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Child Obesity, School Food Environments and the Best Interests of the Child

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Abstract

This article is about child obesity, school food, and the key role schools can play in creating environments that can enhance children's eating patterns and lifestyle behaviours and, thus, can support the realization of children's best interest in relation to food and health. In contrast to the traditional approach that frames the obesity problem as a personal issue or as a matter of parental responsibility, this article argues that the prevention of child obesity should be interpreted as a State obligation under both international and domestic laws. Analysis turns to the example of the Healthy, Hunger-Free Kids Act, adopted in the United States in 2010 to provide healthier schools nutrition standards, and its most recent rollback by the Trump administration. As in such a case, whenever governments may fail to fulfill their obligations due to political changes or conflicting interests, the article argues that schools can become agents of change by fostering environments that increase children's daily consumption of healthier food and promote physical activity.

Keywords: child obesity; school nutrition; best interests of the child; Healthy, Hunger-Free Kids Act

Introduction

Over the past three decades, childhood overweight and obesity have increased dramatically. The World Health Organization and the Food and Agriculture Organization of the United Nations estimate that in 2016, the global number of overweight children under the age of five was over 41 million, up from 5% in 2005 (WHO, 2016; FAO, 2017). A more recent study published by the *New England Journal of Medicine* found that there are approximately 108 million obese children worldwide and that in many countries, obesity rates among children are rising faster than among adults (Richtel, 2017; Gregg et al., 2017). In the countries of the Organization for Economic Co-operation and Development (OECD), the number of children who are overweight or obese at the age of 15 ranges from 10% in Denmark to 31% in the United States (OECD, 2017). Data from 2015 and 2016 show that in the United States, nearly 1 out of 5 children between the ages of 6 and 19 are obese (Fryar et al., 2014). The 2016 National Survey of Children's Health (NSCH) found that 31.2% of American children between the ages of 10 and 17 are overweight or obese (The State of Obesity, 2017).

Obese and overweight children experience significant health, social, and psychological problems. They have an increased risk of developing breathing difficulties, hypertension, and noncommunicable diseases like diabetes and cardiovascular diseases at a younger age (WHO, 2016). Research suggests that obese children are likely to stay obese into adulthood and, even if they do not become obese, their mortality rate is higher than that of adults who were not overweight as adolescents (Aviva et al. 1992). Obesity and overweight are also associated with a higher risk of developing psychological problems, including depression, anxiety and low self-esteem, that can persist into adolescence and even into adulthood (Institute of Medicine, 2012; Geel et al., 2014; Griffiths, 2010). Socially, obese children are more likely to be bullied, rejected, and discriminated against by their peers than children who experience bias due to race, age, or gender (Dietz, 1998; Rhode, 2010, Friedman & Puhl, 2012).

Overweight and obesity, as well as their related diseases, are largely preventable, especially in children. Therefore, prevention of child obesity should be a high priority for all States. Generally considered as an issue of either individual or parental responsibility, child obesity has lately become a serious public health concern (EU Commission, 2014). In the United States, for instance, the Surgeon General and the U.S. Center for Disease Control and Prevention pronounced obesity to be a national epidemic; the former First Lady Michelle Obama called it a

public health crisis.ⁱ As the main environment where children learn, play, and eat up to two meals per day, schools can play a key role in promoting healthy behaviours by improving children's food preferences and consumption patterns as well as by increasing their daily opportunities to be physically active. To that end, the U.S. Department of Agriculture, for example, established an award program, the Healthier US School Challenge to recognize schools that create healthier environments by promoting good nutrition and physical exercise. The program was a crucial component of former First Lady Michelle Obama's initiative "Let's Move!" launched in 2010 and dedicated to fostering environments that support healthful choices for children.ⁱⁱ The campaign aimed at designing strategies to supply schools with nutritious foods, to improve families' access to safe, healthy and affordable food, and to help children become more physically active. As a part of this effort, the Obama administration also supported and successfully lobbied for the passage of the Healthy, Hunger-Free Kids Act in 2010 (HHKFA) providing, *inter alia*, healthier school nutrition standards. However, in May 2017, the newly elected Trump administration announced that school meals would no longer have to meet some of the requirements previously mandated, including the reduced fat and sodium standards and the whole grains and no-fat milk requirements. Although applauded by the food industry, such changes in regulations may have the potential to defeat some of the achievements for the prevention and eradication of childhood obesity in the United States.

This article proceeds by discussing the key role that schools can play in shaping environments that improve children's daily intake of nutritious foods and promote healthier lifestyle choices. In contrast to the traditional approach that frames the obesity problem as a personal issue or as a matter of parental responsibility, this article argues that States bear obligations to prevent child obesity under both international and domestic laws. To that end, the article examines the HHKFA adopted by the Obama administration in 2010, and its most recent rollback by the current government, as an example of States' interventions that can, in practice, either support or hinder the development of healthy environments for children. Whenever governments fail to fulfill their obligations to realize the best interests of the child in terms of food and health because of political changes or conflicting interests, as in the case of the United States, the article suggests that schools have an opportunity to become agents of change by fostering environments that improve children's daily intake of healthier food and promote physical activity.

The Role of Schools

In the last decade, there has been growing awareness of the importance of fruits and vegetables consumption for human health and nutrition in both developing and developed countries. Low intake of fruit and vegetables is among the top 10 risk factors for mortality in the world. The Global Burden of Disease Study reported that worldwide, 3.4 million deaths can be attributed to inadequate consumption of fruits and vegetables (FAO/WHO, 2017; Lancet, 2015). An increased intake of fruits and vegetables is associated with a reduced risk of obesity, cardiovascular diseases, and diabetes (FAO, 2004; WHO, 2014). Studies show that high fruits and vegetables consumption in childhood may also reduce the risk of developing certain types of cancer later in life (Maynard et al., 2003). Although fruits and vegetables consumption generally tends to decline in adulthood, longitudinal studies found that eating recommended dietary guideline amounts in childhood positively influence healthy eating habits in adults (Lien et al. 2001; Kelder et al., 1994; te Velde et al., 2007). Therefore, intervention on eating patterns and food preferences in children is more beneficial than attempting to change them in adulthood (Kreb-Smith et al., 1995).

Despite the increased awareness and wide promotion of the importance of fruits and vegetables consumption, the average intake per person is estimated to be 20% to 50% lower than the minimum daily recommended level of 400 grams per day (FAO/WHO, 2017; WHO, 2003). Studies conducted in developed economies found that children's intake of vegetables and fruits in particular, is below the recommended 5 servings per day (Gregory et al., 2000; Wijesinha-Bettoni et al, 2013; Vereecken et al., 2015). In a food environment of easy access to cheap fast food restaurants and palatable snacks that are high in fat, sugar, and salt, fruits, and especially vegetables, have become the least preferred types of food by children (American Dietetic Association, 2000; Gleason & Sutor, 2000; Rozin, 1986). Recent studies have found that in the United States, between 2003 and 2010, children increased their fruit consumption of 67% although no improvement was found in vegetable intake and consumption of both fruits and vegetables still remained below the recommended amounts (Kim et al. 2014; CDC, 2017).

Teaching children the recommended skills for healthy eating, which includes consuming a great variety of foods that are low in sugar, fat, and salt, and in particular fruits and vegetables,

as well as learning portion control, are often the focus of specific clinical programs for the treatment of severe obese children in hospitals or specialized institutes. However, learning skills to improve eating habits and make healthy food and lifestyle choices is necessary for the well-being and development of all children and, therefore, should be an available option in their everyday environment. To this end, schools are a key setting for promoting healthy behaviours among children, and, thus, can play an important role in improving children's food preferences and consumption patterns. Most children around the world consume their lunch at school five days a week, and school meals often represent their most frequent exposure to fruits and vegetables (Resnicow et al., 1997; Burchett, 2003). In the United States in particular, more than 97% of children are enrolled in schools where they may eat up to two meals and a snack per day (Institute of Medicine, 2007; Poppendieck, 2011).

Studies have found that promoting the consumption of fruits and vegetables by children in primary schools is more effective to increase their intakes than interventions targeting older children, who may be more reluctant to change their consumption patterns (Glanz, 1999). Evidence from assessments of the United States, United Kingdom and Norwegian national food school programs consistently showed that increasing the availability of nutritious foods, like fruits, vegetables, whole grains, and low-fat dairy products, is associated with healthier eating behaviour among students and increased consumption of fruits and vegetables (Bevans et al., 2011; Ohri-Vachaspati et al., 2012; De Sa & Lock, 2008). Availability of free fruits and vegetables in school lunches increases their intake especially among children from low income families who tend to have lower fruit and vegetable intakes, thus reducing the differences in fruit and vegetable consumption between socioeconomic groups.

The key role that the school environment has in influencing children's choices can also be inferred by the fact that food companies specifically target schools for the promotion of their food products. Evidence from multiple countries shows that convenience stores and fast food restaurants are not only more likely to be located in poor neighborhoods, but also in the vicinity of schools (Zenk & Powell, 2008; Hilmers, 2012; Heroux, 2012; Virtanen, 2015;). Studies have found that close proximity of fast food restaurants to schools is associated with an increased risk of obesity in school children (Austin et al., 2005; Davis & Carpenter, 2009; Virtanen, 2015). Convenience store snacks and sweetened beverages are also available for purchase in many schools and their consumption has been linked to increased risk of obesity and diabetes in

students (Finkelstein et al., 2008; Larson & Story, 2010; Hu & Malik, 2010). In 2004-2005, for example, approximately 40% of American students bought such types of food on a given school day (Fox et al., 2009). Evidence shows that school vending machines can influence students' diets positively or negatively depending on what type of foods and beverages are sold (Rovner, 2011). Schools, therefore, have a unique opportunity to improve students' daily consumption of healthy foods, to minimize their exposure to food products detrimental for their health, and, ultimately, to build environments that promote healthy choices and behaviours among children.

School Nutrition Environment in the United States

In the United States, more than 97% of children are enrolled in school with 90% of those attending on any school day (Poppendieck, 2011). Approximately 95% of American schools participate in school meal programs, providing about 31 million children with free or somewhat subsidized meals by the federal government on an average day.ⁱⁱⁱ The programs are administered by the United States Department of Agriculture (USDA) that is responsible for promulgating dietary guidelines and ensuring that school meals meet the required nutrition standards.^{iv} Under the Child Nutrition Act of 1966, the Congress, recognizing the “demonstrated relationship between food and good nutrition and the capacity of children to develop and learn” declared that “these efforts shall be extended, expanded, and strengthened under the authority of the Secretary of Agriculture as a measure to safeguard the health and well-being of the Nation's children, and to encourage the domestic consumption of agricultural and other foods, by assisting States, through grants-in-aid and other means, to meet more effectively the nutritional needs of our children.”^v Thus, in an attempt to achieve uniform standards in terms of nutrition, sanitation, management of funds, and guidance, the Child Nutrition Act centralized the authority of all school programs for pre-school children as well as children in primary and secondary schools under the USDA.

The school meal programs in the United States currently include the National School Lunch Program (NSLP) and the School Breakfast Program (SBP). In 2012, the USDA announced the most recent Nutrition Standards in the National School Lunch and School Breakfast Programs (Nutrition Standards) requiring schools to “increase the availability of fruits, vegetables, whole grains, and fat-free and low-fat fluid milk in school meals; reduce the levels of sodium, saturated fat and trans-fat in meals; and meet the nutrition needs of school children

within their calorie requirements” (sec. 4088). Such improvements based on the recommendations of the Institute of Medicine of the National Academies, aimed at enhancing the diet and health of school children as well as helping mitigate the childhood obesity trend.

In particular, the proposed improvements for lunches and breakfasts required schools to: offer fruits and vegetables as separate meal components; offer fruit both at breakfast and lunch; include vegetables daily at lunch and especially dark green, orange, and legumes weekly, while limiting the consumption of starchy vegetables; offer whole grains and meat or meat alternatives daily; offer fat-free (unflavored and flavored) and low-fat milk (unflavored only) daily; reduce sodium content of meals and serve meals with no trans-fat (secs. 4088-4089). In order to receive a reimbursable meal, students must select at least five meal components including fruit, vegetables, grains, dairy, and meat or meat alternatives (secs. 4090-4096). According to the USDA, school meals must include a variety of components both to teach children “to recognize the components of a balanced meal” as well as to “reinforce nutrition education messages that emphasize selecting healthy choices” among students and parents (secs. 4094, 4101).

Under the Nutrition Standards, schools must also follow a single food-based menu planning (FBMP) approach to simplify menu planning, to teach children how to choose a well-balanced meal, and, finally, to ensure that students nationwide have access to key food groups recommended by the Dietary Guidelines (sec. 4090). The USDA has emphasized that improving school meals represents a critical strategy to prevent obesity and related health risks among children. Improved school meals can also “increase confidence by parents and families in the nutritional quality of school meals, which may encourage more families to opt for them as a reliable source of nutritious food for their children;” and they can “reinforce school-based nutrition education and promotion efforts and contribute significantly to the overall effectiveness of the school nutrition environment in promoting healthful food and physical activity choices” (sec. 4133). Scholars have criticized the school meal programs and the FBMP requirement for excluding minority groups from full participation in particular, because of its oversimplified interpretation of the rather complex relationship among food, culture, ethnicity, religion, and race (Mortazavi, 2014).

The Healthy, Hunger- Free Kids Act

On December 13, 2010, President Obama signed the HHFKA into law. The HHFKA, which is an amendment to the 1946 Richard B. Nelson National School Lunch Program, expands the number of students who can participate in the school lunch program (Kaplin, 2011; Nestle, 2010). In his signing speech, President Obama highlighted that far too many children across the country still did not have access to school meals and that the food offered was not as healthy and nutritious as recommended under the Dietary Guidelines.^{vi} Obama blamed the shortcomings of the school lunch program as a contributing factor in the rising rates of overweight and obesity in American children. In his words, “this bill is about reversing [this] trend and giving our kids the healthy futures that they deserve...[to] make sure [that they]...have the energy and the capacity to go toe to toe with any of their peers, anywhere in the world...and that they’re all reaching their potential.” In addition to increasing access to school meal programs, the HHFKA provided additional funding of 4.5 billion over 10 years.

The HHFKA represented an important step forward in the fight against child obesity by requiring for the first time, that all food, including competitive foods purchased from vending machines, school stores, and snack bars, must meet nutritional standards (Morath, 2014). Research shows that competitive foods, which include burgers, pizza, carbonated beverages, chips, ice cream, and other sweets, have a negative impact on children’s eating habits and are associated with an increased risk of obesity (Fox et al., 2005). Vending machines in schools have also been linked to lower fruit intake in children (Kubik et al. 2003). Similarly, fruits and vegetables consumption is lower among students attending schools that provide a la carte meals and snack options in addition to the school meal programs. Instead, participation in the National School Program has been associated with higher average intakes of many nutrients, including vegetables, dairy, meat and other protein-rich foods as well as with substantially lower intakes of added sugars, soda and fruit drinks compared to other students (USDA, 2001). Participation in the School Breakfast Program also has been associated with higher intakes of food energy, calcium, phosphorous, and vitamin C (USDA, 2001).

To ensure that all foods and beverages sold to students in schools outside of the reimbursable meals are healthy choices, the HHFKA required USDA to create new nutrition standards for competitive foods. In 2014, the USDA issued the Smart Snacks in School rules establishing that competitive foods must meet the nutrient standards for calories, sodium, sugar,

and fats, and must be grain products that contain 50% or more whole grains or have as the first ingredient a fruit, a vegetable, a dairy product, or a protein food, or be a combination food that contains at least $\frac{1}{4}$ cup of fruits and/or vegetables (USDA, 2013; USDA 2018). Beverages sold in schools can only include plain water, unflavoured low-fat milk, unflavoured or flavoured fat-free milk, and fruit or vegetable juices with no added sugars (USDA, 2013). School districts may adopt or maintain their own more stringent standards for competitive foods and beverages as long as these meet the minimum federal requirements. Thus, all foods available at school, including competitive foods, must comply with the most recent dietary guidelines, authoritative scientific recommendations for nutrition standards, and existing school nutrition standards.

In addition to imposing limitations on the availability of unhealthy foods in schools, the HHFKA required the USDA to promulgate regulations that can provide the framework and guidelines for local educational agencies to establish local school wellness policies setting forth “goals for nutrition promotion and education, physical activity, and other school-based activities that promote student wellness.”^{vii} In particular, nutrition education constitutes a necessary component of comprehensive school nutrition programs aimed at improving schoolchildren’s health, nutritional status, and learning outcomes. (Kaplin, 2011). It encompasses all the educational activities that, beyond the direct classroom education, can motivate students to adopt healthy food choices (Contento, 2012). Research shows that teaching children what to eat can positively change their behaviour when it focuses on specific habits or practices: it enhances children’s interests and motivations; it provides relevant knowledge and promotes skills development such as meal planning, recognizing food groups within a meal, understanding health information and food labels to evaluate the nutrient quality and contribution of foods; it includes first-hand experiences in growing and preparing food; it is integrated into other core subjects such as math, science, language arts, and social sciences; it employs innovative multimedia technology tools; and, finally, it provides teacher training and support (Contento, 2012; USDA, 2014; Hayes, 2018).

Under the section on Research on Strategies to Promote the Selection and Consumption of Healthy Foods, the HHFKA empowered the USDA to “establish a research, demonstration, and technical assistance program to promote healthy eating and reduce the prevalence of obesity, among all population groups but especially among children, by applying the principles and insights of behavioral economics research in schools, child care programs, and other settings”

(sec. 244). In practice, the USDA should “identify and assess the impacts of specific presentation, placement, and other strategies for structuring choices on selection and consumption of healthful foods,” including the use of food presentation, portion size, labeling, and convenience.

The HHFKA also provided guidelines with regard to physical education in the public school system. In the last decade, children's lack of physical activity due to sedentary lifestyle and an increased use of technology has been further exacerbated by changes in the school curriculum. In the United States, many schools have cut back or eliminated recess and physical education programs (Sindelar, 2004). The Heart Stroke Association recently reported that in the public school system only 3.8% of elementary schools, 7.9% of middle schools and 2.1% of high schools provide daily physical education for the entire school year (American Heart Association, 2009; Murray & Ramstetter, 2013). School administrators, teachers' unions and policymakers argue that such change is necessary for budgetary constraints and to increase the instruction time (Caplan & Igel, 2015).

However, research shows that keeping children inside the classroom not only increases the likelihood of children's weight gain but also affects their general development and well-being. Studies have found that regular physical activity is not only associated with a healthier, longer life and a lower risk of obesity and related diseases, it is also associated with less insomnia, depression and anxiety, among others (American Heart Association, 2009; Kahn et al., 2004; Pate et al., 2006). Evidence suggests that healthy and physically active children are more likely to thrive academically, socially, and emotionally (Shore et al., 2008; Geier et al., 2007; Centers for Disease Control and Prevention, 2010).

The HHFKA also recognized the importance of local food to improve child nutrition and prevent childhood obesity by instituting farm to school programs. These programs connect local producers to eligible schools to improve access to local and fresh food products by making them available on the school meals menu (sec. 243).^{viii} The programs also must “incorporate experiential nutrition education activities in curriculum planning that encourage the participation of school children in farm and garden-based agricultural education activities.” Studies have found that when local food is available at school, over 33% of preschoolers and students attending elementary and secondary schools consume more vegetables and fruit and that they are more likely to try new foods and healthier options (National Farm to School Network, 2017).

The HHFKA allocated \$5 million annually to support farm to school programs by funding each individual grant for up to \$100,000 (Goetz, 2012).

Finally, the HHFKA required the USDA to examine and revisit school policies related to unpaid school meal costs. As previously mentioned, the school meal programs provide eligible students with free or low-cost meals. However, when pupils who qualify for a subsidized meal, do not have cash or sufficient balance in their lunch account to pay, school districts may use different policies. Some allow students to purchase up to a certain number of meals on credit and charge them to their accounts, creating a negative balance (Food Research & Action Center, 2017). Other school districts may offer a standard meal from the menu or an alternative meal to students that are not able to pay (Food Research & Action Center, 2017). In 2014, the USDA reported that about half of school districts used some form of *lunch shaming* against children unable to pay by taking away their food, serving them a less nutrient meal, or branding them with hand stamps or stickers (Siegal, 2017; USDA, 2014). To protect children from these practices, the Anti-Lunch Shaming Act was passed in 2017, enjoining schools from engaging in any forms of stigmatization, and requiring them to address any communication related to outstanding debt exclusively to parents and guardians (Food Research & Action Center, 2017).

States' Obligations

Although there is widespread concern about the rising rates of childhood obesity, there is not as much consensus on how to address the problem. The issue has been mostly approached as a matter of personal responsibility, or in the case of children, as a matter of parental responsibility. However, children have a limited ability to control their diets because they do not purchase their own food, they may not be able to prepare meals for themselves or their families, and they do not have a full understanding of the long-term health consequences of their actions and eating habits. Parents, because of lack of time, resources, and unhealthy food preferences, may not always be able to determine what will serve their children's best interest when it comes to food choices and eating patterns.

Children's right to adequate food is protected under the Convention on the Rights of the Child (CRC) in the context of the right to life, survival and development, the right to the highest attainable standard of health, and the right to an adequate standard of living. Article 6 of the CRC provides that "every child has the inherent right to life" and requires that States ensure "to

the maximum extent possible the survival and development of the child.” According to General Comment No 5 of the Committee on the Rights of the Child (CRC Committee), the notion of “development” must be interpreted in its broadest sense as a holistic concept, embracing the child’s physical, mental, spiritual, moral, psychological, and social development.^{ix} Thus, the right to adequate food can be broadly implied under such provision given that sufficient, safe, and nutritious food is necessary for children to grow physically and mentally.

The right to adequate food can also be implied under Article 24 of the CRC which recognizes “the right of the child to the enjoyment of the highest attainable standard of health.” Under the CRC, the right to adequate food and the right to the highest attainable standard of health are interrelated and interdependent. In General Comment No. 15, the CRC Committee clarifies that children’s right to health must be interpreted as an inclusive right extending not only to access to healthcare services but also the right of children “to grow and develop to their full potential, and live in conditions that enable them to attain the highest standard of health by implementing programmes that address the underlying determinants of health.”^x The concept of “underlying determinants of health” encompasses a great range of socioeconomic factors, including food, nutrition, and a healthy environment, among others. Children’s right to health should be understood holistically and can only be fully realized in conjunction with other international human rights obligations, including the right to adequate food.

Finally, Article 27(1) of the CRC, providing for “the right of every child to a standard of living adequate for . . . [her or his] physical, mental, spiritual, moral and social development,” can also be interpreted to include, by extension, the right to healthy and adequate food. In fact, Article 27(3) requires “States Parties . . . [to] provide material assistance and support programmes, particularly with regard to nutrition.” The right to an adequate standard of living entitles children to enjoy the necessary subsistence rights, including adequate food and nutrition. Lack of adequate food impairs children’s ability to fully participate in their everyday life and to reach their optimal physical, mental, spiritual, moral, and social development.

Under Article 4 of the CRC, States Parties are required to undertake all appropriate legislative, administrative, and other measures for the implementation of economic, social and cultural rights, including children’s right to adequate food and to health, “to the maximum extent of their available resources.” This formulation recognizes that lack of resources can impede the full and immediate implementation of economic, social, and cultural rights in some countries,

including the full realization of the rights to adequate food and health. However, in General Comment No. 5, the CRC Committee clarified that, under Article 4 of the CRC, even if States may be able to demonstrate the inadequacy of their available resources, they are still bound to ensure the widest possible enjoyment of the relevant rights under the prevailing circumstances.

In practice, children's right to adequate food imposes three positive obligations on States: the obligations to respect, to protect, and to fulfill.^{xi} The obligation to respect requires States not to pass legislation or develop policies that can interfere with children's existing enjoyment of the right to adequate food. The obligation to protect requires States to ensure that third parties, including individuals, enterprises, and other entities, do not violate children's access to adequate food by protecting them from the advertising and promotions of unhealthy food, for example. The obligation to fulfill the right to adequate food incorporates both the obligation to provide adequate food directly to the most deprived, often including children, and the obligation to facilitate. To facilitate the full realization of the right to adequate food, a State must strive to strengthen children's access to sufficient, safe and adequate food; States must also inform children of their right to adequate food to increase their ability to participate in the development process of food and nutrition programs.

Although children are recognized as holders of their own rights under the CRC, parents have the primary responsibility for their upbringing and development. The CRC holds, indeed, that the family is "the fundamental group of society and the natural environment for [children's] growth and well-being" and, thus, should be provided with the necessary protection and assistance to be able to fulfill its responsibilities within the community (art.18, para. 1). According to Article 5, States must respect the responsibilities, rights and duties of parents to provide direction and guidance in the exercise and enjoyment by children of their own rights, in a manner consistent with children's evolving capacities. Therefore, while parents bear the primary obligations to provide their children with nutritious food and with the highest attainable standard of health, States must support their efforts in the performance of child-rearing responsibilities and ensure the development of institutions, facilities and services for the care of children (art. 18, para. 2).

Secondary to parental obligations, the State must accord children the protection and care that are necessary for their well-being, "taking into account the rights and duties of [their] parents...and, to this end, shall take all appropriate legislative and administrative measures" (art.

3, para. 2). In cases of child neglect or abuse, for example, Article 19 of the CRC requires States to “take all appropriate legislative, administrative, social and educational measures to protect the child from all forms of physical or mental violence, injury or abuse, neglect or negligent treatment, maltreatment or exploitation, including sexual abuse, while in the care of parent(s)...,” thereby suggesting that parental rights may be conditional and subject to limitations whenever this may be in the child’s best interest. Despite the primary role of parents and the State’s obligation to support them, the paramount principle under the CRC is that in all actions concerning children, the best interest of the child shall be the primary consideration (art. 3, para. 1; Freeman, 2007; Tobin, 2006; Woolf, 2003).

Ensuring children’s best interests means, in practice, that the State has the obligation to intervene for the protection and care of children as a measure of last resort, whenever their health and wellbeing may be at serious risk, as determined by a competent authority. In cases of severe obesity, for example, children have been removed from their families by social services because their excessive weight raised major concerns for their health.^{xii} Scholars have argued that whenever there is a risk of serious imminent harm, there is a reasonable likelihood that State intervention will result in effective treatment when all alternative options have been exhausted and parents or families have failed to follow recommended treatment and dietary guidelines, child obesity may amount to medical neglect and may require child protection services’ intervention (Varness et al., 2009; Viner et al., 2010).

Even in the United States that did not ratify the CRC and thus may not be bound by its obligations, governments are considered responsible to protect children’s best interest through the application of the *parens patriae* doctrine whenever parents or families are failing to meet their primary obligations (Kaplin, 2011). The *parens patriae* doctrine has its roots in English Common Law when rights and duties were ultimately reserved to the King as parent of the country. Lately, its main application has been in the treatment of minors, insane or otherwise incapacitated people who are legally unable to act for themselves. The government serves as their ultimate guardian to protect their best interest and their property. However, legal scholars have recently argued that [the Legislature’s] “paternalistic vigilance” should also be extended to secure adequate protection to all children from the “obesity epidemic” (Kaplin, 2011).^{xiii}

In practice, though, despite States’ obligation to implement laws and policies for the protection of the best interest of the child, governments may fail to fulfill such commitments due

to political changes and budgetary considerations. In May 2017, for example, the newly elected Trump administration announced that school meals no longer have to meet some of the requirements previously mandated, including the reduced fat and sodium standards, and the whole grains and no-fat milk requirements (Green & Davis, 2017). USDA Secretary Sonny Perdue claimed that the changes implemented under the Obama administration had resulted in increased costs for school districts and declining participation in the national school lunch program. He promised to “make school meals great again” by relaxing nutrition standards and serving meals that are more palatable (Green & Davis, 2017; Fink Huehnergath, 2017).

On the contrary, the American Heart Association denounced the new rules' relaxation stressing that higher levels of sodium and fat will increase students' high blood pressure, raising their risk of heart diseases and stroke. Nancy Brown, the chief executive of the American Heart Association, shared her disappointment on the USDA's decision to “put special interests back on the school menu” and to “give politics priority over the health of [American] children” (Fink Huehnergath, 2017). According to recent studies, the majority of American parents are also concerned about their children's health and child obesity (Pew Charitable Trusts, 2014). In particular, 72% of parents of school-age children support strong nutrition standards for school meals and snacks; 75% favour reduced levels of sodium in meals; and 91% believe that the school lunch program must include a serving of fruits and vegetables with every meal. As previously mentioned, States bear positive obligations not only to protect children's best interests by securing healthy nutrition environments and promoting good lifestyle choices, but also to support parents in their child-rearing efforts and responsibilities.

Schools' Agency Toward the Best Interest of the Child

As an extension of the State, schools can also satisfy the obligation to foster healthy environments by complying to strong nutrition standards, serving healthier meals, and promoting physical activity among students. When governments may fail to fulfill their responsibility to protect children's best interests in terms of food and health, schools can act as agents of change. For instance, despite the Trump administration's efforts to roll back the improvements to school lunches implemented under the HHSFKA, many school districts in the United States have already upgraded school meals without federal intervention (Severson, 2017). The spokesperson for the School Nutrition Association, an advocacy organization that represents school-food professionals

and is supported by many of the largest food companies in the United States, revealed that “people in every district are really dedicated to making sure kids are getting the healthiest food possible” (Severson, 2017). USDA also reported an increased participation of students in the school meal programs and a strong positive response to healthier food options. Over 95% of schools across the country have reported meeting the improved nutrition rules implemented by the HHFKA (USDA, 2015).

As a result, American children are experiencing a healthier school environment with more nutritious options. With the new meals, students consume more whole grains, fruits and vegetables, lean protein and low-fat dairy, as well as less sugar, fat, and sodium. Empirical evidence drawn by studies conducted by the Pew Charitable Trusts show that, under the updated nutrition standards, food waste declined in 12 Connecticut schools; and children consumed more fruits and vegetables in eight elementary schools in southeast Texas (Brody, 2017). In four elementary schools studied by the Harvard School of Public Health, students also ate more of their entree and their fruit and vegetable servings (Brody, 2017). The 2015 School Food Poll funded by the W. K. Kellogg Foundation reported that since the new nutrition requirements have been adopted, nearly 70% of the population believe that school meals are excellent or good compared to 26% in 2010; 86% believe that the nutrition standards should stay the same or be strengthened given that 31 million children rely on school meals for daily nutrition (WKKF, 2015).

By most accounts, school food offerings in America have indeed improved considering the increased number of freshly cooked school meals, salad bars in cafeterias, and farm to school programs that are currently operating in 42,500 schools around the country. As media reports indicate, for example, that although precooked meals are still predominant, they are losing favour against the homemade pizza doughs, salad dressings, and pasta sauces that are served, even in some of the largest school districts. In California, “school districts...have taken over farms, and are growing enough tomatoes to make their own pizza sauce...[or] local grain is being milled into flour for whole-wheat baked goods” (Severson, 2017). The Farm to School Census assessing the outcomes of the farm to school programs under the HHKFA also reported that serving local food in schools has increased students' consumption of fruits and vegetables. As one example, in a school district in Alaska, for instance, “a local farmer delivers potatoes on a weekly basis. The kids love all the different ways we have been preparing them. Using fresh, local potatoes instead

of instant potatoes in our recipes has helped us meet the sodium requirements for the new meal pattern.”^{xiv} A district school in Minnesota also reported that “offering a wide variety of locally grown apples has reduced plate waste in the cafeteria.”

In addition to serving local food, farm to school programs have also contributed to including food, agriculture, and nutrition education in the school curriculum and to developing experiential learning activities such as school gardens, field trips to local farms, tasting and cooking classes. In practice, students may explore math and science in gardening classes, or may learn business skills by running farm stands and selling freshly harvested produce from their school garden. Research studies as well as teachers and school officials agree that such experiential learning activities contribute to integrate food, farming, and nutrition knowledge into the school curriculum, which can improve student's food choices and eating habits (Moss, 2013; Bontrager Yoder, 2014).

The School Nutrition Association's most recent national survey of school meal program directors found that almost 60% of the 1,550 participants reported that locally-grown fruits and vegetables are served in their cafeterias; more than 50% of the participants expressed a preference to source local produce (Rasul, 2018). The spokesperson for the School Nutrition Association, Diane Pratt-Heavner, reported that although there has been no significant change in the farm to school program participation rates, there has been an increase in the amount of locally-sourced fruits and vegetables that districts are procuring, suggesting that schools are getting more local produce directly from distributors (Rasul, 2018). Such findings show that schools are increasingly committed to serve healthier options to their students and may exercise their agency to achieve such a goal independently from specific programs and federal support. As budget cuts to school lunches and other food programs are eventually likely to occur under the current administration, foundations, NGOs, and other institutions have also promised to partner together to help schools secure healthier nutrition environments for children.

Opportunities for schools to become agents of change in the fight against obesity have also been recommended by several international bodies, including the United Nations Committee on the Rights of the Child (CRC Committee), the High Commissioner for Human Rights, and the Special Rapporteur on the Right to Health. Under General Comment No. 15 on the right of the child to the enjoyment of the highest attainable standard of health, the CRC committee recommended that “school feeding is desirable to ensure all pupils have access to a full meal

every day, which can also enhance attention to learning and increase school enrollment” (para. 46). This should be combined with the introduction of nutrition and health education as well as the establishment of school gardens and specific training for teachers to improve children's nutrition environment and lifestyle habits. To limit children's exposure to fast foods that are high in fat, sugar or salt, energy-dense and micronutrient-poor, and drinks containing high levels of caffeine, the CRC Committee suggested that their availability in schools should be restricted (para. 47).

In his report on the right of the child to the enjoyment of the highest attainable standard of health, the High Commissioner for Human Rights also recognized the importance of school meals to ensure children's access to adequate food as well as to increase their learning capacity and the enrolment in the education system (para. 42). The High Commissioner also stressed the critical role that schools can play in the fight against child obesity by promoting healthy eating habits and supporting physical education programs (para. 44). Nutrition and health education should become a core part of school curricula, and related information materials should be designed in collaboration with children to ensure more active participation and effective outcomes (para. 87).

Finally, in his report on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, the Special Rapporteur on the Right of Health, Anand Grover, recommended that schools should teach children about the benefits of healthy foods in a child-friendly manner (para. 18); they should provide local and fresh produce to pupils to encourage daily consumption of nutritious foods (para. 20); and, finally, they should limit the availability of unhealthy food products and beverages in their premises (para. 38). The full realization of the right to health requires the participation of affected communities, including children, parents, and teachers, in the development of measures for child obesity prevention. This means, in practice, that both children and parents should be able to provide input on school food programs that can help identify options that are both healthy and appealing to children (paras. 47-49).

The importance of schools' interventions has been proven by empirical findings showing that multi-component measures like school food policies, school curriculum, and related legislative efforts are the most effective in encouraging children to consume healthy foods and to exercise more (Wijesinha-Bettoni et al., 2013; De Sa & Lock, 2008). Increasing children's

exposure to nutritious options can be achieved by improving school meals and snack provisions; by incorporating nutrition education in the school curriculum; and by connecting classroom learning with a practical component, like gardening, cooking, and tasting programs (De Sa & Lock, 2008; Sherman & Muehlhoff, 2007). Similarly, schools have a variety of opportunities to encourage children to become more physically active, including adding more or longer physical education classes, extending recess time, and incorporating outdoors learning, like gardening, into the curriculum to enhance children's connection with nature and the environment. Legislative efforts, like the HHKFA in the United States, are also necessary to strengthen schools' efforts to create environments that can ensure children's optimal development by implementing school guidelines with regards to nutrition and physical education and by increasing local procurement of fresh healthy foods, like vegetables and fruits in season (Bevans et al., 2011).

Conclusion

Child obesity and unhealthy eating can have consequences for children's general health and development. The current literature and empirical evidence show that improving school nutrition environments and increasing students' physical activity can enhance children's lifestyle choices and behaviours, and thus, can help prevent child obesity. In response to the traditional view that holds that child obesity is a personal issue and a problem for parents to solve, this article has argued that governments have the positive obligation to protect children's best interest in terms of food and health both under international and domestic laws.

In particular, the article investigated the school nutrition environment in the United States, focusing specifically on the HHFKA as an example of a legislative effort to prevent child obesity. The HHFKA limited the unhealthy foods available in schools and instituted guidelines for school nutrition and physical education. The discussion above, explored the benefits of such regulations and, by contrast, the risks for children's health and development associated with the recent relaxation of rules approved under the Trump administration. As in such a case, whenever governments fail to put children's best interest above any other considerations, schools can become agents of change by fostering healthy environments for students that increase the availability of fruits and vegetables in their daily meals, monitor relevant nutritional standards, incorporate a nutrition education component in the curriculum paired with practical learning, and, finally, promote physical exercise. The prevention of child obesity ultimately requires a

coordinated effort among parents, governments, and schools to foster environments that support healthy eating and promote physical exercise among all children.

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Notes

ⁱ U.S. Department of Health & Human Services, *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity* (2001), available at <https://www.cdc.gov/nccdphp/dnpa/pdf/calltoaction.pdf>; HHS Secretary and Surgeon General Join First Lady to Announce Plans to Combat Overweight and Obesity and Support Healthy Choices, HHS.GOV (January 28 2010), available at <http://www.businesswire.com/news/home/20100128006371/en/HHS-Secretary-Surgeon-General-Join-Lady-Announce>.

ⁱⁱ Let's Move: America's Move to Raise a Healthier Generation of Kids, available at <https://letsmove.obamawhitehouse.archives.gov/about>

ⁱⁱⁱ Federal Food /Nutrition Programs: National School Lunch Program, Food Research & Action Center, available at <http://frac.org/programs/national-school-lunch-program>

^{iv} See Child Nutrition Act of 1966, 42 U.S.C. 1771-1789 (amended 2010); Richards B. Russell National School Lunch Act, 42 U.S.C. 1751-1769 (2006), available at <https://fns-prod.azureedge.net/sites/default/files/NSLA.pdf>.

^v Child Nutrition Act, Declaration of Purpose, Section 2.

^{vi} The White House Office of the Press Secretary, Remarks by the President and First Lady at the Signing of the Healthy, Hunger-Free Kids Act, December 13 2010, available at <https://obamawhitehouse.archives.gov/the-press-office/2010/12/13/remarks-president-and-first-lady-signing-healthy-hunger-free-kids-act>.

^{vii} Healthy, Hunger-Free Kids Act of 2010, Pub. L. No. 111-296 (codified mostly in 42 U.S.C.S 1758b, available at <https://www.gpo.gov/fdsys/pkg/PLAW-111publ296/pdf/PLAW-111publ296.pdf>.

^{viii} Eligible schools are pre-K-12 schools, including non-profit private schools, charter schools, Indian tribal schools, and others that participate in the National School Lunch or Breakfast Programs.

^{ix} Committee on the Rights of the Child, General Comment No. 5 (2003): General Measures of Implementation of the Convention on the Rights of the Child, ¶ 4, U.N. Doc. CRC/GC/2003/5 (Nov. 27, 2003).

^x Committee on the Rights of the Child, General Comment No. 15: The Right of the Child to the Enjoyment of the Highest Attainable Standard of Health ¶ 2, U.N. Doc. CRC/C/GC/15 (Mar. 14, 2013).

^{xi} Committee on Economic, Social & Cultural Rights: General Comment No. 12: The Right to Adequate Food ¶ 15. U.N. Doc. E/C.12/1999/5 (May 12, 1999).

^{xii} *In re Brittany T.*, Family Court, Chemung County, New York, Feb. 23, 2007; *Obese Children Removed from Their Families*. (2014). *The Telegraph*. available at <http://www.telegraph.co.uk/foodanddrink/healthyteating/10667066/Obese-children-removed-from-families.html>

^{xiii} See Kaplin, L. (2011). also discussing the *Mangini v. R.J. Reynolds Tobacco*, 875 P.2d 73, 83 (Cal. 1994), when anti-smoking advocates brought suit against R.J. Reynolds challenging the Joe Camel advertising campaign targeting children in the 1990s, the California Supreme Court referred to the *parens patriae* doctrine in dismissing a summary judgment challenge.

^{xiv} The Farm to School Census. (2015). Available at <https://farmtoschoolcensus.fns.usda.gov/schools-serving-kids-eating-healthier-school-meals>.