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Organic and Local Produce in a Child's Diet

It is a generally accepted assumption that parents want what is best for their children, or that adults in general want to provide for the benefit of the young and dependent population. An adult might not concern themselves over the effect of their diet on their body and health, because adults make a conscious decision to eat certain foods because they can, and because they want to. But once a child is involved, the overarching reality of responsibility causes parents to act in the best interest of their child, and today, that best interest is heavily related to a child's diet. A child's diet should incorporate organic and local produce because the presence of these food staples in their diet when they are young sets a precedent for the nutritional value of their diet as they age, and could potentially influence their mental and physical health and development over time. Unfortunately, an average child has little control over their diet, and thus depends on the influence of their parents' example.

To understand the importance of organic and local food, one must understand what it means for food to be organic or local, and why such foods are beneficial staples in one's diet. The United States Department of Agriculture (USDA) requires products to meet certain standards to achieve organic status. Guidelines regard multiple factors including, "soil quality, animal raising practices, pest and weed control, and the use of additives" (McEvoy). One of the biggest differences between organic produce and commercialized produce is the use of pesticides and herbicides to control natural threats like weeds and pests. Organic farmers opt instead for natural remedies like hand weeding and non-chemical formulas to reduce the risk of these threats. USDA organic certification guarantees a consumer that any synthetic substance used in

the growing of that produce meets guidelines regarding its effect on human health and the surrounding environment (McEvoy). The benefit of consuming organic food is the assurance that there are no harmful synthetic substances involved in the growing, processing, and distribution of that food. Essentially, the food is clean and wholesome for consumption, particularly in contrast to the consumption of commercial produce, making it a more valuable staple in a child's diet compared to commercialized food products.

Local food has a broader definition that varies depending on the source. Essentially, food is considered local if the point of purchase is within a certain radius of where the food was grown. For example, a local farmer's market would consist of vendors whose origins are from within a certain distance radius. The distance considered local can vary upwards to 100 miles from point of origin. The difference between local and organic food is that local food is not always USDA certified organic, and organic food is not always local. The benefit of local food is the ability to know the farmer that grows the produce, and to understand his or her practices. One small organic farmer, Madeline Winn, notes that the USDA organic certification process in itself prevents a number of small farmers from attempting to achieve such a status because, "it is costly and the record keeping involved takes a lot of time out of a small farmer's busy day" (Winn). She points out that just because a small farmer is not USDA certified, depending on his or her practices, the farmer's produce is not inferior to organically certified produce, and the quality in comparison to organic produce is on a "farm to farm basis" (Winn).

When a parent shops locally, they have the benefit of interacting with their producer and understanding the farm to table process of their food. Additionally, research published in *The Proceedings of the Nutrition Society* found that the nutritional quality of plants is affected by

how much they are handled, packaged, and stored during post-harvest processes (Edwards-Jones 588). The nutritional quality of a plant is found to be at its peak immediately after harvest; farmers typically harvest their produce the morning of a farmer's market, which increases the likelihood that a consumer is purchasing the freshest, and therefore most nutritionally rich produce possible (Edwards-Jones 588). Incorporating such produce into a child's diet insures their food is nutritionally valuable, pesticide and herbicide-free, and will not provide any potential health risks, especially regarding the child's mental and physical development.

Conclusively, when considering organic and local food, it is best to keep in mind the method of purchase. USDA certification practices favor the public sector; large-scale farms that distribute their produce to supermarkets are more likely to seek official certification because they lack the personal relationship with their customers (Winn). The average parent shops at a grocery store and will therefore benefit more from purchasing organically certified produce, because it is an official guarantee of the food's quality and the farm's practices.

Research shows that diet influences a child's physical and mental health and development potential before the child is born. One example of prenatal diet affecting the health of the offspring is the ability for childhood cancer to be triggered through prenatal diet factors; research shows that prenatal diets that incorporated increased levels of fruit and vegetables reduced the risk of offspring developing unilateral retinoblastoma, a type of cancer in the eye that is most commonly diagnosed in young children (Lombardi 48). Another researcher found that increased exposure to pesticide consumption in prenatal diets increases the likelihood of neurobehavioral development problems in the offspring, like the ability to concentrate on certain tasks (Jurewicz 121). Research found that pesticide exposure in pregnant farmers resulted in their babies

displaying, “small but significant development and motor delays” (Shute), emphasizing further the effect of pesticide exposure on the human body and fetal development. Eating a prenatal diet with organic or local food that is pesticide-free contributes to the increased chance of having a healthier child with fewer predisposed developmental problems or health issues.

After a child is born, a parent should continue to incorporate organic or local food into their diet, particularly to avoid pesticide chemical consumption. Joel Forman, the author of the report *Organic Foods: Health and Environmental Advantages and Disadvantages*, claims that children are, “more vulnerable to chemical exposure while their brains are developing” (Shute), emphasizing the importance of reducing pesticide consumption. An experiment conducted on elementary school children that consumed an average diet of commercialized food and produce found traces of certain organophosphorus pesticide (OP) chemicals in the children’s urine, indicating the presence of the chemicals from their food within their bodies (Lu 261). The children’s diets were replaced with only organic, pesticide-free produce, and their urine samples indicated a complete flush of the OP chemicals from their system, demonstrating that the original presence of the chemicals in their bodies was directly related to their commercial produce consumption. The chemicals were once again found in the children’s urine samples after the reintroduction of commercial produce in their diets, thus confirming the substantial difference between organic and commercial produce (Lu 262). Elimination of commercial produce with traces of OP chemicals is beneficial to a child’s diet and health because OP chemicals are associated with the likelihood of a child developing neurologic health risks, which is increased through chronic exposure (Lu 263).

In addition to the consideration of pesticide consumption, parents should incorporate fresh food into their child's diet for the sake of promoting healthy and nutritional eating habits which could potentially influence the health and development of their child as they grow. Parents can demonstrate the importance of a nutritional diet in many ways, including taking them to local farmer's markets, visiting a community garden, establishing a personal garden, or just encouraging the consumption of fresh produce in general. Multiple sources connected the precedent of a parent's example to the eventual diet and preferences of their children. As one researcher put it, "children like what they know and they eat what they like" (Cooke 294). Early food exposure is linked to children's preferences when it comes to diet, and children are less likely to consume unfamiliar foods; therefore, parents should begin exposing their children to organic and local produce at a young age to condition the likelihood of their child incorporating such food into their diet by choice (Cooke 294). Early exposure to healthy foods like organic and local produce will increase the health and nutritional value of a child's diet later on, which affects the child's eventual physical health and development.

Another reason for parents to begin exposing their child to organic and local produce at a young age and influence a healthy diet is because childhood obesity is linked to eating habits established in the pre-school age period of a child's life. Childhood obesity is considered a global public health problem that is unfortunately on the rise, but the ability for a parent to encourage and influence increased consumption of fresh produce in their child's diet will greatly reduce the risk of their child becoming obese (Lo et al. 2). Another source described childhood obesity as an epidemic that associated its health risk factors with increased mortality, and noted that the influence of the parent is a big factor regarding a child's likelihood of becoming obese (Benton

10). This source noted that parental bribery regarding diet is counterproductive, such as denying a child dessert until they consume their fruits or vegetables; instead it encourages parental attention to the kinds of food they want their child to eat, because children are more likely to try a food if they see older kids or their parents eating it (Benton 12). Conclusively, the eating style of parents influences the eating style of their child, which is why parents should establish a nutritional precedent in their child's diet as early as possible.

Unfortunately, a large population of consumers do not have access to local or organic produce, especially because of issues of affordability. Approximately 15 million people are unemployed in the US, and USDA statistics show that millions of Americans do not have access to fresh food. Approximately 49 million American citizens are food insecure and have hunger, including 17 million children (Ambrose). Consumers who can hardly afford commercialized produce to supplement their child's diet are less likely to spend money on more expensive organic or local produce, because it is a luxury they cannot afford. Commercialized food products are cheaper and more affordable because they are mass produced, and companies can afford to sell at low prices considering factors of cheap labor, monoculture, and mass scale production (Winn). Comparatively, organic products are often 10-40% more expensive than conventional food products (Forman e1412). Local and organic food is relatively more expensive because the commercialization of food created unrealistic expectations regarding the cost of produce; consumers generally prefer quantity over quality, and might not consider the benefits of consuming organic or local food when price is an important factor (Winn). The debate over eating commercialized produce, organic produce, or local produce becomes void, however, when produce is completely unaffordable regardless of its type.

Fortunately, the US government recognizes the importance of a nutritional diet for mothers and children. The federal government established a non-entitlement food assistance program called The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), which serves to fulfill the nutritional needs of low-income mothers and children. The goal of WIC is to, "improve birth outcomes and support infant and child growth and development" (Leibtag et al. 1), because the government acknowledges that a child's diet influences its growth and development potential. WIC provides food vouchers to eligible participants to help combat the issue of affordability; the monthly vouchers include one voucher specifically meant to purchase fruits and vegetables, with women receiving $10 per month, and children receiving $6 per month (Leibtag et al. 1). Despite this assistance, there are still issues of affordability because produce prices vary regionally, which gives the vouchers increased or decreased buying power depending on the user's location; one woman might not be able to purchase as much produce as another woman because she lives in an area with inflated food prices (Leibtag et al. iv). When a woman cannot afford commercialized produce, even with food assistance, it is unrealistic to expect her to purchase organic and local produce given the price variations; what is important is that her child has something, anything, to eat.

There are ways that a community can combat the issues of affordability and insure that children have access to fresh produce, especially organic and local produce. One community, Carlisle, PA, has multiple initiatives that help food insecure citizens, especially children, access produce. One program that fights the issue of affordability is The Double Up Food Bucks program at Carlisle's producers-only farmer's market, Farmers on the Square (FOTS), where all of the produce is local, and a majority is organic. This program doubles the value of food

assistance program vouchers, including WIC, to increase the buying power of an individual, and make purchasing organic and local food more realistic. FOTS redeems up to a $20 value of vouchers, allowing a consumer to purchase $40 worth of local, and often organic produce at the FOTS market (Light). This program is supported through grants, and generous donations.

A program that donates to the Double Up Food Bucks program is the LEAF Project. LEAF, which stands for Leadership Education And Farming, is a small non-profit organization that employs a diverse range of local Carlisle youth for paid summer farming internships with the intention of connecting them to their local food systems and educating the general public about their experiences. LEAF raises money for the Double Up program by making smoothies and jam—using the produce the youth grow—and selling them at farmer's markets. They recognize the importance of fresh produce accessibility, and consider the Double Up program a vehicle for social change regarding food insecurity in Carlisle and the basic right to access fresh fruits and vegetables.

Though LEAF has multiple initiatives to reach out to the community, one initiative specifically supports preschool age children in Carlisle. Every week, LEAF donates fresh produce grown on its host farm to a local preschool whose demographics represent a lower income area of Carlisle. Many of the students do not have access to fresh produce at home, and LEAF acknowledges the importance of fresh produce influencing their growth and development, so it insures that the children can access organic and local vegetables at school. LEAF also acknowledges the importance of encouraging the consumption of fruits and vegetables at a young age, so it hosted the preschoolers for a morning on the host farm, making fun activities relating to the seed cycle, and culminating with letting the children pick bags of fresh peas to

take home with them. Madeline Winn, the farmer involved in the produce donation, claims that "the children indubitably benefited from being introduced to nutritious food at an early age." Although eating habits are ideally influenced from the home, it is evident that the influence of outside sources and educators supplemented the lack of fresh produce encouragement at home.

LEAF operates out of the Carlisle Alliance Church (CAC), which is situated in a lower income area of town. The CAC maintains a small community garden of fresh vegetables, called the Friends and Neighbors Garden, and gives back to the community during a weekly harvest when community members may come and collect vegetables for free. Not only does this foster a sense of community around the importance of accessing fresh produce, it greatly benefits the children in the neighborhood—of which there are many participants—because this is often the most accessible form of produce in their diets (Winn). The USDA acknowledges the inaccessibility of fresh produce in many communities, and therefore encourages the creation and production of community gardens to increase local accessibility to the fresh produce (Ambrose). The CAC's community garden project is one of many in Carlisle, and is just another example of the determination of a town to make fresh produce as accessible as possible to its citizens, particularly its children.

Unfortunately, there will always be factors hindering parents from purchasing organic and local food, but the benefit of fresh produce in a child's diet remains constant. One fear associated with recommending a parent to incorporate organic produce in their child's diet is that this might actually decrease the child's total fruit and vegetable consumption, especially considering the affordability factor (Shute). Forman suggests that given the conflicting factors of organic produce's health benefits and its more expensive cost, parents can attempt to balance

both conventional and organic produce to supplement their child's diet. Parents should splurge on organic vegetables that are more susceptible to pesticide exposure and retention, like leafy greens, and save their money on conventional vegetables with less pesticide exposure, like root vegetables (Shute). Another compromise when supplementing a child's diet with conventional produce is to meticulously wash the produce to eliminate external pesticide residues and reduce a child's pesticide consumption (Forman e1411). Although consuming organic and local produce is more beneficial to a child's health and development, reducing the gross fruit and vegetable consumption in a child's diet is more harmful to their health than supplementing their diet with conventional produce. A parent should not eliminate the intake of conventional produce based on the effects of pesticide exposure if they are not able to replace that loss with organic produce; instead, a child's diet should consist of compromises that keep the best interests of a child in mind, and one of the best interests is that a child has a steady intake of fruits and vegetables.

They say it takes a village to raise a child—and it certainly takes a village to feed one. Ideally, a child's diet should be supplemented by organic and local produce for the benefit of their own health and development, but this expectation is not always a realistic goal. The incorporation of fresh fruits and vegetables into a child's diet in general is of utmost importance, even if the most realistic and accessible produce is conventionally farmed. Parental initiatives regarding feeding style and diet influence are significant in establishing a child's lifelong diet preferences, and community and government initiatives can make feeding children organic and local produce an achievable reality. A parent, and even a community, should always keep the best interests of a child in mind, and that best interest is to let them eat veggies.

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