

COVER STORY



*Diet &  
Nutrition*



# THE ROLE OF NUTRITION & WELLNESS IN HEALTHY SCHOOLS

BY GARIMA JAIN

*Nutrition is the science of nourishment which plays an important role in the growth and development of children, with a healthy diet synergistically enhancing physical and mental abilities. Nutrition dictates more than a person's body mass index. The balanced nutrition a child receives during the first few years of life can affect their health for years to come.*

**P**oor nutrition can result from lack of food as well as overeating, since nutrition is about more than simple caloric intake. Proper child development relies on a solid nutritional foundation, which includes the correct amount of each nutrient. Having nutritional knowledge and making informed choices about the foods one eats can help achieve optimum health. Good nutrition is essential in keeping current and future generations healthy across the lifespan.

A study published in *The New England Journal of Medicine* measured children who were hospitalized for malnutrition during their first year of life. The doctors found that these children were consistently smaller than children who had not experienced malnutrition, even three and four years later. At the other end of the spectrum, the Academy of Nutrition and Dietetics suggests that poor nutrition in the form of overfeeding can contribute to weight issues later in a child's life. The Centers for Disease Control and Prevention (CDC) has conducted numerous researches on the importance of nutrition and healthy eating to prevent diseases in children and adults<sup>1</sup>. This is particularly crucial since the findings show that fewer than 1 in 10 children and adults eat the recommended daily amount of vegetables and fewer than 1 in 10 children and adults eat the recommended daily amount of fruits. This contributes to nutritional deficiencies and diseases.

Children with Special Health Care Needs (CSHCN) are more vulnerable to nutritional deficiencies. The Centers for Disease Control and Prevention reports nearly 1 out of every 5 children in the United States has a special healthcare need.<sup>2</sup> Children and youth with special healthcare needs (CYSHCN) require more care for their physical, developmental, behavioral, and emotional needs than their typically developing peers, making the role of nutrition even more crucial. According to Nutrition Guidelines for Children with Disabilities and Chronic Illnesses Journals, as many as 40% of infants and children with special health care needs are at nutritional risk. A survey of children from birth to age three years with developmental delays in early intervention programs found 70-90% had one or more nutrition risk indicators which includes altered growth, increased or decreased energy needs, medication-nutrient interactions, metabolic disorders, impaired ability to utilize nutrients, poor feeding skills, and partial or total dependence on enteral (tube feeding) or parenteral (intravenous feeding) nutrition.<sup>3</sup>

## HOW DOES NUTRITION AFFECT SCHOOL PERFORMANCE?

Nutrition has a direct impact on children's academics, according to a 2010 study from *The Journal of Nutrition*, which found that undernourished two-year-olds entered the school later and were 16% more likely to fail at least one grade in school than their well-nourished peers. The scientists behind the study determined that this could decrease the child's life-time income by about 10%. The United Nations Standing Committee on Nutrition says that even in mild or moderate situations, stunted growth resulting from poor nutrition is correlated with poor academic performance and lowered mental capacity.

Student participation in the United States Department of Agriculture (USDA) School Breakfast Program (SBP) is associated with increased academic grades and standardized test scores, reduced absenteeism, and improved cognitive performance. On the other hand, skipping breakfast is associated with decreased cognitive performance (e.g., alertness, attention, memory, processing of complex visual display, problem solving) among students. There is enough evidence to support that lack of adequate consumption of specific foods, such as fruits, vegetables, or dairy products, is associated with lower grades among students.

Nutrition can also have a direct impact on emotional or psychological development. The Center for Development has studied psychiatric issues where developmental emotional issues related to autism, hyperactivity, depression, bipolar disorder, schizophrenia and anxiety are associated with nutritional imbalances. Some minerals, such as calcium, have proved to be extremely important for emotional development. The deficits of specific nutrients (i.e., vitamins A, B6, B12, C, folate, iron, zinc, and calcium) are associated with lower grades and higher rates of absenteeism and tardiness among students. Poverty can be a significant contributor to nutritional imbalance.

Nutrition has an impact on behavioral development. Dr. David E. Barrett, a Harvard Medical School psychologist, and Dr. Marian Radke-Yarrow, a National Institutes of Health child development psychologist, performed research focused on behavioral issues in six to eight-year-old children. Their research showed that social behaviors were even more susceptible to the negative effects of poor nutrition than learning functions were. The children in the study who had poor nutrition during the critical two-year period after birth appeared withdrawn, less active and were less helpful than their well-nourished counterparts. There is evidence to support that children who are undernourished due to hunger are not able to focus, so they often have a lower attention span and behavioral and discipline issues. This leads to lower grades, higher rates of absenteeism and even grade retention. A well-nourished child has increased alertness and stamina to participate in therapies, educational activities, social interactions and benefits from fewer illnesses and improved coping skills.

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# Integrating Nutrition Across the WSCC Framework



Schools should provide students and staff with access to healthy foods and beverages, consistent messages about nutrition, and opportunities to learn about and practice healthy eating. Here are some evidence-based strategies and promising practices for using the **Whole School, Whole Community, Whole Child (WSCC)** approach to promote nutrition education and healthy eating behaviors across the school setting.

## Nutrition Environment and Services

- Allow students sufficient time to eat their meal.
- Provide options for children with special dietary needs, per federal regulations.

## Physical Education and Physical Activity

- Ensure that students have access to free drinking water in the gym and other physical activity areas.

## Health Education

- Include nutrition education as part of a comprehensive health education curricula.
- Ensure that health education curricula align with the *Dietary Guidelines for Americans 2015-2020* and address the healthy eating behavior outcomes in CDC's Health Education Curriculum Analysis Tool.

## Community Involvement

- Set up joint-use agreements for shared spaces, such as community kitchens and school gardens.
- Link schools with out-of-school programs that promote healthy eating.

## Family Engagement

- Encourage schools to provide materials about school nutrition programs and nutrition education in languages that students and parents speak at home.

## Employee Wellness

- Encourage school staff to model healthy eating behaviors.
- Ensure that school staff have access to healthy foods and beverages in faculty vending machines.

## Physical Environment

- Give students access to safe drinking water across the school building or campus.
- Give students the opportunity to learn how to grow food—for example, by creating a school garden.

## Social and Emotional Climate

- Ensure that food is never used as a reward or punishment.
- Make sure that students who receive free or reduced price meals are not identified.

## Counseling, Psychological, and Social Services

- Train school staff to recognize signs of eating disorders and disordered eating.
- Ensure that school staff can confidentially refer students to appropriate staff members for follow-up and referral to primary care providers as needed.

## Health Services

- Manage the nutritional needs of students with chronic health conditions, such as food allergies or diabetes.

Visit [www.cdc.gov/healthyschools/wsc/strategies.htm](http://www.cdc.gov/healthyschools/wsc/strategies.htm) for more information and additional examples on how to integrate nutrition strategies using the WSCC framework.



Centers for Disease Control and Prevention  
National Center for Chronic Disease Prevention and Health Promotion  
Division of Population Health

## WHOLE SCHOOL WHOLE COMMUNITY WHOLE CHILD (WSCC) MODEL THE IMPORTANCE OF NUTRITION

The Whole School, Whole Community, Whole Child (WSCC) model recognizes the critical role nutrition plays in the overall

growth, development and academic success of children and youth. The WSCC model is student-centered and emphasizes the role of nutrition, the connections between health and academic achievement, and the importance of evidence-based school nutri-

tion policies and practices. Nutrition leads to overall wellness and schools can play a critical positive role.

**School is the place to start to encourage wellness** since 95% of children, ages five to 17, spend six to seven hours per day at school. A wellness *culture* begins with school leaders, including parents, administrators, and staff, and the first step is to ensure that the school is guided by a regularly updated wellness policy. A wellness *policy* is a written document meant to guide the school district's efforts to create healthy school nutrition and opportunities for physical activity. These policies, supported by the CDC, help promote healthy school environments so that children can thrive and become healthy adults. School wellness policies often serve as the backbone of a healthy school community.

The WSCC model has provided guidelines to integrate nutrition across the framework in all components to promote success of each child. The model promotes nutrition environment and services by providing opportunities for students to learn about healthy eating habits and ensuring access to healthy and appealing foods and beverages, such as school meals, smart snacks, and water access. Health Education should include nutrition education as part of the curriculum, ensure that the curriculum aligns with the Dietary Guidelines for Americans 2015-2020, and address the healthy eating behavior outcomes in the CDC's Health Education Curriculum Analysis Tool.

Schools' collaboration with parents is crucial as engaged parents ensure better outcomes for children. Schools can provide parents materials about school and home nutrition, provide educational opportunities and encourage families to participate in school programs and activities that promote healthy eating. •

### ABOUT THE AUTHOR:

Garima Jain is the Central Region Coordinator for the Parents as Champions for Healthy Schools Project. This is housed at the SPAN Parent Advocacy Network. For more information, see <https://spanadvocacy.org/programs/champions>

### References

1. <https://www.cdc.gov/nutrition/about-nutrition/pdfs/Nutrition-Fact-Sheet-H.pdf>
2. <https://www.cdc.gov/childrenindisasters/children-with-special-healthcare-needs.html>
3. <https://www.doh.wa.gov/Portals/1/Documents/8100/961-158-CSHCN-NI-en-L.pdf>
4. <https://spanadvocacy.org/programs/champions>

## FOOD FOR THOUGHT : NUTRITION INTEGRATION ACROSS WSCC FRAMEWORK



### CDC SCHOOL NUTRITION

[www.cdc.gov/healthyschools/nutrition/schoolnutrition.htm](http://www.cdc.gov/healthyschools/nutrition/schoolnutrition.htm)

### CDC CHILDHOOD NUTRITION FACTS

[www.cdc.gov/healthyschools/nutrition/facts.htm](http://www.cdc.gov/healthyschools/nutrition/facts.htm)

### CDC INCREASING ACCESS TO DRINKING WATER IN SCHOOLS

[www.cdc.gov/healthyschools/npao/pdf/water\\_access\\_in\\_schools\\_508.pdf](http://www.cdc.gov/healthyschools/npao/pdf/water_access_in_schools_508.pdf)

### COMPREHENSIVE FRAMEWORK FOR ADDRESSING THE SCHOOL NUTRITION ENVIRONMENT AND SERVICES

[www.cdc.gov/healthyschools/nutrition/pdf/School\\_Nutrition\\_Framework\\_508tagged.pdf](http://www.cdc.gov/healthyschools/nutrition/pdf/School_Nutrition_Framework_508tagged.pdf)

### LOCAL SCHOOL WELLNESS POLICY

[www.cdc.gov/healthyschools/npao/wellness.htm](http://www.cdc.gov/healthyschools/npao/wellness.htm)

### NATIONAL SCHOOL LUNCH PROGRAM AFTERSCHOOL SNACK SERVICE

[www.fns.usda.gov/school-meals/afterschool-snacks-faqs](http://www.fns.usda.gov/school-meals/afterschool-snacks-faqs)

### OFFICE OF DISEASE PREVENTION AND HEALTH PROMOTION: DIETARY GUIDELINES

[health.gov/dietaryguidelines](http://health.gov/dietaryguidelines)

### SCHOOL HEALTH GUIDELINES TO PROMOTE HEALTHY EATING AND PHYSICAL ACTIVITY

[www.cdc.gov/healthyschools/npao/pdf/mmwr-school-health-guidelines.pdf](http://www.cdc.gov/healthyschools/npao/pdf/mmwr-school-health-guidelines.pdf)

### UNITED STATES DEPARTMENT OF AGRICULTURE: CHOOSE MY PLATE

[www.choosemyplate.gov](http://www.choosemyplate.gov)

### UNITED STATES DEPARTMENT OF AGRICULTURE: LOCAL SCHOOL WELLNESS POLICY

[www.fns.usda.gov/tn/local-school-wellness-policy](http://www.fns.usda.gov/tn/local-school-wellness-policy)

### UNITED STATES DEPARTMENT OF AGRICULTURE: NUTRITION STANDARDS FOR SCHOOL MEALS

[www.fns.usda.gov/school-meals/nutrition-standards-school-meals](http://www.fns.usda.gov/school-meals/nutrition-standards-school-meals)

### UNITED STATES DEPARTMENT OF AGRICULTURE: TEAM NUTRITION

[www.fns.usda.gov/tn/team-nutrition](http://www.fns.usda.gov/tn/team-nutrition)

### WATER AND NUTRITION

[www.cdc.gov/healthywater/drinking/nutrition/index.html](http://www.cdc.gov/healthywater/drinking/nutrition/index.html)

