

Addressing Obesity in Secondary Schools

Healthful eating and physical activity are essential for students' academic success as well as their health.

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Created in collaboration with the National Association of School Psychologists (NASP) to facilitate partnerships between principals and school psychologists and to remove barriers to learning. Additional resources are available at www.nasponline.org/resources/principals.

Most educators have become aware of the increasing childhood obesity problem. Recent estimates indicated that approximately 16% of secondary school students (ages 12 to 19) were overweight, and another 18% were obese in 2007–08 (Ogden, Carroll, Curtin, Lamb, & Flegal, 2010). In other words, approximately one in three secondary school students maintain an above-normal weight.

Causes of Obesity at School

Although the exact causes of obesity are numerous, complex, and much debated, most experts agree that both genetics and environment contribute to some degree. Given the amount of time that children spend in school, aspects of the school environment can have a profound impact on their weight and health.

Physical education. Because of increasing demands to report positive academic outcomes, opportunities for recess and physical education are often reduced or cut entirely. As a result, only 8% of middle schools and 2% of high schools provide daily physical education classes, and 22% of schools do not require it at all (Kann, Brener, & Wechsler, 2007). Further, only half of all high school students have one or more physical education classes each week, despite the recommendation that children participate in one hour of physical activity each day and the opinion of 81% of adults that daily physical education should be mandatory in schools (National Association for Sport and Physical Education, 2000).

Lunch schedules. Many secondary schools are required to stagger lunch schedules throughout the day, with some students eating lunch as early at

10:00 a.m. and others eating as late as 2:00 p.m. Students may go seven or eight hours without opportunities to eat, and students who participate in after-school activities may have to wait even longer. People who go without eating for extended periods of time may experience extreme hunger and end up overeating or eating more convenience or junk foods (Patro & Szajewska, 2010; Sjöberg, Hallberg, Höglund, & Huithén, 2003).

Open-campus policies. Students in schools that have open-campus policies and also are close to fast-food restaurants are more likely to be obese than kids who go to schools that are far away from such restaurants (Currie, DellaVigna, Moretti, & Pathania, 2009).

Vending machines. A survey in 2006 revealed that 62% of middle schools and 86% of high schools had at least one vending machine that sold snacks or beverages, most frequently soda and salty, high-fat snacks (O'Toole, Anderson, Miller, & Guthrie, 2007). Further, two out of three secondary students reported buying junk food from school ("Are Schools Havens...?", 2003). Despite the fact that approximately half of schools "prohibit" the sale of junk food (O'Toole et al., 2007), many schools have maintained vending machines because they provide revenue, although those schools that switch to healthy vending machines (offering vegetables, fruits, water, and juice) often maintain or increase their revenue.

Obesity Affects Education

Much of the publicity about obesity focuses on physical or medical consequences, but obesity also affects school functioning:

- Overweight and obese stu-

dents are 32% more likely to repeat a grade and have lower attendance than their peers (Bethell, Simpson, Stumbo, Carle, & Gombojav, 2010)

- Obesity is related to lower GPAs and a higher risk of dropping out
- Obese students may be twice as likely to receive special education services (Tershakovec, Weller, & Gallagher, 1994)
- Obese students are 65% more likely to be bullied (Lumeng et al., 2010)
- Educators often describe obese students more negatively (e.g., as having poor self-control and being untidy, less likely to succeed, and more emotional) (Puhl & Brownell, 2003)
- Obesity is associated with reduced physical activity, which is linked to lower academic performance, cognition, attention, and problem-solving skills and increased depression and anxiety
- Obese females are only half as likely to attend college as normal weight females (Crosnoe, 2007).
- Obesity also affects school faculty members, leading to decreased energy, attendance, and participation in after-school activities.

Administrative Barriers

Many administrators recognize the need for obesity intervention, but feel that their efforts are stifled by various barriers.

Not enough time in the school day. Many adolescents note that time is a frequent reason for not being physically active outside of the school

day (O’Dea, 2003). School may be the only place where they can regularly schedule activity, and even a few minutes every day can be beneficial. Students can be encouraged to walk or bike to and from school (if possible) and to use school facilities—such as basketball courts, gyms, or tracks—during free periods and before and after school.

Resources. Lack of resources is often mentioned as a major barrier to implementing improvements to the school environment, but many improvements require minimal investment. For example, many believe that limiting or raising the price of unhealthy food and beverages in a-la-carte lines or vending machines will result in reduced revenue. But several studies have shown that revenue does not go down after such changes because students choose to purchase healthier options and more students participate in the school lunch programs (Wharton, Long, & Schwartz, 2008).

Attitudes and beliefs. It is not uncommon to hear teachers say that their job is to educate, not to babysit, parent, counsel, or feed students. This attitude may extend to the notion that the school should not be responsible for teaching students how to live a healthy life. But education and healthful living are integrated entities. Healthy eating and physical activity can improve memory, learning, attention, and cognition.

Cultural and community influences. Some cultures and communities face many barriers to healthy eating and exercise, and educators may feel that they have little influence on the physical health of students from those environments. Healthy choices are cumulative, however, and although



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one class may not change a student's weight, it is an opportunity to teach and encourage positive habits. Schools might be the only places some youth have to practice and learn healthful behaviors.

Recommendations

Improve healthy food options. Besides swapping junk food for healthier options during breakfast and lunch and in vending machines, schools can offer healthier options (e.g., apples, juices, or low-fat snacks) at school parties, dances, and other events. Consider allowing students to drink water in their classes. Increase the prices of sodas and junk food relative to such healthier options as water, skim milk, and fresh fruits and vegetables. Limit the time that unhealthy items are available (e.g., selling chips and soda only after school hours) or the places that students can purchase unhealthy items (e.g., only one vending machine out of five, locate vending machines in less prominent locations). Food service staff members should receive training in healthy food planning and preparation (e.g., reducing sodium and fat and serving appropriate portion sizes).

Increase opportunities for physical activity. Consider incorporating structured activity breaks at certain points in the day (e.g., seventh-period stretch), encourage participation in local walks for charity, promote the development of a walking club that

can walk on the track during nice weather or throughout the building if it's cold or rainy, and ask interested staff members to start a gardening club on school grounds. Such activities may be particularly appealing to the many students (and staff members) who feel intimidated by competitive after-school activities. Encourage staff members to participate in these activities to build connections with students, improve their own health, and to serve as role models.

Develop and implement a school wellness plan. A school wellness plan may include an initial needs assessment. Free, reproducible surveys are available at www.studentstakingcharge.org.

Ensure that health education curricula are up to par. Health education should include skill-based instruction in nutrition and physical activity. A free tool to assess health education curricula is available at www.cdc.gov/HealthyYouth/hecat.

Adopt a healthy meal program.

Healthy meal programs not only offer healthy food options but also have ways to identify those options. For example, healthy options might be marked with a green circle and less-healthy options with a yellow or red circle (i.e., similar to a traffic light). This type of nutritional information could be based on the overall healthfulness of meal choices or various nutritional benefits (e.g., low-fat, low-sugar).

Engage parents and communities.

Involving parents extends the opportunities to teach students how to adopt a healthy lifestyle and improves school-family collaboration, develops a sense of community, and increases positive parent-child interactions and modeling. Explore partnerships with community groups, such as food policy councils and local public health officials. Partnerships can result in opportunities to improve the school environment without having to devote significant resources.

Encourage healthy eating, not dieting. Despite the high rate of obesity among secondary students, many adolescents (particularly females) are at risk of unhealthy dieting. Therefore, the goal in a school setting should be to encourage balanced, healthy lifestyles and behaviors for everyone, regardless of weight or health status, rather than weight loss or dieting. Promoting dieting can be counterproductive and potentially harmful. Not only may students and staff members feel stigmatized at being singled out, but dieting in youth is also associated with the development of disordered eating and obesity (Neumark-Sztainer et al., 2006).

Rather than starting a "Biggest Loser" competition, which frequently focuses on unhealthy, rapid, and unsustainable weight loss, reward healthy behaviors. Provide incentives for healthy eating and activity levels (e.g., meeting a five-veggies-a-day goal, walking 10,000 steps), not for reaching a specific weight goal. Prevention is the goal, not treatment.

Emphasize nutrition. Include an interesting nutrition or health fact each day during announcements, or put up posters around the school encouraging

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Healthy Makeovers

North High in Minneapolis, MN

The school had 16 vending machines and put only water in 12 of them at 75¢ each, juice and sports drinks in 3 others for \$1.00 each, and soft drinks in only one vending machine at \$1.25 per can. Water vending machines were placed in high-traffic areas, and water was allowed in classrooms, although all other beverages were prohibited.

Perth Amboy High School in New Jersey

The school developed a School Wellness Council that has since resulted in healthier school fundraisers, a staff wellness plan, and new fitness equipment.

Beatrice Middle School in Nebraska

The school implemented the Boltage Program, which electronically tracks students who walk or bike to school and the mileage they accumulate.

Participating students can receive monthly or quarterly prizes.

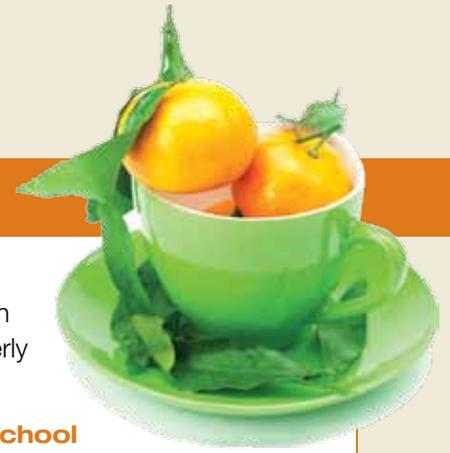
Sam Tasby Middle School in Dallas, TX

The school found an empty room and converted it into an inviting fitness room. Teachers donated fitness equipment, and it has become a place for teachers to exercise and relieve stress.

Abraham Lincoln High School in San Francisco, CA

The school holds a “Health Idol” competition to see who the healthiest student is. Each week, students engage in activities (e.g., push-ups, jumping rope) and are eliminated from the competition following various exercises and activities.

Source: Alliance for a Healthier Generation, www.HealthierGeneration.org



healthy lifestyles. Sometimes all it takes to get students to choose more healthful options is a simple prompt from a poster or a staff person. For example, food service staff members could ask, “Would you prefer broccoli or carrots?” instead of letting students request a vegetable on their own or provide tastings of healthful options to students as they move through the lunch line.

Display healthy options near registers, and remove tempting unhealthy options from view or place them behind healthy a-la-carte items. One recent study found that completely removing junk food options during meals reduced the likelihood that students will be overweight or obese by 18 percentage points (Dority, McGarvey, & Kennedy, 2010).

Closed-campus lunch policy.

Prohibiting off-campus lunch opportunities can reduce risk of obesity by limiting students’ access to unhealthy lunch alternatives. Closed-campus policies also may boost school-meal participation and, therefore, school revenues. If campus policies are determined at the district or school board level, collaborate with other schools to talk to decisionmakers. If there is not enough space for students to eat lunch simultaneously and your school must implement an open-campus policy, consider developing partnerships with local restaurants to offer discounted lunch options for healthier items. Sometimes you may need to make trade-offs, and the “right choice” will depend upon the specific school.

Conclusion

Schools can make several changes to promote health. Some strategies require the investment of time and resources (e.g., adding a Health Education curriculum). Many other strategies can be implemented very easily and at little to no cost. For principals and staff members who are interested in learning more about school-based obesity prevention strategies, there are several organizations that provide resources, such as the collaboration between the National Association of State Boards of Education and the Centers for Disease Control (<http://nasbe.org/index.php/shs/obesity-prevention-work/970-general/1029-nasbe-resources>). PL

REFERENCES

- Are schools havens for junk food junkies? (2003). Retrieved from www.gallup.com/poll/9349/schools-havens-junk-food-junkies.aspx
- Bethell, C., Simpson, L., Stumbo, S., Carle, A. C., & Gombojav, N. (2010). National, state, and local disparities in childhood obesity. *Health Affairs*, *29*, 347–356.
- Crosnoe, R. (2007). Gender, obesity, and education. *Sociology of Education*, *80*, 241–260.
- Currie, J., DellaVigna, S., Moretti, E., & Pathania, V. (2009). *The effect of fast food restaurants on obesity* (National Bureau of Economic Research Working Paper Series No. 14721). Retrieved from www.nber.org/papers/w14721
- Dority, B. L., McGarvey, M. G., & Kennedy, P. F. (2010). Marketing foods and beverages in schools: The effects of school food policy on students' overweight measures. *Journal of Public Policy and Marketing*, *29*, 204–218.
- Kann, L., Brener, N. D., & Wechsler, H. (2007). Overview and summary: School Health Policies and Programs Study 2006. *Journal of School Health*, *77*, 385–397.
- Lumeng, J. C., Forrest, B. S., Appugliese, D. P., Kaciroti, N., Corwyn, R. F., & Bradley, R.H. (2010, June). Weight status as a predictor of being bullied in third through sixth grades. *Pediatrics*, *125*(6), 1301–1307.
- National Association for Sport and Physical Education. (2000). *Public attitudes toward physical education: Are schools providing what the public wants?* Retrieved from www.nevadaahperd.com/info/specific_public_attitudes.pdf
- Neumark-Sztainer, D., Wall, M., Guo, J., Story, M., Haines, J., & Eisenberg, M. (2006). Obesity, disordered eating, and eating disorders in a longitudinal study of adolescents: How do dieters fare five years later? *Journal of the American Dietetic Association*, *106*, 559–568.
- O'Dea, J. A. (2003). Why do kids eat healthful food? Perceived benefits of and barriers to healthful eating and physical activity among children and adolescents. *Journal of the American Dietetic Association*, *103*(4), 497–501.
- Ogden, C. L., Carroll, M. D., Curtin, L. R., Lamb, M. M., & Flegal, K. M. (2010). Prevalence of high body mass index in US children and adolescents, 2007–2008. *Journal of the American Medical Association*, *303*, 242–249.
- O'Toole, T. P., Anderson, S., Miller, C., Guthrie, J. (2007). Nutrition services and foods and beverages available at school: Results from the School Health Policies and Programs Study 2006. *Journal of School Health*, *77*, 500–521.
- Patro, B., & Szajewska, H. (2010). Meal patterns and childhood obesity. *Current Opinion in Clinical Nutrition and Metabolic Care*, *13*(3), 300–304.
- Puhl, R. M., & Brownell, K. D. (2003). Psychosocial origins of obesity stigma: Toward changing a powerful and pervasive bias. *Obesity Reviews*, *4*, 213–227.
- Sjöberg, A., Hallberg, L., Höglund, D., & Huithén, L. (2003). Meal pattern, food choice, nutrient intake and lifestyle factors in The Göteborg Adolescence Study. *European Journal of Clinical Nutrition*, *57*, 1569–1578
- Tershakovec, A. M., Weller, S. C., & Gallagher, P. R. (1994). Obesity, school performance and behavior of black, urban elementary school children. *International Journal of Obesity and Related Metabolic Disorders*, *18*, 323–327.
- Wharton, C. M., Long, M., & Schwartz, M. B. (2008). Changing nutrition standards in schools: the emerging impact on school revenue. *Journal of School Health*, *78*, 245–251.