# THE SCHOOL ENVIRONMENT AND ADOLESCENT WELL-BEING: BEYOND ACADEMICS 

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Adolescents spend a large proportion of their day in school or pursuing school-related activities. While the primary purpose of school is the academic development of students, its effects on adolescents are far broader, also encompassing their physical and mental health, safety, civic engagement, and social development. Further, its effects on all these outcomes are produced through a variety of activities including formal pedagogy, after-school programs, caretaking activities (e.g., feeding, providing a safe environment) as well as the informal social environment created by students and staff on a daily basis.

While most reports focus on a particular aspect of the school environment (e.g., academics, safety, healthpromotion), this brief looks at schools more comprehensively as an environment affecting multiple aspects of adolescent development. Research has repeatedly demonstrated the interconnectedness of the pieces, with safety and health affecting the academic environment, academics affecting health and social development, and so on. ${ }^{1,2,3}$ For that reason, any particular aspect of school policy and activities will be better understood through the lens of that larger context. This is particularly important as school systems have become even more pressured to focus on their main goal of academic development as a result of the federal No Child Left Behind initiative.

This brief is designed to be of particular interest to school principals, district staff, and others who are responsible for all aspects of school functioning. It should also be useful to those focusing on a narrower range of school functions (e.g., academics, health and safety, civic development) who want a better sense of how their concerns fit into the larger environment. Below, we present national estimates from a variety of sources on the school environment of adolescents in the areas of health, safety, social support, academics, and civic engagement.

## Health

Major health issues facing adolescents include obesity, drug and alcohol use, sexual activity, and emotional health. Schools seek to affect student's health in a number of ways including: teaching (health classes); exercise via physical education classes and extra-curricular sports; nutrition through school lunch content, off-campus eating policies, and vending machine content; and, in some cases, the provision of direct medical services. In addition, academic pressures can produce levels of stress for certain students that can have negative effects on their mental health. ${ }^{4,5}$ School is also a
primary cultural milieu for students which can influence drug, alcohol, and cigarette use among students, ${ }^{6}$ and risky sexual activities. ${ }^{7,8}$

## Schools and Obesity

Obesity among youth ages 12-19 has tripled since the late 1970s. ${ }^{9}$ (See Figure 1)


Source: Data for 1976-1994: National Center for Health Statistics. (2003). Health United States, 2003 with Chartbook on Trends in the Health of Americans. National Center for Health Statistics. 2003. Table 69. Data for 1999-2002 from Hedley, Allison, Ogden, Cynthia, Johnson, Clifford, Carroll, Margaret, Curtin, Lester and Katherine Flegal. "Prevalence of Overweight and Obesity Among US Children, Adolescents, and Adults, 1999-2002," JAMA, 291 (23): 2847-2850. Data for 2003-2004: Ogden, Cynthia, Carroll, Margaret, Curtin, Lester, McDowell, Margaret, Tabak, Carolyn, and Flegal, Katherine. "Prevalence of Overweight and Obesity in the United States, 1999-2004." JAMA, 295 (13): 1549-1555

In response to concern over this growing problem, policymakers around the country have been enlisting schools to spearhead efforts to reverse this trend.

- Some schools are changing the types and availability of snack foods available within the school to improve nutrition and reduce obesity. A 2004 survey of 27 states found that a median of 89.5 percent of schools in each state allowed students to purchase snacks from a vending machine or snack bar, with the percentage ranging from 59.8 in Alaska to 95.0 in Utah. The majority of schools offered less nutritious snacks such as chocolate and candy, and among more nutritious snacks, fruits and vegetables were much less common than items such as salty snacks low in fat or 100 percent fruit juice. ${ }^{10}$ (see Map 1) In addition, in 2006 a memorandum of understanding was reached between major U.S. companies supplying

Map 1
competitive food and beverages to schools, the William J. Clinton Foundation and the American Heart Association to adopt practices that would significantly improve the nutritional content of food offered in the schools. This is a voluntary effort, and progress is being independently monitored on an annual basis. ${ }^{11}$

- Between 2003 and 2007, 27 states have passed laws intended to improve school nutrition and 24 states have enacted laws to improve physical education in the schools. ${ }^{12}$ The content and scope of these initiatives varies widely, however, and communities are often given a lot of flexibility in the nature and extent of programs enacted. ${ }^{13}$
- High schools offer opportunities for physical activity for students through physical education classes and school sports activities. In 2006, 63 percent of tenth graders and 54 percent of twelfth graders participated in a school sports team during the school year. ${ }^{14}$


## Schools and Drug Use

While tobacco, alcohol and drug use have all declined to some extent among high school students in recent years, these activities still represent major threats to student health. The school environment

Percentage of schools that allow students to purchase snacks from a vending machine or snack bar


Note: States in white were not part of the sample.
Source: Kann, L. ,Grunbaum, JA, McKenna, ML, Wechsler, H and Galuska, DA. (2004). "Competitive Foods and Beverages Available for Purchase in Secondary Schools - - Selected Sites, United States, 2004." MMWR 54(37):917-921.
Available at: http://O-www.odc.gov.mill 1. sijbrary.org/mmwrfipreview/mmwhtml/mm5437a1.htm.
can have impacts on adolescent drug use through peer influence and through school policies designed to discourage drug use and drug sales. ${ }^{15,16,17}$

- In 2007, 22 percent of high school students reported being offered, sold, or given an illegal drug on school grounds in the previous 12 months. ${ }^{18}$
- Drug-sniffing dogs are used for random drug checks in 59 percent of high schools and 40 percent of middle schools. ${ }^{19}$ (See Figure 2)
- Random sweeps for contraband (including drugs and weapons) were performed in 28 percent of high schools and 24 percent of middle schools. ${ }^{20}$


Source: Jekielek at al. (2007). "Public School Practices for Violence Prevention and Reduction: 2003-04." (NCES-2007-010). National Center for Education Statistics, Institute of Education Sciences. Available at: http://nces.ed.gov/pubs2007/2007010.pdf

## Schools and Mental Health

School environments can affect the mental health of students through the academic and social stresses experienced by students. In addition, schools are places where mental health problems can be identified for possible treatment. This is important in a population where 15 percent reported seriously considering suicide during the previous year in $2007 .{ }^{21}$

- School activity can be a source of stress for many students. According to estimates from 2001/02, 35 percent of 11-year-old girls and 39 percent of 11 -year-old boys in the U.S. felt pressured by schoolwork, while 44 percent of 13-year-old girls and boys reported feeling that way. ${ }^{22}$
- In 2006, 78 percent of U.S. schools had a school counselor, 61 percent had a school psychologist, and 42 percent had a social worker. These included both part-time and full-time positions. ${ }^{23}$


## Schools and Health Care

Schools commonly provide a number of direct and indirect health care services for students and, in some cases, their families.

- Over one third ( 36 percent) of all U.S. elementary, middle, and high schools have a full-time nurse on staff, and just over half (51 percent) had a part-time nurse in 2006. ${ }^{24}$
- Mandated school health service activities which are most common include: administration of medications and first aid (98 and 99 percent); case management for students with chronic health conditions such as asthma ( 74 percent);case management for students with disabilities ( 75 percent); identification of emotional or behavioral disorders, abuse, oral health problems, and chronic conditions (between 60 and 82 percent); identification of counseling for emotional or behavioral disorders (45 percent). ${ }^{25}$
- Nearly half of all schools (48 percent) provide families assistance with enrolling in Medicaid or SCHIP. ${ }^{26}$
- In 2005,22 percent of teens ages 12 to 17 reported that they received mental health treatment. Of this group, 46 percent said they received treatment from a school counselor, school psychologist, or by having regular meetings with a teacher. ${ }^{27}$


## School Safety and Violence

A safe environment is a prerequisite for effective learning, so much so that the country's major education reform initiative, No Child Left Behind, requires school systems to have programs in place to reduce levels of violence as part of its larger plan to improve academic performance. ${ }^{28}$ Students who fear violence in school are more likely to skip school. ${ }^{29,30}$ A study of high school sophomores found that those who attended schools with moderate to high levels of violence were less likely
to graduate college or attend a 4-year college, even after controlling for other personal and school characteristics. ${ }^{31}$

Unsafe environments can also have direct effects on the health of students. Students in dangerous school environments are more likely to get into fights, to be injured, and to experience emotional stress. ${ }^{32,33,34}$

- Bullying: Twenty-eight percent of students ages 12 to 18 reported being the victim of bullying at school in the previous 6 months in 2005. Nineteen percent reported being made fun of or called names, and 15 percent reported being the subject of rumors. ${ }^{40}$

In addition, one analysis of data from four national surveys found involvement with school violence, either as a perpetrator or victim, was the most important risk factor for a student carrying a weapon to school. ${ }^{35}$

Adolescents who are involved in bullying (a common form of violence in schools) either as a perpetrator or victim, are more likely to suffer from depressive symptoms such as loneliness and difficulty making friends, and more likely to face psychosocial adjustment issues. ${ }^{36}$ Involvement in bullying as a bully or victim is also associated with poorer health outcomes, while being a bully is associated with more frequent alcohol use. ${ }^{37}$

Students (ages 12-18) who reported having been a target of hate speech, defined here as being called names based on one's race, religion, Hispanic origin, disability, gender, or sexual orientation, were 1.5 times more likely than other students to report being nonviolently victimized and 3.1 times more likely to report being violently victimized while at school. ${ }^{38}$

## School Violence

- Unsafe at School: In 2007, 6 percent of high school students reported that they had not gone to school in the past 30 days because they felt unsafe at school or on their way to or from school. This is down from a high of 12 percent a decade earlier. ${ }^{39}$


Note: Students were asked to report being targets of hate speech based on the past six months.
Note: "At school" means in the school building, on school property, on a school bus, or going to and from school. Source: Dinkes, R., Cataldi, E.F., Kena, G., Baum, K., Baum, K., \& Synder, T.D. (2006). Indicators of School Crime and Safety: 2006 (NCES 2007-003/NCJ 214262). U.S. Departments of Education and Justice. Washington, DC: U.S. Government Printing Office. Table 10.2. http://nces.ed.gov/pubs2007/2007003.pdf.

- Hate Speech: In 2005, 11 percent of students ages 12 to 18 reported being the targets of hate-related words at school during the previous six months. Among the types of discrimination surveyed, race-based hate speech was the most common ( 5 percent), followed by ethnicity ( 3 percent), and between 1 and 2 percent each for religion, disability, gender or sexual orientation based hate speech. ${ }^{41}$ (See Figure 3). Black students were the most likely to report being a victim of hate speech ( 15 percent) with about half of them citing race-based hate speech (7 percent). ${ }^{42}$
- Gang Activity: In 2005, 36 percent of students in urban areas reported the presence of gangs at school, compared with 21 percent of students in suburban areas and

16 percent of students in rural areas. In addition, Hispanic and black students are more likely than white students to report the presence of gangs at school (38 and 37 percent versus 17 percent, respectively). ${ }^{43}$ (See Figure 4.)

Figure 4 Percentage of Students Reporting the Presence of Gang Activity at School, by Urbanicity and Race/Ethnicity, 2005


Source: Dinkes, R., Cataldi, E.F., Kena, G., and Baum, K. (2006). Indicators of School Crime and Safety: 2006 (NCES 2007-003/NCJ 214262). U.S. Departments of Education and Justice. Washington, DC: U.S. Government Printing Office.

- Violent threats and attacks (ranging from threats of attack to physical attacks and rape) in high schools were reported at a rate of 31.2 per 1,000 students in 2005-6, and incidences of theft were 5.1 per 1,000 students. ${ }^{44}$

There are numerous safety and security measures and initiatives that schools employ in order to prevent school violence. While research on the consequences of school violence for student wellbeing is relatively strong, research on the effectiveness of common strategies for reducing violence in the schools has mostly focused on comprehensive curricula or strategies, making it difficult to determine which specific elements are effective (or not).

Common measures at the middle and high school levels for reducing violence in school include: student training and behaviors (peer conflict resolution, mandatory uniforms, violence prevention curricula); disciplinary policies
(regarding suspension and expulsion); security measures (metal detectors, monitoring cameras, security officers at the school, use of drug sniffing dogs); and involving parents (to maintain school discipline, to offer them training to deal with problem behaviors in the home).

Based on data from the 2003-04 school year, for example:

- Formal violence prevention programs are common: 87 percent of schools have a formal violence prevention curriculum, instruction, or training, 91 percent have behavioral or behavior modification interventions, and 57 percent have student involvement in resolving student conflict problems. ${ }^{45}$
- Security officers are present on a regular basis in 72 percent of high schools and 64 percent of middle schools. ${ }^{46}$ (See Figure 5)
- Metal detectors are used in 13 percent of high schools and 10 percent of middle schools. ${ }^{47}$


Source: Guerino, P., Hurwitz, M.D., Noonan, M.E., and Kaffenberger, S.M. (2006). Crime, Violence, Discipline, and Safety in U.S. Public Schools: Findings from the School Survey on Crime and Safety: 2003-04 (NCES 2007-302rev). U.S. Department of Education, National Center for Education

- Out-of-school suspensions with no services provided are allowed in 85 percent of high schools and 77 percent of middle schools. ${ }^{48}$
- Badges: Students are required to wear badges or picture IDs in 16 percent of high schools and 11 percent of middle schools. ${ }^{49}$


## SCHOOL SOCIAL SUPPORTS

The support of peers and teachers at school can have important consequences for student wellbeing. Adolescents who feel that there are people who care about them at school and feel connected to the school are more likely to be academically motivated ${ }^{50,51}$ and less likely to engage in a variety of negative behaviors including drug use, violence and sexual activity. ${ }^{52}$

Support from teachers can be expressed in many ways including caring, having rules that are perceived as clear and fair, and allowing for ageappropriate autonomy in decision-making. ${ }^{53} \mathrm{~A}$ positive relationship with a teacher may motivate a student to learn, participate more in class, or engage in other behavior related to academic achievement. In addition, teacher support may help students psychologically. One study of middle school students found students who perceived increasing teacher support during the transition to middle school reported increases in self-esteem and decreases in depressive symptoms, while those who perceived decreasing teacher support experienced the opposite. ${ }^{54}$

- More than four in five students ages 12-18 believe that their school's rules are fair and consistently enforced. ${ }^{55}$
- Nearly a quarter ( 23 percent) of youth ages 12-17 report that they have none or only one teacher (or other adult in their school) who knows them well and cares about them. About half (46 percent) report two such supportive school staff in their lives, and 31 percent report three or more. ${ }^{56}$ (See Figure 6.)
- Among school principals of 15 -year-old students, 14 percent report that student learning at their school is hindered by poor student-teacher relations to some extent. Sixty-six percent said that learning was hindered very little and 18 percent said learning was not hindered at all. ${ }^{57}$
- Nearly half (49 percent) of 15 -year-old students in the U.S. agreed or strongly agreed that other students in their school were kind and helpful. This was low by
international standards, where 25 of 34 countries reported higher rates. ${ }^{58}$


Source: Unpublished analyses by Child Trends staff from the Every Child Every Promise poll, a nationally representative poll of youth ages 12-17, and parents of children ages 6-17. For additional information visit http://www.americaspromise.org/APAPage.aspx?id=6584.

## Academic Quality

While schools are called on to shape many aspects of students' lives, their core focus is clearly the development of academic knowledge and skills. The No Child Left Behind (NCLB) initiative, our nation's major education initiative of the last five years, has made challenging demands on public schools to improve the academic performance of all students while narrowing performance gaps across groups, providing additional resources and demanding greater accountability. Schools that fail to make Adequate Yearly Progress (AYP) targets towards NCLB goals are initially given greater resources and attention, though repeated failure can result in penalties and increased oversight.

- Annual Yearly Progress: The National Education Association reports that 28 percent of all public schools did not make AYP in the 2007-2008 school year as defined by NCLB. ${ }^{59}$

A recent review of the literature recommended five key indicators of school environmental quality because of their strong links to student learning. ${ }^{60}$ These include: teacher's academic skills; teacher experience; demanding course content; access to technology (especially computers and the Internet); and class size. Teachers are more effective and student outcomes are better when teachers have more experience, teach in the field in which they are trained, and when they have strong academic skills. ${ }^{61}$ There is some evidence that in small classrooms teachers are able to provide more opportunity for participation, spend more time on instruction, and are faced with fewer disciplinary problems. ${ }^{62}$ Regarding the relationship between class size and student achievement, several metaanalyses have concluded that students in smaller classes have higher test sores and that the effect may be even larger for disadvantaged students. ${ }^{63}$

- Teacher Academic Skills: Among secondary school teachers, 49 percent had a bachelor's degree, 41 percent had a master's degree, 6 percent were education specialists, ${ }^{64}$ and 2 percent had a doctorate degree in 2003-04. ${ }^{65}$
- Teacher Qualifications: In 2003-4, only 58 percent of science and mathematics students had a teacher with a post-secondary degree in the specific field they were teaching. ${ }^{66}$
- School Access to Computers and the Internet: In 2003, 90 percent of 10-14 year olds and 92 percent of 15-17 year olds used a computer in school. Fifty-three percent and 66 percent, respectively, use the Internet at school. ${ }^{67}$
- Class size: In secondary schools, pupil-teacher ratios have decreased since the 1950s from a little over 27 pupils per teacher in 1955 to 16 pupils per teacher in 2004. ${ }^{68}$ (See Figure 7)

Figure $7 \quad$ Pupil-Teacher Ratio in Public Schools, 1955-2005

*projected estimate
Source: Snyder, T.D., Dillow, S.A., and Hoffman, C.M. (2007). Digest of Education Statistics 2006 (NCES 2007-017). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC: U.S.
Government Printing Office.

## Civic Engagement

Teens who are civically engaged are less likely to use drugs or become pregnant. ${ }^{69}$ High school students' participation in community programs is associated with positive outcomes for many educational measures such as school attendance, grade point average, self-esteem, and academic motivation. ${ }^{70}$ Civic engagement during adolescence is associated with an increased likelihood of voting and volunteering in the future, as well as a stronger work ethic as an adult. ${ }^{71}$ Volunteering among high school students has been on the rise in recent years, as has been voting among young adults ages 1824. ${ }^{72,73}$ (See figure 8 )

Percentage of Students in Grades 8, 10, and 12 Who Volunteer ${ }^{1}$ At Least Once a Month, 1991 to 2006


Schools can influence students to become civically informed and engaged through a variety of mechanisms including participation in school government, community service requirements, school-based service organizations and, of course, through teaching in the classroom.

- In 2000, 28 percent of young adults reported participating in mandatory unpaid volunteer or community service activities during their high school years. ${ }^{74}$
- Fourteen percent of twelfth graders reported having moderate to great participation in student government or student council in 2006 . $^{75}$


## Changing Demographics

The growing cultural and linguistic diversity of American students brought on by increased immigration presents new challenges for school administrators. Since 1980, the percentage of children under age 18 who are Hispanic has more than doubled from 9 percent to 20 percent in 2006, and is expected to grow to 24 percent by 2020 . $^{76}$ During that same period the percentage that is Asian increased from 2 to 4 percent, and is projected to be 5 percent by $2020 .{ }^{77}$ The percentage of children who are first or second generation immigrants has increased to 22 percent in 2006, and over onequarter of these children live in linguistically isolated households, meaning there are no adults in
the household who speak English very well. ${ }^{78}$ Not all communities are equally affected by these trends. For example, the percentage of children in immigrant families ranges from a low of two percent in West Virginia to 48 percent in California. ${ }^{79}$

## Conclusion

While the main purpose of education is to prepare adolescents academically, schools are increasingly called upon to develop socially competent, physically healthy and civically engaged youth who will also carry those assets into adulthood. In such a complex environment, school policies targeting particular goals (academic, health, civic) need to be considered within the larger set of school goals and practices. Such an approach will ensure that goals in one area will not unnecessarily be sacrificed for others, and that policies will complement each another to the extent possible.

The purpose of our brief is to help build a greater awareness of the ways in which schools affect all aspects of adolescent development, and the diversity of policies intended to shape those outcomes. As Brindis ${ }^{80}$ points out, however, schools cannot carry the burden alone. Beyond what goes on inside the school walls, schools must coordinate their practices with the rest of the community-with health care providers, after-school programs, and perhaps most importantly, students' families.

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[^0]The National Adolescent Health Information Center (NAHIC) was established with funding from the Maternal and Child Health Bureau in 1993 to serve as a national resource for adolescent health research and information and to assure the integration, synthesis, coordination and dissemination of adolescent health-related information. For more information, visit http://nahic.ucsf.edu/

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