

Reading, Writing, and Gaining Weight in North Carolina Schools

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It is no mystery that physical inactivity and poor eating habits are at the root of the obesity epidemic. What remains a mystery is why a nation that can eradicate smallpox refuses to immunize itself against obesity. For decades researchers have been telling us that our nation and state are becoming sedentary at an alarming rate. In spite of their warnings and countless recommendations for more activity, fewer people are active today than ever before. In fact, only 18% of North Carolina adults participate in regular physical activity.^{1,2} As adults, we make these choices, and, unfortunately, our children follow our lead.

Only 68% of North Carolina high school students report participating in regular physical activity.³ Eleven percent report they do not participate in any physical activity at all. As children become adolescents, time spent in physical activity declines. According to the 2001 Youth Risk Behavior Survey (YRBS), 77% of ninth graders report participating in regular physical activity compared to 59% of 12th graders.⁴ This decline is even more pronounced in young girls and minorities. A recent study found that by ages 16 and 17, nearly 60% of black girls and 30% of white girls report they engage in no leisure time physical activity.⁵ With no reported leisure time activity, physical education in school may be the only time these girls are physically active. Unfortunately, North Carolina has reduced the amount of time it allows children to spend in physical education and recess.

Cutting down on physical education and recess is a disservice to the health and learning potential of the children in this state. The benefits of physical activity are well documented, as are the consequences of physical inactivity. As a state, we have an obligation to teach our children how to preserve and promote their own health. This will not

happen until parents, educators, and policy makers decide to prioritize physical activity and physical education in schools.

Why School-Based Physical Activity?

While schools should not bear sole responsibility for increasing children's physical activity, they are in a good position to help children learn how to promote and preserve their own health. Schools are the only institutions that have structured and continuous contact with nearly all children.⁶ Most schools also have the necessary facilities (gymnasiums, tracks, playgrounds), equipment (balls, jump ropes, weights, etc.) and staff to provide instruction and supervision. Another advantage school programs have is the ability to reach low-income children who may not have other opportunities for physical activity. School-based physical education may be the only training some children ever have toward living a healthy lifestyle. For these reasons, leading health authorities (the US Department of Health and Human Services, the Centers for Disease Control and Prevention, the National Academy of Sciences Institute of Medicine, the National Association for Sport and Physical Education, the NC Department of Health and Human Services and the National Association of State Boards of Education) recommend that schools provide "quality"¹⁶ daily physical education to children from kindergarten through the twelfth grade.⁷⁻¹⁴

North Carolina currently does not require or enable its schools to provide physical education on a daily basis. The NC Department of Public Instruction requires schools to teach physical education in kindergarten through the eighth grade (K-8) through the Basic Education Plan (BEP).¹⁵ Ninth- through twelfth-graders are required to take only one-half year of physical education to graduate. Not surprisingly, student enrollment in physical education courses and student activity levels decrease every year after the ninth grade. According to the 2001 YRBS survey, 73% of ninth-graders were enrolled in physical education compared to 29.5% of twelfth-graders.⁴

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To the state's credit, however, the NC Department of Public Instruction has a mandated Healthful Living curriculum as noted above, which includes "quality physical education"^{16,18} standards. The physical education segment of the curriculum focuses on preparing students for lifetime physical activity and is designed to teach students how to develop, maintain, and assess their health, fitness, and motor skills. Unfortunately, the curriculum does not require a specific frequency or duration of physical education. NC *recommends* schools provide quality physical education daily or, at the very least, three times per week. Each local school system determines how often and how long children participate in physical education at school. Some schools schedule physical education twice a week throughout the entire school year, and some schedule physical education twice a week for one semester and not at all the next. Infrequent and irregular physical education classes will not provide the desired health or educational benefits.

Unintended Consequences of Our Accountability Program

Equally problematic is the fact that North Carolina does not know how, or if, its schools are delivering the mandated physical education curriculum. The state has no system to monitor or assess any curriculum that is not tested as part of North Carolina's accountability program—the ABCs of Public Education. The ABCs program emphasizes accountability, teaching the basics (reading, writing, and mathematics), and supporting local control. The program hinges on end-of-grade testing in reading, writing, and mathematics. Since 1996, state officials have decided how much school test scores should improve each year. As an incentive, financial bonuses are awarded to the staff of high-performing schools. State officials publicly name low-performing schools and may fire certain teachers and administrators. North Carolina also requires students to score at a certain level on the end-of-grade tests and other exams to be promoted to the next grade.^{17,21} The ABCs program requirements provide a perverse incentive for schools to cut courses and activities that are not tested.

Demands associated with the ABCs program have led to the misguided reduction of physical education classes.¹⁸⁻²⁰ Teachers and principals risk losing their jobs if their students do not perform well on tested subjects. This message is implicit in the language of ABCs program legislation.²¹ Given this message, it should come as no surprise that schools organize their limited resources to assure emphasis on tested subjects. To do this, schools reduce or eliminate courses like music, art, social studies, and physical education to maximize classroom time and staff availability for tested subjects. In many cases, physical education instructors teach tested subjects instead of physical education. The ABC

program requirements have left many children with no recess or physical education at a time when they and their teachers are under more stress.

Physical Activity Can Improve Academic Performance

In implementing the ABCs program, North Carolina has instituted an imbalance that pits health against academics. We should not have to choose between good health and academic success for our children. In fact, we should stop treating the two as separate entities. Research has demonstrated that participation in physical education does not reduce academic performance, even with a 14%-26% reduction in time spent teaching tested subjects.²²⁻²⁴ In fact, studies have linked physical activity with improved academic performance. Several studies have shown that physical activity improves reading, writing, and math scores.^{22,23,26} Research consistently demonstrates an association between physical activity and improved cognitive function, mental acuity, and mental status (e.g., increased self-esteem and decreased stress and anxiety).²²⁻²⁷ School-based physical activity has also been linked with reductions in discipline problems, improved school attendance,^{26,27} and reduced likelihood that students will smoke or use alcohol or drugs.^{8,7,22}

What Must Be Done?

On the basis of this evidence and the dire need to prevent obesity, North Carolina must take action right away to ensure that adequate physical activity is preserved and promoted in schools. The following steps have been recommended by leading health authorities:

- **Require daily physical education classes for all students from kindergarten through 12th grade.** Few of NC's 2202 schools require physical education on a daily basis.
- **Require that at least 30 minutes of physical education class time be spent performing moderate to vigorous physical activity.** Researchers have found children in some schools have only six to ten minutes of aerobic activity in a typical 40-minute physical education class.²⁸
- **Increase the opportunities for physical activity beyond what is provided for during physical education and interscholastic sports.** Parents are reporting that recess is being omitted in some elementary schools.
- **Ensure that certified physical education instructors teach physical education.** Teachers who are not qualified to teach physical education are being asked to conduct these classes.
- **Integrate physical activity/education in with other parts of the academic curriculum.** Only seven schools have reported using integrated curricula.

• **Require that physical education class sizes be no larger than class sizes for other subjects.** Some physical education classes are being doubled, with as many as 56 students in a class.²⁹

Regrettably, most schools do not have the state support or the resources needed to implement these recommendations. Before we can expect physical education to improve, we should address the imbalances in the state's ABCs program. The narrow focus on reading, writing, and mathematics in our schools comes at a time when physical inactivity and obesity are reaching epidemic proportions. Physical education is compatible with the overall educational mission of schools and can help reduce the obesity problem. North Carolina has a choice as to whether or not we will continue to raise inactive and overweight children. It is imperative that we change the federal, state, and local policies that institutionalize physical inactivity in our schools.

NOTES

- Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System, 2002. Available at: <http://www.cdc.gov/nccdphp/brfss>. Accessed October 2002.
- Regular physical activity is defined as participating in 30 minutes of physical activity at least five times per week.
- Regular physical activity for the Youth Risk Behavior Survey is defined as engaging in at least 30 minutes of moderate-intensity physical activity on five or more days of the week OR 20 minutes of vigorous intensity physical activity on three or more days of the week.
- North Carolina Youth Risk Behavior Survey (YRBS 2001). Public Schools of North Carolina, Department of Public Instruction, State Board of Education. Available at: http://www.ncpublicschools.org/accountability/evaluation/youth_risk_behavior/yrbsindex.html. Accessed November 2002.
- Kimm S, Glynn N, Kriska, A, et al. Decline in physical activity in black girls and white girls during adolescence. *New Engl J Med* 2002;347(10):709-15.
- Story M. School-based approaches for preventing and treating obesity. *Int J Obesity* 1999;23(Suppl 2):S43-S51.
- Centers for Disease Control and Prevention. Guidelines for school and community programs to promote lifelong physical activity among young people. *MMWR* 46, 1997.
- Allensworth D, Lawson E, Nicholson L, Wyche (eds.) *Schools and health: our nation's investment*. Committee on Comprehensive School Health Programs in Grades K-12, Division of Health Sciences Policy, Institute of Medicine. Washington, DC: National Academy Press, 1997.
- Council of Physical Education for Children Physical education is critical to a complete education: a position paper from the National Association for Sport and Physical Education, July 2001. Available at: http://www.aahperd.org/naspe/pdf_files/pos_papers/pe_critical.pdf. Accessed October 2002.
- Physical Activity and Nutrition Unit, Division of Public Health, NC Department of Health and Human Services. North Carolina blueprint for changing policies and environments in support of increased physical activity, 2002. Available at: <http://www.eatsmartmovemorenc.com/whatisesmmnc/PhysicalActivityBlueprintpdf.pdf>. Accessed October 2002.
- National Association of State Boards of Education. Fit, healthy and ready to learn: a school health policy guide. Part 1. Physical activity, healthy eating, and tobacco-use prevention. Alexandria, VA: National Association of State Boards of Education, 2000.
- US Department of Health and Human Services and US Department of Education. Promoting better health for young people through physical activity and sports: report to the President. Washington, DC: US Government Printing Office, 2000.
- US Department of Health and Human Services. Healthy People 2010: understanding and improving health, 2nd ed. Washington, DC: US Government Printing Office, November 2000.
- National Association of State Boards of Education. Fit, healthy, and ready to learn: a school health policy guide by the National Association of State Boards of Education. Available at: <http://www.nasbe.org/HealthySchools/fithealthy.mgi>. Accessed October 2002.
- Title 16, North Carolina Administrative Code Subchapter 6D – Instruction, Section .0100 – Curriculum
- Quality physical education programs emphasize participation in lifelong physical activity among all students. Quality physical education programs also emphasize “providing intensive instruction in the motor and self-management skills needed to enjoy a wide variety of physical activity experiences, including competitive and noncompetitive activities; keeping all students active for most of the class period; building students’ confidence in their physical abilities; influencing moral development by providing students with opportunities to assume leadership, cooperate with others, and accept responsibility for their own behavior; and having fun.” (Promoting Better Health for Young People Through Physical Activity and Sports: A Report to the President from the Secretary of Health and Human Services and the Secretary of Education).
- McMillan M. The troubling consequences of the ABCs: who’s accountable? The Common Sense Foundation. June 1999. Available at: <http://www.common-sense.org/abcs/>. Accessed October 2002.
- Promoting Better Health for Young People Through Physical Activity and Sports: A Report to the President from the Secretary of Health and Human Services and the Secretary of Education. Fall 2000. www.cdc.gov/nccdphp/dash/presphysactrpt. Accessed October 2002.
- Luepker RV. How physically active are American children and what can we do about it? *Int J Obes* 1999;23(Suppl 2):S12-S17.
- Cross A. Health and academics: the price of high stakes testing. Keynote address, American School Health Association Annual Meeting, Charlotte, NC, Oct. 3, 2002.
- GS 115C-105.20-.47. Article 8B. School-based management and accountability program. 115C-105.39. Dismissal or removal of personnel; appointment of interim superintendent. NC General Statute.
- Shepard RJ, Volel M, Lavalee H, et al. Required physical activity and academic grades: a controlled study. In: *Children*

- and Sport: Pediatric Work Physiology. Ilmarinen J and Vaelimaeki I, eds. Berlin: Springer-Verlag, 1984.
- 23 Sallis JF, McKenzie TL, Kolody B, et al. Effects of health-related physical education on academic achievements: Project SPARK. *Res Q Exerc Sport* 1999;70(2):127-34.
 - 24 De Mondenard J-P. Practice of sport improves intellectual performance: physical exercise and study: a beneficial association. *Medicine du Sport* 1989;63:137-9.
 - 25 Dwyer T, Blizzard L, Dean K. Physical activity and performance in children. *Nutr Rev* 1996;54(4):(II)S27-S31.
 - 26 Dwyer T, Coonan, Worsley WE, Leitch DR. An assessment of the effects of two physical activity programs on coronary heart disease risk factors in primary school children. *Community Health Stud* 1979;3:196-202.
 - 27 Twemlow SW, Fonagy P, Sacco FC, et al. Creating a peaceful school learning environment: a controlled study of an elementary school intervention to reduce violence. *Am J Psychiatry* 2001;158(5):808-10.
 - 28 McMurray RG, Harrell JS, Bangdiwala Bradley, et al. A school-based intervention can reduce body fat and blood pressure in young adolescents. *J Adolesc Health* 2002;31:125-32.
 - 29 NC Department of Public Instruction. 2000-2001 North Carolina Physical Education Demonstration Schools. Available at: http://www.ncpublicschools.org/educators/pe_demos2001.html. Accessed October 2002.