesity prevention in children and adolescents.

Societal Sphere

Limited access to outdoor space and recreational facilities such as parks has been shown to be closely connected to the issue of childhood obesity (Reuben et al., 2020; Schalkwijk et al., 2018). According to Schalkwijk et al. (2018), the absence of a garden and low levels of green space in surrounding areas significantly increased the probability of obesity among British children of low-educated parents. Unsurprisingly, British children of higher educated households were reported to have more access to a garden and live in greener neighborhoods. After adjusting for age, sex, and race/ethnicity, Reuben et al. (2020) found that youth lacking parks in their neighborhoods were at higher odds of being physically inactive, having long screen-times, or having inadequate sleep than children who have parks in their neighborhoods. This same group of American children also tended to be obese or diagnosed with attention deficit hyperactivity disorder. Given that children living below the federal poverty level in the United States are less likely to have a park in their neighborhoods (Reuben et al., 2020), these findings suggest that

there may be a number of broad health benefits associated with the presence of neighborhood parks, particularly for children of low-income or impoverished areas.

Conclusion

Behavior, family, and society each serve as important determinants in the development of childhood obesity. Poor diet, lack of physical activity, inadequate sleep, and sedentary behaviors like media use are intimately associated with child weight status. Above the behavioral level, minimal parent nutritional knowledge, single-parent structure, and less frequent family meals tends to increase a child's overall likelihood of being obese. Within the societal sphere, limited accessibility to green space and parks have been shown to promote childhood obesity, among a host of other unfavorable health outcomes and behaviors. A true awareness of the behavioral, familial, and societal spheres of influence is essential to tackling the issue of childhood obesity, and these three types of risk factors should ultimately guide and be taken into close consideration by intervention efforts in not only the United States, but across the globe.

Disparities in Childhood and Adolescent Obesity

Childhood and adolescent obesity is a major public health concern in the United States, disproportionately affecting minority youth (Sanyaolu et al., 2019). In a recent policy statement, the American Academy of Pediatrics promoted race as a social construct and acknowledged the impact of racism on a number of child and adolescent physical and mental health outcomes (Trent et al., 2019). The present paper discusses racial and ethnic disparities in childhood and adolescent obesity and obesity risk behaviors, and presents three potential solutions to this significant United States public health matter.

Problem

Obesity is more prevalent among Hispanic (25.8%) and non-Hispanic black (22.0%) children and adolescents than among non-Hispanic white (14.1%) and non-Hispanic Asian (11.0%) children and adolescents (Sanyaolu et al., 2019). Overall, child and adolescent consumption of sugary drinks (e.g., soda and energy drinks) is highest among racial and ethnic minorities such as those who identify as Black, Mexican American, and non-Mexican Hispanic (Bleich et al., 2018) and among low-income communities (Krieger et al., 2021). Over 50% of schools with a predominantly low-income and Hispanic student body have a fast-food restaurant nearby, compared with 21% of schools with a White student population (D'Angelo et al., 2016). These unfortunate racial and ethnic disparities are by no means acceptable, and must be approached from multiple angles in order to truly begin to dismantle them.

Potential Solutions

Recent research has suggested various strategies to overcome racial and ethnic disparities in childhood and adolescent obesity (Aaron & Stanford, 2021; Kumanyika, 2017). This paper proposes three main public policy interventions. As detailed below, they are (1) a

sugar-sweetened beverage tax, (2) health-related warning labels, and (3) healthy food and beverage access in schools.

Sugar-Sweetened Beverage Tax

Various local, state, and national public policies are needed to reduce child and adolescent consumption of sugary drinks and improve overall health (Muth et al., 2019). One of Muth et al.'s (2019) recommendations is the implementation of an excise tax, or a tax initially imposed on product manufacturers or distributors which later trickles down to retailers and consumers. Sugar-sweetened beverage taxes, which influence everyone living in a given area, have the potential to reach low-income communities including people of color (Krieger et al., 2021). In regards to sugar-sweetened beverages, a meta-analysis revealed that each 10% increase in price reduced consumption by 7% (Afshin et al., 2017). Additionally, the enactment of a sugar-sweetened beverage excise tax has been projected to be the most cost-effective intervention to reduce childhood obesity, leading to the prevention of approximately 576,000 cases and a net health care savings of \$30.78 for each dollar spent over the course of 10 years (Gortmaker et al., 2015). These savings are of great value and importance, as they can potentially be used to fund additional obesity interventions.

Health-Related Warning Labels

Front-of-package food labels, including warning labels regarding the negative health effects of the consumption of sugar-sweetened beverages, may allow African American and Latino youth and their families to make healthier and more nutritional choices. For example, a randomized trial of 2,202 adolescents aged 12-18 years revealed that those who were exposed to a health-related warning label (e.g., SAFETY WARNING: Drinking beverages with added sugar(s) contributes to obesity, diabetes, and tooth decay) were less likely to hypothetically

purchase sugar-sweetened beverages and were more likely to recognize the ill health effects of the sugar content of such beverages than those who were not exposed to warning labels (VanEpps & Roberto, 2016). When parents were exposed to a health-related warning label, they chose fewer sugar-sweetened beverages and believed that sugar-sweetened beverages were less healthy for their children (Roberto et al., 2016). It is important to recognize, however, that policies pertaining to front-of-package and health-related warning labels may unintentionally promote health inequities (Krieger et al., 2021). For example, English text-based labels may fail to influence and reach non-English readers. A more equitable policy approach might, therefore, make use of graphic labels which can be easily accessed regardless of one's language and/or race/ethnicity.

Healthy Food and Beverage Access in Schools

Both state and national nutritional policies can improve food and drink options in schools, particularly those situated in impoverished neighborhoods, and tackle child overweight and obesity. Specifically, Sanchez-Vaznaugh et al. (2021) reported that overweight and obesity trends among California elementary and middle schoolers changed in a favorable direction after the initiation of state policies restricting the sale of certain snack items and beverages (e.g., juice with added sweeteners) in schools, with additional favorable changes being observed following a national policy mandating improvements in nutritional standards for school meal programs (e.g., decreased levels of sodium, saturated fat, and trans-fat). Although racial/ethnic disparities remained after the dual-policy period, the greatest improvements in overweight and obesity status relative to other groups of children were reported to be among African American and Latino children. It is promising and encouraging to see that recent state and national nutritional policies have been associated with child and adolescent weight loss among racial and ethnic

minority groups. Additional research exploring the how and why of this finding may provide invaluable insight on future nutritional policy development and, ultimately, aid in the mitigation of racial and ethnic childhood and adolescent obesity disparities throughout the United States.

Conclusion

Child and adolescent obesity and obesity risk behaviors (e.g., consumption of sugar-sweetened beverages) are disproportionately observed among racial and ethnic minorities. A sugar-sweetened beverage tax, health-related warning labels, and healthy food and beverage access in schools are three main public policy measures that may increase equity and help bring the United States one step closer towards dismantling the existing racial and ethnic disparities in childhood and adolescent obesity.

Chapter 4 redacted to remove personal reflections and any identifying information.

References

- Aaron, D. G., & Stanford, F. C. (2021). Is obesity a manifestation of systemic racism? A ten-point strategy for study and intervention. *Journal of Internal Medicine*, 290(2), 416–420. <https://doi.org/10.1111/joim.13270>
- Allon, N. (1973). The stigma of overweight in everyday life. In G. A. Bray (Ed.), *Obesity in perspective: A conference* (Vol. 2, Pt. 2, pp. 83-102). Washington, DC: U.S. Government Printing Office.
- Allon, N. (1979). Self-perceptions of the stigma of overweight in relationship to weight-losing patterns. *The American Journal of Clinical Nutrition*, 32(2), 470–480. <https://doi.org/10.1093/ajcn/32.2.470>
- Afshin, A., Peñalvo, J. L., Del Gobbo, L., Silva, J., Michaelson, M., O’Flaherty, M., Capewell, S., Spiegelman, D., Danaei, G., & Mozaffarian, D. (2017). The prospective impact of food pricing on improving dietary consumption: A systematic review and meta-analysis. *PLoS ONE*, 12(3), 1-18. <https://doi.org/10.1371/journal.pone.0172277>
- Austin, S. B., Melly, S. J., Sanchez, B. N., Patel, A., Buka, S., & Gortmaker, S. L. (2005). Clustering of fast-food restaurants around schools: A novel application of spatial statistics to the study of food environments. *American Journal of Public Health*, 95(9), 1575–1581. <https://doi.org/10.2105/AJPH.2004.056341>
- Bleich, S. N., Vercammen, K. A., Koma, J. W., & Li, Z. (2018). Trends in beverage consumption among children and adults, 2003-2014: Trends in beverage consumption. *Obesity*, 26(2), 432–441. <https://doi.org/10.1002/oby.22056>
- Bruch, H. (1941). Obesity in childhood and personality development. *American Journal of Orthopsychiatry*, 11, 467–474.

- Bruch, H. (1948). Psychological aspects of obesity. *Bulletin of the New York Academy of Medicine*, 24, 73–86.
- Carter, M., Swinburn, B. (2004). Measuring the “obesogenic” food environment in New Zealand primary schools. *Health Promotion International*, 19(1), 15–20.
<https://doi.org/10.1093/heapro/dah103>
- Dallacker, M., Hertwig, R., & Mata, J. (2018). Parents’ considerable underestimation of sugar and their child’s risk of overweight. *International Journal of Obesity*, 42(5), 1097–1100.
<https://doi.org/10.1038/s41366-018-0021-5>
- D’Angelo, H., Ammerman, A., Gordon-Larsen, P., Linnan, L., Lytle, L., & Ribisl, K. M. (2016). Sociodemographic disparities in proximity of schools to tobacco outlets and fast-food restaurants. *American Journal of Public Health*, 106(9), 1556–1562.
<https://doi.org/10.2105/AJPH.2016.303259>
- Davison, K. K., & Birch, L. L. (2001). Childhood overweight: A contextual model and recommendations for future research. *Obesity Reviews*, 2(3), 159–171.
<https://doi.org/10.1046/j.1467-789x.2001.00036.x>
- Farrell, A. E. (2011). *Fat shame: Stigma and the fat body in American culture*. New York University Press.
- Graham, S. (1838). *A lecture to young men on chastity: Intended also for the serious consideration of parents and guardians*. G.W. Light.
- Gortmaker, S. L., Wang, Y. C., Long, M. W., Giles, C. M., Ward, Z. J., Barrett, J. L., Kenney, E. L., Sonnevile, K. R., Afzal, A. S., Resch, S. C., & Cradock, A. L. (2015). Three interventions that reduce childhood obesity are projected to save more than they cost to implement. *Health Affairs*, 34(11), 1932–1939. <https://doi.org/10.1377/hlthaff.2015.0631>

- Gibson, L. Y., Allen, K. L., Byrne, S. M., Clark, K., Blair, E., Davis, E., & Zubrick, S. R. (2016). Childhood overweight and obesity: Maternal and family factors. *Journal of Child and Family Studies*, 25(11), 3236–3246. <https://doi.org/10.1007/s10826-016-0485-7>
- Hamburger, W. W. (1951). Emotional aspects of obesity. *Medical Clinics of North America*, 35, 483–499.
- Iversen, T., Juel-Nielsen, N., Quaade, F., Tolstrup, K., & Bstergaard, L. (1952). Psychogenic obesity in children with special reference to Hilde Bruch's theory. *Acta Paediatrica*, 41(6), 574–576. <https://doi.org/10.1111/j.1651-2227.1952.tb17853.x>
- Jackson, L. S. M., Dudrick, S. J., & Sumpio, B. E. (2004). John Harvey Kellogg; Surgeon, inventor, nutritionist (1852–1943). *Journal of the American College of Surgeons*, 199(5), 817–821. <https://doi.org/10.1016/j.jamcollsurg.2004.05.279>
- Kellogg, J. H. (1891). *The home hand-book of domestic hygiene and rational medicine*. Good Health Publishing Company.
- Krieger, J., Bleich, S. N., Scarmo, S., & Ng, S. W. (2021). Sugar-sweetened beverage reduction policies: Progress and promise. *Annual Review of Public Health*, 42(1), 439–461. <https://doi.org/10.1146/annurev-publhealth-090419-103005>
- Kumanyika, S. (2017). Getting to equity in obesity prevention: A new framework. *NAM Perspectives*, 7(1), 1-12. <https://doi.org/10.31478/201701c>
- Lake, A., & Townshend, T. (2006). Obesogenic environments: Exploring the built and food environments. *Journal of the Royal Society for the Promotion of Health*, 126(6), 262–267. <https://doi.org/10.1177/1466424006070487>
- Lisser, H. (1924). The frequency of endogenous endocrine obesity and its treatment by glandular therapy. *California and Western Medicine*, 22, 509–514.

- Ludvigsen, A., & Sharma, N. (2004). *Burger boy and sporty girl: Children and young people's attitudes towards food in school*. Barnardo's.
- Major, B., Hunger, J. M., Bunyan, D. P., & Miller, C. T. (2014). The ironic effects of weight stigma. *Journal of Experimental Social Psychology, 51*, 74–80.
<https://doi.org/10.1016/j.jesp.2013.11.009>
- Martin-Biggers, J., Spaccarotella, K., Berhaupt-Glickstein, A., Hongu, N., Worobey, J., & Byrd-Bredbenner, C. (2014). Come and get it! A discussion of family mealtime literature and factors affecting obesity risk. *Advances in Nutrition, 5*(3), 235–247.
<https://doi.org/10.3945/an.113.005116>
- Martinez, S. M., Tschann, J. M., Greenspan, L. C., Deardorff, J., Penilla, C., Flores, E., Pasch, L. A., Gregorich, S. E., & Butte, N. F. (2014). Is it time for bed? Short sleep duration increases risk of obesity in Mexican American children. *Sleep Medicine, 15*(12), 1484–1489. <https://doi.org/10.1016/j.sleep.2014.09.009>
- Mistry, S. K., & Puthussery, S. (2015). Risk factors of overweight and obesity in childhood and adolescence in South Asian countries: A systematic review of the evidence. *Public Health, 129*(3), 200–209. <https://doi.org/10.1016/j.puhe.2014.12.004>
- Monzani, A., Ricotti, R., Caputo, M., Solito, A., Archero, F., Bellone, S., & Prodam, F. (2019). A systematic review of the association of skipping breakfast with weight and cardiometabolic risk factors in children and adolescents. What should we better investigate in the future? *Nutrients, 11*(2), 1-23. <https://doi.org/10.3390/nu11020387>
- Muth, N. D., Dietz, W. H., Magge, S. N., Johnson, R. K., Bolling, C. F., Armstrong, S. C., Haemer, M. A., Rausch, J. C., Rogers, V. W., Abrams, S. A., Kim, J. H., Schwarzenberg, S. J., Fuchs, G. J., Lindsey, C. W., & Rome, E. S. (2019). Public policies to reduce sugary

- drink consumption in children and adolescents. *Pediatrics*, *143*(4), 1-12.
<https://doi.org/10.1542/peds.2019-0282>
- Neville, J. W. (1921). The endocrine aspects of obesity. In H. R. Harrower (Ed.), *Essays on the internal secretions, 1920* (pp. 57-66). Harrower Laboratory.
- Newburgh, L. H., & Johnston, M. W. (1930). The nature of obesity. *Journal of Clinical Investigation*, *8*, 197–213.
- Nolan, L. J., & Eshleman, A. (2016). Paved with good intentions: Paradoxical eating responses to weight stigma. *Appetite*, *102*, 15–24. <https://doi.org/10.1016/j.appet.2016.01.027>
- Porter, R. M., Tindall, A., Gaffka, B. J., Kirk, S., Santos, M., Abraham-Pratt, I., Gray, J., Heckler, D., Ward, W. L., Tucker, J. M., & Sweeney, B. (2018). A review of modifiable risk factors for severe obesity in children ages 5 and under. *Childhood Obesity*, *14*(7), 468–476. <https://doi.org/10.1089/chi.2017.0344>
- Rasmussen, N. (2015). Stigma and the addiction paradigm for obesity: Lessons from 1950s America. *Addiction*, *110*(2), 217–225. <https://doi.org/10.1111/add.12774>
- Rasmussen, N. (2019). *Fat in the fifties: America's first obesity crisis*. Johns Hopkins University Press.
- Reiser, S. J. (1985). Responsibility for personal health: A historical perspective. *Journal of Medicine and Philosophy*, *10*(1), 7–18. <https://doi.org/10.1093/jmp/10.1.7>
- Reuben, A., Rutherford, G. W., James, J., & Razani, N. (2020). Association of neighborhood parks with child health in the United States. *Preventive Medicine*, *141*, 1-8.
<https://doi.org/10.1016/j.ypmed.2020.106265>

- Roberto, C. A., Wong, D., Musicus, A., & Hammond, D. (2016). The influence of sugar-sweetened beverage health warning labels on parents' choices. *Pediatrics*, *137*(2), 1-10. <https://doi.org/10.1542/peds.2015-3185>
- Saelens, B. E., Sallis, J. F., Black, J. B., & Chen, D. (2003). Neighborhood-based differences in physical activity: An environment scale evaluation. *American Journal of Public Health*, *93*(9), 1552–1558. <https://doi.org/10.2105/AJPH.93.9.1552>
- Sanchez-Vaznaugh, E. V., Matsuzaki, M., Braveman, P., Acosta, M. E., Alexovitz, K., Sallis, J. F., Peterson, K. E., & Sánchez, B. N. (2021). School nutrition laws in the US: Do they influence obesity among youth in a racially/ethnically diverse state? *International Journal of Obesity*, *45*(12), 2358–2368. <https://doi.org/10.1038/s41366-021-00932-0>
- Sanyaolu, A., Okorie, C., Qi, X., Locke, J., & Rehman, S. (2019). Childhood and adolescent obesity in the United States: A public health concern. *Global Pediatric Health*, *6*, 1-11. <https://doi.org/10.1177/2333794x19891305>
- Schalkwijk, A. A. H., van der Zwaard, B. C., Nijpels, G., Elders, P. J. M., & Platt, L. (2018). The impact of greenspace and condition of the neighbourhood on child overweight. *European Journal of Public Health*, *28*(1), 88–94. <https://doi.org/10.1093/eurpub/ckx037>
- Sobal, J. (1984). Group dieting, the stigma of obesity, and overweight adolescents: Contributions of Natalie Allon to the sociology of obesity. *Marriage & Family Review*, *7*, 9–20. https://doi.org/10.1300/J002v07n01_04
- Sobal, J. (1991). Obesity and nutritional sociology: A model for coping with the stigma of obesity. *Clinical Sociology Review*, *9*(1). <https://digitalcommons.wayne.edu/csr/vol9/iss1/13>

- Swinburn, B., & Egger, G. (2002). Preventive strategies against weight gain and obesity. *Obesity Reviews*, 3(4), 289–301. <https://doi.org/10.1046/j.1467-789X.2002.00082.x>
- Talbot, N. B., & Worcester, J. (1940). The basal metabolism of obese children. *The Journal of Pediatrics*, 16, 146–150.
- Tesh, S. (1982). Political ideology and public health in the nineteenth century. *International Journal of Health Services*, 12(2), 321–342.
<https://doi.org/10.2190/4REP-0NGX-H2LA-E0AF>
- Tompkins, K. (2009). *Sylvester graham's imperial dietetics*.
<https://doi.org/10.1525/GFC.2009.9.1.50>
- Trent, M., Dooley, D. G., Dougé, J., Cavanaugh, R. M., Lacroix, A. E., Fanburg, J., Rahmandar, M. H., Hornberger, L. L., Schneider, M. B., Yen, S., Chilton, L. A., Green, A. E., Dilley, K. J., Gutierrez, J. R., Duffee, J. H., Keane, V. A., ... Wallace, S. B. (2019). The impact of racism on child and adolescent health. *Pediatrics*, 144(2), 1-14.
<https://doi.org/10.1542/peds.2019-1765>
- VanEpps, E. M., & Roberto, C. A. (2016). The influence of sugar-sweetened beverage warnings. *American Journal of Preventive Medicine*, 51(5), 664–672.
<https://doi.org/10.1016/j.amepre.2016.07.010>
- Vartanian, L. R., & Novak, S. A. (2011). Internalized societal attitudes moderate the impact of weight stigma on avoidance of exercise. *Obesity*, 19(4), 757–762.
<https://doi.org/10.1038/oby.2010.234>
- Verhage, C. L., Gillebaart, M., van der Veek, S. M. C., & Vereijken, C. M. J. L. (2018). The relation between family meals and health of infants and toddlers: A review. *Appetite*, 127, 97–109. <https://doi.org/10.1016/j.appet.2018.04.010>

Wada, K., Yamakawa, M., Konishi, K., Goto, Y., Mizuta, F., Koda, S., Uji, T., Tamura, T., Nakamura, K., Tsuji, M., Nagai, H., Itakura, N., Harada, K., Takahara, O., Yamanaka, H., & Nagata, C. (2019). Associations of cell phone use and screen viewing with overweight in children. *Childhood Obesity*, *15*(7), 417–425. <https://doi.org/10.1089/chi.2018.0312>

World Health Organization. (2021, June 9). *Obesity and overweight*. Retrieved April 12, 2022, from <https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight>