

**SUMMARY OF SELECTED EVIDENCE-BASED RESEARCH FROM  
*HEALTHY KIDS LEARN BETTER*<sup>1</sup> AND  
*MAKING THE CONNECTION: HEALTH AND STUDENT ACHIEVEMENT*<sup>2</sup>**

The purpose of this fact sheet is to summarize the available evidence linking coordinated school health programs and academic achievement/outcomes. For additional information concerning any of the cited studies, readers should consult the relevant articles listed at the end of this summary. More detailed reviews of the evidence supporting the benefits of coordinated school health programs are available through the first two references listed in the endnotes: *Healthy Kids Learn Better* and *Making the Connection: Health and Student Achievement*.

**OVERALL BENEFITS OF A COORDINATED SCHOOL HEALTH PROGRAM**

**Students**

- Improved student performance and test scores
- Decreased risky behaviors
- Reduced drop out rates
- Less absenteeism
- Less fighting
- Improved rates of physical activity

**Schools**

- Save money
- Reduce duplication
- Reduce absenteeism
- Improve staff morale
- Support teacher teamwork

**COMPREHENSIVE SCHOOL HEALTH EDUCATION**

*Essential functions of comprehensive school health education:*

- *Curriculum selection and development*
- *The use of standards-based health curriculum*
- *Attention to curriculum scope and sequence*
- *Assess students' level of achievement*
- *Implement curriculum in classrooms*
- *Provide for support from school board, administrators and families*
- *Incorporate within the overall school curriculum and*
- *Provide professional development opportunities.*

- Students who participate in health education classes that use effective curricula increase their health knowledge and improve their health skills and behaviors<sup>3</sup>
- Students who participate in health education classes that use effective curricula decrease risky behaviors relative to the program<sup>4,5</sup>
- Reading and math scores of third and fourth grade students who received comprehensive health education were significantly higher than those who did not receive comprehensive health education<sup>6</sup>

- Comprehensive health education and social skills programs for high-risk students will improve school and test performance, attendance and school connectedness. And this success was still apparent six years later.<sup>7</sup>

### **PHYSICAL EDUCATION**

*According to the National Association for Sport and Physical Education, physical education should produce students who can:*

- *Demonstrate competency in many movement forms and proficiency in a few*
- *Apply movement concepts and principles to the learning and development of motor skills*
- *Exhibit a physically active lifestyle*
- *Achieve and maintain a health-enhancing level of physical fitness*
- *Demonstrate responsible personal and social behavior in physical activity settings*
- *Demonstrate understanding and respect for differences among people in physical activity settings*
- *Understand that participation in physical activity provides opportunities for enjoyment, challenge, self-expression and social interaction.*

- Students with poor nutrition & low levels of physical activity are more likely to be absent & tardy.
- Higher achievement was associated with higher levels of fitness among 5th, 7th & 9th graders.<sup>8</sup>

Schools that offer intensive physical activity programs see positive effects on academic achievement even when time for PE is taken from the academic day, including:

- Increased concentration
- Improved mathematics, reading & writing scores
- Reduced disruptive behaviors<sup>9</sup>
- Physical activity among adolescents is consistently related to higher levels of self-esteem and lower levels of anxiety and stress<sup>10</sup>
- Physical activity is positively associated with academic performance<sup>11</sup>
- Students who participated in school physical education programs did not experience a harmful effect on their standardized test scores, though less time was available for other academic subjects<sup>9, 12, 13</sup>

### **SCHOOL HEALTH SERVICES**

*Essential elements of school health services:*

- *Screening, diagnostic, treatment and health counseling services*
- *Urgent and emergency care*
- *Timely identification of and appropriate interventions for health problems*
- *Mandated and necessary screenings for all students*
- *Assistance with medication during the school day*
- *Health services for children with special health needs*
- *Health counseling*
- *Health promotion, prevention education and preventive services*
- *Referrals to and linkages with other community providers*

Preventive health services provided through schools, coupled with health education and counseling that promote healthy lifestyles and self-sufficiency, can help contain health care costs.<sup>14</sup>

Schools with school-based health centers report:

- Increased school attendance
- Decreased drop-outs and suspensions
- Higher graduation rates<sup>15,16</sup>

### **SCHOOL NUTRITION SERVICES**

*Essential components of school nutrition services are to provide:*

- *Access to a variety of nutritious, culturally appropriate foods that promote growth and development, pleasure in healthy eating, and long-term health.*
- *Nutrition education that empowers students to select and enjoy healthy food and physical activity and*
- *Screening, assessment, counseling and referral for nutrition problems and the provision of modified meals for students with special needs.*

Poor nutrition decreases cognitive functioning and performance in the areas of language, concentration & attention.

- Students who eat breakfast perform better on standardized tests.
- There is a 20% increase in type II diabetes among school-aged youth.
- Students who regularly attend school breakfast programs perform better, have fewer psychosocial symptoms, less hyperactivity and better daily attendance.<sup>8,17,18</sup>

School breakfast programs:

- Increase learning and academic achievement
- Improve student attention to academic tasks
- Reduce visits to the school nurse
- Decrease behavioral problems<sup>8</sup>
- School breakfast programs positively impact academic performance, absenteeism, and tardiness among low-income elementary school students<sup>18</sup>

### **SCHOOL COUNSELING, PSYCHOLOGICAL AND SOCIAL SERVICES**

*Essential functions of school counseling, psychological and social services are:*

- *Direct services and instruction*
- *Developing systems, programs, services and resources and*
- *Connecting school and community resources*

Most school administrators, board members, teachers, parents and students realize that for students to benefit from their school, society must address social, emotional, and physical health problems and other major barriers to learning.<sup>19</sup>

School-based mental health services, with the involvement and support of families and educators, improve educational outcomes by addressing behavioral and emotional issues and other barriers to learning.

- Youth receiving mental health services have experienced decreases in course failures, absences, and disciplinary referrals, and improved grade point averages.
- Children who participated in a social service intervention aimed at promoting student success by improving parent-child and parent-teacher communication resulted in improved academic performance<sup>20</sup>

## **HEALTHY SCHOOL ENVIRONMENT**

*Essential functions of a healthy school environment:*

- *Minimize distractions*
- *Minimize physical, psychological and social hazards*
- *Create a climate in which students and school staff do their best work*
- *Expect that all students can succeed*
- *Implement supportive policies.*

The physical condition of a school is statistically related to student academic achievement.

- An improvement in the school's condition by one category, say from poor to fair, is associated with a 5.5 point improvement in average achievement scores<sup>21</sup>

Students who develop a positive affiliation or social bonding with school are:

- More likely to remain academically engaged
- Less likely to be involved with misconduct at school<sup>22</sup>

## **SCHOOL SITE HEALTH PROMOTION FOR STAFF:**

*Staff wellness programs typically involve one or more of the following activities:*

*Screening*

- *Education and supportive activities to reduce risk factors*
- *Organizational policies that promote a healthful and psychologically supportive work environment*
- *An integrated employee assistance program*
- *Employee health care, including health insurance, managed care organizations and access to school health services.*

Teachers who participated in a health promotion program focusing on exercise, stress management, and nutrition reported:

- Increased participation in exercise and lower weight
- Better ability to handle job stress
- A higher level of general well-being<sup>23</sup>

Students benefit from having healthy teachers because:

- Teachers are more energetic
- Teachers are absent less often
- The school climate is more optimistic<sup>24</sup>

A healthy staff does a better job of teaching and creates a better working and learning environment.

- Health promotion for staff influences productivity and absenteeism, and might even reduce health insurance costs (based on findings from other worksite initiatives).
- It also influences morale and a greater personal commitment to the school's coordinated health program, which is transferred into student enthusiasm.<sup>25</sup>

School worksite programs have brought about changes in employee health including helping faculty and staff stop smoking, adopt healthful eating behaviors, increase physical activity and better manage emotional stress.<sup>26</sup>

## **FAMILY AND COMMUNITY INVOLVEMENT IN SCHOOL HEALTH EDUCATION**

*Essential functions of family and community involvement in school health:*

- *Provide time, experience and resources*
- *Support student involvement in activities that support health*
- *Ensure that students and their families receive needed health services*
- *Plan jointly to develop relevant and appropriate messages and services*
- *Deliver clear, consistent messages that support health, include high but attainable expectations and offer appropriate role modeling*
- *Share facilities and encourage participation by all relevant individuals and groups.*

Schools that collaborate with students' families, local businesses, community organizations, and health services see:

- Improved classroom behavior
- Increased PTA membership
- Improved family functioning.<sup>27</sup>

Students whose parents are involved in their education show:

- Significantly greater achievement gains in reading and math than students with uninvolved parents
- Better attendance
- More consistently completed homework<sup>28,29</sup>

Community activities that link to the classroom:

- Positively impact academic achievement
- Reduce school suspension rates
- Improve school-related behaviors<sup>30,31</sup>

## **REFERENCES**

---

<sup>1</sup> *Healthy Kids Learn Better: A Coordinated School Health Approach - Local Implementation Tool Kit*, Centers for Disease Control & Prevention, Division of Adolescent & School Health, [www.cdc.gov/healthyyouth](http://www.cdc.gov/healthyyouth)

<sup>2</sup> *Making the Connection: Health and Student Achievement*, Association of State & Territorial Health Officials (ASTHO) and the Society of State Directors of Health, Physical Education and Recreation (SSDHPER), 2002

<sup>3</sup> Connell, D., Turner, R., and Mason, E. (1985). *Summary of findings of the school health education evaluation: Health promotion effectiveness, implementation, and costs.* *Journal of School Health*, 55(8),316-321.

<sup>4</sup> Botvin, G.J., Griffin, K.W., Diaz, T., Ifill-Williams, M. (2001) *Preventing binge drinking during early adolescence: one-and two-year follow-up of a school-based preventive intervention.* *Psychology of Addictive Behaviors*, 15(4),360-365.

<sup>5</sup> Dent, C., Sussman, S., Stacy, A., Craig, S., Burton, D. Flay, B. (1995). *Two year behavior outcomes of project towards no tobacco use.* *Journal of Consulting and Clinical Psychology*, 63(4),676-677.

<sup>6</sup> Schoener, J., Guerrero, F., and Whitney, B. (1988). *The effects of the Growing Healthy program upon children's academic performance and attendance in New York City.* *Report from the Office of Research, Evaluation and Assessment to the New York City Board of Education.*

<sup>7</sup> Eggert, L., Thompson, E., Herting, J., Nicholas, L., and Dicker, B. (1994). *Preventing adolescent drug abuse and high school dropout through an intensive school-based social network development program.* *American Journal of Health Promotion*, 8(3),202-215.

<sup>8</sup> Murphy, J., Pagano, M., Nachmani, J., Sperling, P., Kane, S., and Kleinman, R. (1998). *The relationship of school breakfast to psychosocial and academic functioning.* *Archives of Pediatric Adolescent Medicine*, 152,899-907.

<sup>9</sup> Sallis, J., McKenzie, T., Kolody, B., Lewis, M., Marshall, S., and Rosengard, P. (1999). *Effects of health-related physical education on academic achievement: Project SPARK.* *Research Quarterly for Exercise and Sport*, 70(2),127-134.

<sup>10</sup> Calfas, K. and Taylor, W. (1994). *Effects of physical activity on psychological variables in adolescents.* *Pediatric Exercise Science*, 6,406-423.

- 
- <sup>11</sup> Dwyer, T., Blizzard, L., and Dean, K. (1996). *Physical activity and performance in children*. *Nutrition Reviews*, 54(4),S27-S31.
- <sup>12</sup> Shepard, R.J. (1996). *Habitual physical activity and academic performance*. *Nutrition Reviews*, 54(4 supplement), S32-S36.
- <sup>13</sup> Dwyer, T., Coonan, W.E., Leitch, D.R., Hetzel, B.S., and Baghurst, R.A. (1983). *An investigation of the effects of physical activity on the health of primary school students in Australia*. *International Journal of Epidemiology*, (12)3,308-313.
- <sup>14</sup> U.S. Department of Health and Human Services. (1991). *Healthy people 2000: National health promotion and disease prevention objectives*. Washington, DC: U.S. Department of Health and Human Services, Public Health Service. DHHS Publication No. (PHS) 91-50212
- <sup>15</sup> McCord, M., Klein, J., Foy, J., & Fothergill, K. (1993). *School-based clinic use and school performance*. *Journal of Adolescent Health*, 14(2),91-98.
- <sup>16</sup> Walters, G. (1996). *A comparison of absentee/attendance rates in high schools with and without school based health clinics*. Thesis submitted to Michigan State University.
- <sup>17</sup> Alaimo, K., Olson, C.M., and Frongillo, E.A. (2001). *Food insufficiency and American school-aged children's cognitive, academic, and psychosocial development*, 108(1),44-53.
- <sup>18</sup> Meyers, A., Sampson, A., Weitzman, M., Rogers, B., and Kayne, H. (1989). *School breakfast program and school performance*. *American Journal of Diseases of Children*, 143,1234-1239.
- <sup>19</sup> Marx E., Wooley S.F., Northrop D. (1998) *Health is Academic: A Guide To Coordinated School Health Programs*, New York, Teachers College Press, Columbia University, Page 143
- <sup>20</sup> Bowen, N.K. (1999). *A role for school social workers in promoting student success through school-family partnerships*. *Social Work in Education*, 21(1),34-47.
- <sup>21</sup> Berner, M. (1993). *Building conditions, parental involvement, and student achievement in the District of Columbia public school system*. *Urban Education*, 28(1),6-29.
- <sup>22</sup> Simons-Morton, B., Crump, A., Haynie, D., and Saylor, K. (1999). *Student-school bonding and adolescent problem behavior*. *Health Education Research*, 14(1),99-107.
- <sup>23</sup> Blair, S., Collingwood, T., Reynolds, R., Smith, M., Hagan, D., and Sterling, C. (1984). *Health promotion for educators: Impact on health behaviors, satisfaction, and general well-being*. *American Journal of Public Health*, 74(2),147-149.
- <sup>24</sup> Symons, C.W., Cummings, C.D., Olds, R.S. (1994). *Healthy People 2000: An agenda for school site health promotion programming*. In: Allensworth, D.D., Symons, C.W., Olds, R.S. *Healthy Students 2000: An Agenda for Continuous Improvement in America's Schools*. Kent, OH: American School Health Association, 1994.
- <sup>25</sup> Blair SN, et al., (1987), *J Schl Hlth*, 57(10):469-473
- <sup>26</sup> Marx E., Wooley S.F., Northrop D. (1998) *Health is Academic: A Guide To Coordinated School Health Programs*, New York, Teachers College Press, Columbia University, Page 231
- <sup>27</sup> McDonald, Lynn and Thomas V. Sayger, "Impact of a family and school based prevention program on protective factors for high risk youth," *Drugs & Society* 12 (1-2): 61-85 (1998).
- <sup>28</sup> National Committee for Citizens in Education. (1987). *The Evidence Continues to Grow: Parental Involvement Improves Student Achievement*. Ed. Anne Henderson. National Committee for Citizens in Education: Columbia, MD.
- <sup>29</sup> Shaver, A.V. and Walls, R.T. (1998). *Effect of Title I Parent Involvement on Student Reading and Mathematics Achievement*. *Journal of Research and Development in Education*, 31(2),90-97.
- <sup>30</sup> Nettles, S. (1991). *Community involvement and disadvantaged students: A review*. *Review of Educational Research*, 61(3),379-406.
- <sup>31</sup> Allen, J. P., Philliber, S., Herrling, S., and Kupermine, G. P. (1997). *Preventing teen pregnancy and academic failure: Experimental evaluation of a developmentally based approach*. *Child Development*, 64(4),729-742.