Family and Community Involvement in Schools: Results From the School Health Policies and Programs Study 2006

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ABSTRACT

BACKGROUND: Family and community involvement in schools is linked strongly to improvements in the academic achievement of students, better school attendance, and improved school programs and quality.

METHODS: The Centers for Disease Control and Prevention conducts the School Health Policies and Programs Study every 6 years. In 2006, computer-assisted telephone interviews or self-administered mail questionnaires were completed by state education agency personnel in all 50 states plus the District of Columbia and among a nationally representative sample of school districts (n = 461). Computer-assisted personal interviews were conducted with personnel in a nationally representative sample of elementary, middle, and high schools (n = 1029) and with a nationally representative sample of teachers of required health education classes and courses (n = 912) and required physical education classes and courses (n = 1194).

RESULTS: Although family and community involvement in states, districts, and schools was limited, many states, districts, and schools collaborated with community groups and agencies to promote and support school health programs. More than half of districts and schools communicated information to families on school health program components. Teachers in 55.5% of required health education classes and courses and 30.8% of required physical education classes and courses gave students homework or projects that involved family members.

CONCLUSIONS: Although family and community involvement occurred at all levels, many schools are not doing some of the fundamental things schools could do to increase family involvement. Improvements in family and community involvement can support school health programs in states, districts, schools, and classrooms nationwide.

Keywords: community involvement; school community cooperation; schools; school policy; surveys.

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F amily and community involvement in education is linked strongly to improvements in the academic achievement of students, better school attendance, and improved school programs and quality. Family and community involvement also is associated with improved student behavior and school discipline. Therefore, schools, families, and the community should work together to deliver clear, consistent messages to students, to encourage the development of positive behaviors, to assist students in receiving necessary preventive care, and to provide access to resources and supportive networks. ^{1,3,4,11}

Families, irrespective of cultural background, education, and income level, can positively influence their children's learning and behavior. Partnerships between schools, families, and communities can encourage sharing and help maximize resources and expertise that will encourage the healthy development of students, their families, and their community.

In the 1980s, Epstein and colleagues developed a theoretical perspective called "overlapping spheres of influence," which posits that 3 contexts—home, school, and community—act as overlapping spheres of influence on children and on conditions and relationships in the 3 contexts.^{4,12} They continue to conduct research to examine the nature and effects of family and community involvement programs developed as an official part of school organization and district leadership.

Since 1996, the National Network of Partnership Schools (NNPS) has been working with schools, districts, states, and organizations to organize and sustain research-based programs of family and community involvement to increase students' success in schools. NNPS encourages schools to use a framework of 6 types of involvement that operate within the 3 overlapping spheres of influence. 4,12-14 The 6 types of involvement are parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. Although this framework is generally used by states, districts, and schools to identify and implement activities for family and community involvement to improve academic outcomes, it also can be applied to improve student health outcomes. 14,15 Following are examples of how one could apply each of the 6 types of involvement to enhance school health programs.

Parenting

Provide families with seminars, workshops, and information on health topics that relate directly to lessons taught in health education and physical education classes. For example, conduct workshops for families on nutrition and key aspects of child and adolescent development. In addition, build families' leadership, decision making, and parenting skills to support posi-

tive health attitudes and behaviors among students and help build healthy home and school environments.

Communicating

Communicate with families about health education classes and courses and opportunities to participate in school health programs and other community-based programs. By using 2-way communications (school-tohome and home-to-school), families receive educational materials about different health topics, know how they can be involved in school health programs, and keep in touch with teachers, administrators, counselors, and other staff. School-to-home communications include information for families when students are given health-related screenings in school (eg, eye exams, hearing tests, and head lice inspections) and suggestions for follow-up services, as needed, and school newsletters and Web sites that feature columns on heath topics studied in class. Home-to-school communications include messages from parents to teachers, nurses, and administrators about students' medications and other health needs.

Volunteering

Recruit, train, and involve families as volunteers. Take advantage of the time, experience, and resources of families and community members to enrich health education and physical education classes. For example, invite family volunteers to lead lunchtime walkathons, weekend games, and after-school exercise programs in dance, cheerleading, karate, aerobics, yoga, and other skills and talents.

Learning at Home

Involve families and students in health education learning activities at home, including homework for health instruction, personal goal setting for healthy behaviors, and other health education-related activities. Have teachers develop homework assignments for students that involve family discussions about health topics and age-related health issues, ^{16,17} identify health promotion projects in the community, and invite families to participate in physical activities in school or in the community such as runs, walkathons, and hiking.

Decision Making

Involve students, families, and community members in parent organizations (eg, Parent Teacher Association or Parent Teacher Organization), on school health councils, on school action teams to plan special health-related events, and in other school groups and organizations. In addition, involve parents in decisions when developing school health policies, emergency/crisis/safety plans, health and safety messages, health-related curricula, food and beverage selections

for school breakfasts and lunches, health services and referral procedures, and other plans and programs.

Collaborating With the Community

Coordinate information, resources, and services from community-based organizations, businesses, cultural and civic organizations, health clinics, colleges and universities, and other community groups that can benefit students, families, and school staff. Offer community health services (eg, free immunizations, booster shots, and health screenings) to families. Further, encourage community businesses and organizations to sponsor service-learning opportunities and other projects that enable students, faculty and staff, and families to contribute to the health of the community.¹⁸

School faculty and staff need staff development to learn how to develop strong plans and programs of partnerships with families that take into consideration the 6 types of involvement. Further, faculty and staff must know how to relate to families in ways that build trust and encourage participation, effectively communicate with parents, and engage families who come from different socioeconomic and cultural backgrounds. ¹⁹

Family and community involvement contributes to the success of school health programs across the country.³ Although family and community involvement is an important component of a school health program, it should be integrated with and promoted by the other components—health education, physical education and activity, health services, mental health and social services, nutrition services, healthy and safe school environment, and faculty and staff health promotion. For example, families can learn about health topics through health education, and by participating in school-based health education activities (eg, parent/teacher meetings and parent seminars) that may be cosponsored by schools and community organizations. Families and community members can advocate for safe spaces and facilities at school and in the community that provide students opportunities to engage in a range of physical education activities. In addition, school facilities can be made available for extracurricular activities and community-sponsored sports leagues. Schools and communities can collaborate to provide health services such as physical health screenings and mental health services including counseling, assessments, or interventions to students, families, and community members. Communities can support faculty and staff health promotion programs (eg, donated exercise equipment, stress management sessions, and healthy weight programs). In addition, families and community members can work with nutrition services staff

to discuss and create healthy menu choices for students and help disseminate nutrition-related information to all families. Finally, families and community members can influence the climate and culture of a school through the development of school health policies, such as wellness promotion policies and violence prevention policies that support a safe and healthy school environment.

Selected Federal Support and Related Research

Family and community involvement in school health programs is supported by several federal initiatives. The No Child Left Behind Act of 2001 updated the federal Title I program, section 1118, which requires local schools and districts to adopt specific strategies for developing effective programs of school-family partnerships. Title I emphasizes the need to involve parents in school policy decisions about their children's learning and development at the school and district levels. The act also recognizes the shared responsibilities of schools and families for students' high academic performance, requires strengthening school and parent capacities for productive mutual collaborations, and allocates Title I funds to support the development of school-based, goal-oriented parent involvement programs. 20,21 In addition, other federal funding for specific health problems, such as prevention of tobacco use or illegal drug use, often can be used to develop programs that involve family and community members.³

Family and community involvement in school health programs also is supported by nongovernmental organizations, such as the National Coalition for Parental Involvement in Education, whose mission is "to advocate the involvement of parents in their children's education and to foster relationships between home, school, and community that can enhance the education of all our nation's young people."²² In addition, the Coalition for Community Schools promotes the integration of academics, health and social services, youth and community development, and community engagement to improve student learning, strengthen families, and sustain healthier communities.²³ Other professional education organizations have identified standards for teachers to demonstrate competency in the area of family and community involvement.²⁴ For example, the National Parent Teacher Association (PTA) published National Standards for Parent/Family Involvement Programs, which link directly to the framework of 6 types of involvement.²⁵ The National Board for Professional Teaching Standards includes competencies in family and community partnerships for every specialty and certification.²⁶ In many communities across the country, businesses, community organizations, and others participate on school health councils

that advise educators at the state, district, and school levels on school health policies and programs and other school health efforts.

Theory, research, policies, and exemplary programs and practices point to the importance of family and community involvement for improving the quality of school health programs. Little is known, however, about the status of family and community involvement in school health programs. The School Health Policies and Programs Study (SHPPS) 2000 was the first national study to measure school health policies and programs involving family and community members.²⁷ This article describes for the first time findings from SHPPS 2006 about family and community involvement in school health programs. Specifically, it uses the framework of 6 types of involvement (parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community), as well as staff development, to describe family and community involvement at the state, district, school, and classroom levels. In addition, the article describes changes in key family and community involvement policies and programs from 2000 to 2006. While this article is primarily descriptive in nature, the Centers for Disease Control and Prevention intends to conduct more detailed analyses and encourages others to conduct their own analyses using the questionnaires and public-use data sets available at www.cdc.gov/shpps.

METHODS

Detailed information about SHPPS 2006 methods is provided in "Methods: School Health Policies and Programs Study 2006" elsewhere in this issue of the *Journal of School Health*. Following is a brief overview of SHPPS 2006 methods specific to the family and community involvement component of the study.

SHPPS 2006 assessed family and community involvement at the state, district, school, and classroom levels. State-level data were collected from education agencies in all 50 states plus the District of Columbia. District-level data were collected from a nationally representative sample of public school districts. School-level data were collected from a nationally representative sample of public and private elementary schools, middle schools, and high schools. Classroom-level data were collected from teachers of randomly selected classes covering required health instruction and required physical education in elementary schools and randomly selected required health and physical education courses in middle schools and high schools.

Questionnaires

Family and community involvement in school health programs was assessed with questions integrated into all 23 SHPPS 2006 questionnaires. Each of these questionnaires is described in other articles elsewhere in this issue of the Journal of School Health. Family and community involvement topics assessed by these questionnaires included family and community involvement in school health councils; collaboration among education agency staff and staff from other agencies and organizations; promotion of school health programs and services among families and in the community; school participation in community-based health programs, community service programs, and service-learning programs; family and community involvement in developing, communicating, and implementing school health policies or activities; teacher promotion of family and community involvement; and staff development on promoting family and community involvement.

Data Collection and Respondents

State- and district-level data were collected by computer-assisted telephone interviews or selfadministered mail questionnaires. Designated respondents for each of 7 school health program components (ie, health education, physical education and activity, health services, mental health and social services, nutrition services, healthy and safe school environment, and faculty and staff health promotion) completed the interviews or questionnaires. At the state level, the state-level contact designated a single respondent for each component. At the district level, the district-level contact could designate a different respondent for each questionnaire or questionnaire module (because of how long it took to complete a questionnaire or the wide range of topics assessed, some questionnaires were divided into modules). All designated respondents had primary responsibility for, or were the most knowledgeable about, the policies and programs addressing the particular questionnaire or module.

After a state- or district-level contact identified respondents, each respondent was sent a letter of invitation and packet of study-related materials. Each packet contained a paper copy of the questionnaire(s) so that respondents could prepare for the interview and provided a toll-free number and access code that respondents could use to initiate the interview. Respondents were told that the questionnaire(s) could be used in preparation for their telephone interview or completed and returned if self-administration was preferred. One week after packets were mailed to respondents, trained interviewers from a call center placed calls to them to schedule and conduct telephone interviews. In April 2006, telephone interviewing ceased and most of the remaining state- and district-level data collection occurred via a mail survey. All remaining respondents were mailed paper questionnaires and return envelopes; however, interviewers remained available for any respondents who chose to contact the call center.

At the end of the data collection period (October 2006), 84% of all completed state-level question-naires had been completed via telephone interview and 16% as paper questionnaires. Among the completed district-level questionnaires, 61% of the questionnaires had at least 1 module completed via telephone interview and 78% of the questionnaires had at least 1 module completed on paper.

School-level and classroom-level data were collected by computer-assisted personal interviews. During recruitment, the principal or another school-level contact designated a faculty or staff respondent for each questionnaire or module who had primary responsibility for or the most knowledge about the particular component. At the classroom level, respondents to the computer-assisted personal interviews were those health and physical education teachers whose elementary school class or middle school or high school course was selected during the sampling process. All interviews were completed between January and June 2006.

Response Rates

Because questions measuring family and community involvement were integrated into the questionnaires measuring other school health program components, the response rates for those questionnaires are summarized here. One hundred percent (n = 51) of the state education agencies completed the state-level questionnaires for all components, except faculty and staff health promotion. That questionnaire was completed by 98% of states. At the district level, between 63% and 64% (n = 445-461) of the districts eligible to complete any module completed at least 1 module for a particular component. At the school level, between 66% and 74% (n = 849-1029) of the schools eligible to complete any module completed at least 1 module for a particular component. At the classroom level, 94% (n = 912) of the eligible teachers completed the health education interview and 95% (n = 1194) of the eligible teachers completed the physical education interview.

Data Analysis

Data from state-level questionnaires are based on a census and are not weighted. District-, school-, and classroom-level data are based on representative samples and are weighted to produce national estimates. Two weights were constructed for analysis of classroom data. The first weight is appropriate for making inferences to schools nationwide based on the aggregation of classroom data within each school. The second weight is appropriate for making

inferences to required elementary school classes or required middle school and high school courses nationwide based on the data about the individual classes or courses.

Because of missing data, the denominators for each estimate vary slightly. The 16 figures in Appendix 1 of this issue of the *Journal of School Health* show the estimated standard error associated with an observed estimate from each of the district-, school-, and classroom-level questionnaires.

To analyze changes between SHPPS 2000 and SHPPS 2006, many variables from SHPPS 2000 were recalculated so that the denominators used for both years of data were defined identically. In most cases, this denominator was changed to include all states, districts, or schools rather than a subset of states, districts, or schools. As a result of this recalculation, percentages previously reported for SHPPS 2000²⁷ might differ from those reported in this article. Only estimates from 2000 and 2006 based on this same denominator should be compared.

Because state-level data are based on a census, statistical tests for differences between 2000 and 2006 are not appropriate. Therefore, this article highlights changes over time meeting at least 1 of 2 criteria: (1) the difference was greater than 10 percentage points or (2) the 2006 estimate increased by at least a factor of 2 or decreased by at least half as compared with the 2000 estimate. At the district, school, and classroom levels, t tests were used to compare SHPPS 2000 and SHPPS 2006 prevalence estimates. However, to account for multiple comparisons, this article only highlights changes over time meeting at least 2 of 3 criteria: (1) a p value less than .01 from the t test, (2) a difference greater than 10 percentage points, or (3) the 2006 estimate increased by at least a factor of 2 or decreased by at least half as compared with the 2000 estimate. Note that not all variables meeting these criteria are presented in this article.

RESULTS

Parenting

Districts and schools offered opportunities for families to learn about health education and physical education. Nationwide, 46.4% of districts and 28.2% of schools offered health education to families during the 12 months preceding the study and 27.8% of districts and 21.1% of schools offered physical education or physical activity programs to families.

Fewer families received training and education from districts and schools about crisis preparedness, response, and recovery. Among the 95.3% of districts that had a comprehensive crisis preparedness, response, and recovery plan, 15.4% provided funding for training or offered training on the plan to

students' families during the 2 years preceding the study. Also during the 2 years preceding the study, 22.2% of all districts offered general education (ie, not including training on a specific district plan) on crisis preparedness, response, and recovery to students' families. Among the 97.1% of schools that had a comprehensive crisis preparedness, response, and recovery plan, 25.2% provided training on the plan to students' families during the 2 years preceding the study. Also during the 2 years preceding the study, 27.7% of all schools offered general education on crisis preparedness, response, and recovery to students' families.

Communicating

Districts and schools implemented several activities to communicate with families and community members during the 12 months preceding the study (Table 1). For example, more than half of all districts and schools provided families with information about school health programs in health education, physical education, nutrition services, mental health and social services, and health services. However, less than half of all schools met with a parents' organization, such as the PTA, to discuss these school

health program components. Further, less than half of schools invited families to tour the mental health and social services facilities and the health services facilities, whereas almost two thirds of schools invited family members to tour the physical education facilities. The nutrition services program had the most contact with families. Most districts and schools provided menus to families of students but less than half provided families with information on the nutritional and caloric content of foods available to them. In addition, only 10.0% of schools conducted taste tests with family members. At the classroom level, 63.6% of all required health education classes or courses had a teacher who provided families with information on health education. Similarly, 66.4% of all required physical education classes or courses had a teacher who provided families with information on physical education. In addition, 28.2% of health education and 44.0% of physical education classes or courses had a teacher who invited family members to attend class.

During the 12 months preceding the study, some schools collected suggestions from family members about specific components of the school health program. Specifically, 42.19% of schools collected suggestions from family members about nutrition

Table 1. Percentage of All Districts and Schools That Communicated About School Health Program Activities With Families and Communities,* SHPPS 2006

Communication	% of All Districts	% of All Schools
Health education		
Provided families with information on school health education	80.1	71.4
Met with a parents' organization, such as the PTA, to discuss school health education	NA	32.8
Invited family members to attend health education classes	NA	37.5
Discussed student performance in health education as part of parent-teacher conferences	NA	66.8
Sought positive media attention for school health education	47.8	NA
Physical education and activity		
Provided families with information on school physical education	67.6	73.7
Met with a parents' organization to discuss school physical education	NA	37.1
Invited family members to attend physical education classes	NA	52.2
Invited family members to tour the physical education facilities	NA	64.2
Discussed student performance in physical education as part of parent-teacher conferences	NA	81.9
Sought positive media attention for school physical education	44.2	NA
Nutrition services		
Provided families with information on the school nutrition services program	81.8	80.8
Provided families with information on the nutrition and caloric content of foods available to students	39.8	40.8
Met with a parents' organization to discuss the school nutrition services program	NA	34.8
Invited family members to a school meal	NA	70.7
Provided menus to families of students	98.2	92.8
Mental health and social services		
Provided families with information on standard school mental health and social services	87.3	86.1
Met with a parents' organization to discuss standard school mental health and social services	NA	41.7
Invited family members to tour the standard school mental health and social services facilities	NA	39.4
Health services		
Provided families with information on standard school health services	89.3	76.3
Met with a parents' organization to discuss standard school health services	NA	25.1
Invited family members to tour the standard school health services facilities	NA	37.5

NA, not asked at this level; PTA, Parent Teacher Association.

^{*}During the 12 months preceding the study.

services, 35.0% collected suggestions about physical education, 34.3% about health education, and 16.0% about health services.

Most schools had procedures to inform the families of all students about violence-related rules (98.1%) and procedures to inform the families of all students about what happens if students break the rules (97.8%). Similar percentages of schools also had procedures to inform the families of all students about rules related to tobacco use by students (95.6%), alcohol use by students (95.8%), and illegal drug use by students (95.2%) and procedures to inform the families of all students about what happens if students break the rules on tobacco use (95.1%), alcohol use (95.6%), and illegal drug use (95.2%). Most schools (88.9%) also had procedures to inform the families of all students about rules related to school safety and injury prevention.

During the 12 months preceding the study, school respondents were asked how many of their school's faculty used a variety of strategies to communicate with students' families to help promote family involvement in school. All faculty in 71.3% of schools and most faculty in 19.6% of schools provided students' families with a way to communicate directly with teachers, such as voicemail or an e-mail address. All faculty in 66.6% of schools and most faculty in 27.4% of schools contacted families to communicate about problems with their child, whereas all faculty in 36.7% of schools and most faculty in 37.8% of schools contacted families to communicate praise about their child. In addition, all faculty in 79.2% of schools and most faculty in 15.2% of schools encouraged families to attend parent-teacher conferences and all faculty in 59.5% of schools and most faculty in 20.4% provided families with the opportunity to review curricula.

Volunteering

School faculty encouraged families to volunteer their time, experience, and resources. During the 12 months preceding the study, all faculty in 53.0% and most faculty in 30.1% of schools encouraged families to volunteer at the school by asking parents for assistance with fund-raising efforts or to serve as a chaperone for school trips.

Learning at Home

Many schools promoted learning at home and in the community. For example, during the 12 months preceding the study, all faculty in 51.1% of schools and most faculty in 32.7% of schools discussed with families ways to reinforce learning at home. In addition, all faculty in 45.8% of schools and most faculty in 33.1% of schools provided families with copies of

assignments, and all faculty in 40.1% of schools and most faculty in 33.4% of schools requested that families regularly review and sign homework assignments.

At the classroom level, 55.5% of required health education classes or courses and 30.8% of required physical education classes or courses had a teacher who gave students homework or projects that involved family members. Nationwide, 20.9% of required physical education classes or courses had a teacher who asked students to gather information about physical activity programs in the community. In addition, 47.8% of required health education classes or courses had a teacher who asked students to identify potential injury sites at school, home, or in the community; 37.5% asked students to identify advertising in the community designed to influence health behaviors; 25.6% asked students to advocate for a health-related issue; 15.0% asked students to gather information about health services that were available in the community; and 9.2% asked students to visit a store to compare prices of health products.

Decision Making

Nationwide, less than half of schools involved families in the development, communication, and implementation of alcohol-use prevention, illegal drug-use prevention, injury prevention and safety, tobacco-use prevention, and violence prevention policies or activities during the 2 years preceding the study (Table 2). Similarly, 52.5% of schools involved community members in the development, communication, and implementation of violence prevention policies and activities, whereas less than half involved community members in the development, communication, and implementation of alcohol-use prevention, illegal drug-use prevention, injury prevention and safety, and tobacco-use prevention policies or activities. Further, during the 12 months preceding the study, all faculty in 46.5% of schools and most faculty in 19.1% of schools encouraged family participation in parent-teacher organization meetings.

Some communities had a group of local agencies that coordinate crisis preparedness, response, and recovery efforts (these groups might be called a local emergency planning committee, an emergency management team, or something else); 56.3% of districts were members of such a group. Almost two thirds (63.8%) of the 95.3% of districts and 66.6% of the 97.1% of schools that had a comprehensive crisis preparedness, response, and recovery plan worked with students, their families, or other community members to develop it.

School health councils provide another opportunity for family and community involvement. Nationwide, 72.9% of districts and 39.5% of schools had at

Table 2. Percentage of All Schools That Involved Families and Community Members in the Development, Communication, and Implementation of Policies or Activities,* SHPPS 2006

Policy or Activity	% of All Schools That Involved Families	% of All Schools That Involved Community Members
Alcohol-use prevention	35.1	47.0
Illegal drug-use prevention	36.9	49.9
Injury prevention and safety	28.0	33.6
Tobacco-use prevention	29.4	43.8
Violence prevention	44.7	52.5

^{*}During the 2 years preceding the study.

least 1 group (eg, a school health council, committee, or team; called a school health council for the purposes of this article) that offered guidance on the development of policies or coordinated activities on health topics. Most school health councils had broad representation. Half or more of the 72.9% of districts that had a district-level school health council included in their group a representative from all of the community groups listed in Table 3 except for local social service agencies and local health organizations (eg, the local Red Cross chapter). Similarly, half or more of the 39.5% of schools that had a school health council included in their group a representative from all of the community groups listed in Table 3 except local health care providers, representatives from the local health department and local social service agencies, and representatives from local health organizations. Families and community groups were more likely to be represented on a school health council at the district level than at the school level.

Collaborating With the Community

Participation in community-based programs can benefit students, families, and faculty and staff. Less

Table 3. Percentage of Districts and Schools That Had 1 or More School Health Councils That Included Representatives From Community Groups as Members, SHPPS 2006

Community Group	% of Districts*	% of Schools [†]
Community members	88.7	60.0
Students' families	76.3	55.0
Local health care providers	50.5	34.0
Representatives from the local health department	50.0	30.3
Representatives from local social service agencies	39.9	30.2
Representatives from local health organizations (eg, the local Red Cross Chapter)	26.1	19.3

^{*}Among the 72.9% of districts that had 1 or more school health councils that offered guidance on the development of policies or coordinated activities on health topics.
†Among the 39.5% of schools that had 1 or more school health councils that offered guidance on the development of policies or coordinated activities on health topics.

than one third of districts had adopted a policy stating that elementary schools (26.6%), middle schools (25.8%), and high schools (30.8%) will participate in programs in which family or community members serve as role models to students or mentor students (eg, the Big Brothers/Big Sisters program). Nationwide, 47.7% of schools participated in such a program. In addition, 46.8% of schools had or participated in a community-based illegal drug-use prevention program, 38.5% of schools had or participated in as Students Against Destructive Decisions, and 37.8% of middle and high schools had or participated in a youth empowerment or advocacy program related to tobacco-use prevention.

Almost one third (30.3%) of districts had adopted a policy requiring students to participate in community service (defined as unpaid work that helps the community). Further, only 8.7% of districts required, but 48.0% recommended that schools provide service-learning opportunities to students (defined as community service activities designed to meet specific learning objectives for a course). Nationwide, 77.4% of schools provided community service opportunities for students, and 52.0% of schools provided service-learning opportunities for students. Specifically, 90.6% of high schools provided community service opportunities for students as compared with 78.0% of middle schools and 72.2% of elementary schools. Similarly, 70.3% of high schools provided service-learning opportunities for students as compared with 56.6% of middle schools and 42.6% of elementary schools. About one fourth of high schools and middle schools that provided community service opportunities for students required all students to participate in them (Table 4). High schools were more likely than elementary and middle schools to require students in specific courses to participate in service-learning opportunities. High schools also were more likely than elementary schools and middle schools to require students who met specific criteria to participate in community service opportunities. In about half of the 77.4% of schools that provided community service opportunities, participation was voluntary for all students.

During the 12 months preceding the study, state-, district-, and school-level staff from health education, physical education and activity, nutrition services, mental health and social services, and health services worked on activities with staff or members from a variety of community-based groups and organizations (Table 5). Collaboration was more common at the state level than at the district or school level. In addition, among the 95.3% of districts and 97.1% of schools that had a comprehensive crisis preparedness, response, and recovery plan,

Table 4. Percentage of Schools That Had Community Service or Service-Learning Requirements, by School Level, SHPPS 2006

	9/	% of Schools That Had Community Service Requirements*			% of Schools That Had Service-Learning Requirements [†]			
Requirement	Overall	Elementary Schools	Middle Schools	High Schools	Overall	Elementary Schools	Middle Schools	High Schools
Required for all students	18.6	13.4	23.6	25.1	13.1	11.1	14.8	15.9
Required for students in specific grades	9.5	8.4	10.6	10.9	6.4	4.7	9.2	6.8
Required for students who met specific criteria	16.3	10.3	14.7	35.4	NA	NA	NA	NA
Required for students in specific courses	NA	NA	NA	NA	13.9	5.6	16.1	33.3
Voluntary for all students	51.8	54.5	44.9	54.8	NA	NA	NA	NA

NA, not asked at this level.

most districts worked with a local law enforcement agency, a local fire department, and local emergency medical services, and most schools worked with a local law enforcement agency and a local fire department (Table 6).

In addition, community involvement was promoted at the classroom level. Nationwide, 7.0% of required health education classes or courses had a teacher who asked students to perform volunteer work with a local health department, hospital, or any other local organization that addressed health issues, and 22.4% of required physical education classes or courses had a teacher who asked students to perform volunteer work with a local physical activity program or event. Further, 14.7% of required health education classes or courses and 13.6% of required physical education classes or courses had a teacher who asked students to participate in or attend community health fairs, and 72.6% of required physical education classes or courses had a teacher who taught about opportunities for physical activity in the community.

Faculty and staff health promotion activities also may be enhanced through involvement with community agencies and organizations. Among the 93.7% of districts that provided funding for or offered any health promotion service or activity and the 93.6% of schools that offered any health promotion activity or service for faculty and staff, less than half had community agencies or organizations help provide the activity or service (Table 7).

Staff Development

Staff development can contribute to efforts to improve family and community involvement. During the 2 years preceding the study, 59.2% of states and 51.0% of districts provided funding for staff development or offered staff development for physi-

cal education teachers on encouraging family or community involvement. More states (79.2%) and districts (64.2%) provided funding for staff development or offered staff development for health education teachers on encouraging family or community involvement. However, only 33.1% of required physical education classes or courses and 41.4% of required health education classes or courses had a teacher who received staff development during the 2 years preceding the study on encouraging family and community involvement. Less than half (41.5%) of required physical education classes or courses and 25.8% of required health education classes or courses had a teacher who wanted staff development on how to encourage family and community involvement.

Changes Between 2000 and 2006

Between 2000 and 2006, changes in policies and practices related to family and community involvement were detected at the state, district, and school levels. For example, the percentage of districts that offered any health education for families increased from 27.8% in 2000 to 46.4% in 2006.

Communication with family and community members increased between 2000 and 2006. At the district level, the percentage of districts that provided families with information on school health program activities increased from 61.2% to 80.1% for health education, from 52.2% to 67.6% for physical education, from 73.8% to 87.3% for mental health and social services, and from 76.3% to 89.3% for health services. At the school level, the percentage of schools that provided families with information about the school nutrition services program increased from 63.8% to 80.8%. In addition, the percentage of schools that met with a parents' organization, such as the PTA, to discuss the school nutrition services

^{*}Among the 77.4% of schools that provided community service opportunities for students.

[†]Among the 52.0% of schools that provided service-learning opportunities for students.

Table 5. Percentage of All States, Districts, and Schools That Worked on School Health Program Activities With Community Groups or Organizations,* SHPPS 2006

Community Group or Organization	% of All States	% of All Districts	% of All Schools
Health education			
Business	62.7	26.8	21.3
College or university	92.2	26.4	24.6
State or local health department	98.0	48.1	38.4
Health organization (eg, AHA or ACS)	90.0	63.6	53.8
Local hospital	NA	35.9	25.8
Mental health or social services agency	74.0	44.6	33.3
Local service club	NA	22.4	16.7
Physical education and activity			
Business	43.1	21.5	16.8
College or university	88.2	29.7	23.4
State or local health department	NA	34.3	15.7
Health organization (eg, the AHA or ACS)	78.0	59.2	46.5
Local hospital	NA	24.2	11.3
Mental health or social services agency	NA	22.5	9.0
Local service club Nutrition services	NA	16.4	9.4
Business	62.7	19.9	7.5
College or university	94.1	11.8	6.3
State or local health department	NA	45.2	28.2
Health organization (eg, the AHA or ACS)	76.5	16.8	11.6
Local hospital	NA	11.7	6.5
Mental health or social	NA	8.5	2.9
services agency Mental health and social services			
Business	45.2	31.4	33.5
College or university	78.3	34.4	39.0
State or local health department	100.0	59.8	41.0
Health organization (eg, the AHA or ACS)	43.8	39.0	26.1
Local hospital	NA	34.7	31.1
Mental health or social services agency	98.0	76.1	72.0
Local service club Health services	NA	30.4	35.2
Business	70.8	40.7	20.3
College or university	79.6	35.1	26.3
State or local health department	96.0	81.8	59.3
Health organization (eg, the AHA or ACS)	76.0	64.7	43.7
Local hospital	NA	47.0	32.4
Mental health or social services agency	88.0	65.2	42.0
Local service club	NA	39.9	29.5

AHA, American Heart Association; ACS, American Cancer Society; NA, not asked at this level.

program increased from 24.7% to 34.8% and the percentage of schools that collected suggestions from family members of students about the school nutrition services program increased from 28.1% to 42.1%. Similarly, the percentage of schools that collected suggestions from family members of students

Table 6. Percentage of Districts and Schools That Worked With Groups to Develop Their Crisis Preparedness, Response, and Recovery Plan,* SHPPS 2006

Group	% of Districts [†]	% of Schools [‡]
Local law enforcement agency	96.6	83.2
Local fire department	92.9	81.6
Local emergency medical services	83.1	69.5
Local health department	66.0	47.2 [§]
Students, students' families, or other community members	63.8	66.6
Local emergency management agency	59.1	44.4 [¶]
Local mental health or social	57.5	41.2#
services agency		
Local hospital	45.2	42.1**
Local homeland security office	24.1 ⁺⁺	21.3 ^{‡‡}
Local public transportation department	20.8 ^{§§}	22.0
Federal Bureau of Investigation	6.4	4.4

^{*}Defined as a comprehensive plan to address crisis preparedness, response, and recovery in the event of a natural disaster or other emergency or crisis situation.

about school health education increased from 23.9% to 34.3%.

Between 2000 and 2006, some decreases were detected in how schools involved parents and community members in the development, communication, and implementation of policies and activities. A decrease was detected in the percentage of schools in

Table 7. Percentage of Districts and Schools in Which Organizations and Agencies Helped Provide Health Promotion Activities or Services for School Faculty and Staff,* SHPPS 2006

Organization or Agency	% of Districts [†]	% of Schools [‡]
Business	15.5	14.4
University or medical school	4.1	4.4
Health department	44.0	32.1
Health organization	39.8	33.4
Hospital	30.5	28.8
Mental health or social services agency	14.4	17.9
Managed care organization	8.9	11.0
Health or fitness club	21.3	32.6
School district	NA	42.3

NA, not asked at this level.

^{*}During the 12 months preceding the study.

[†]Among the 95.3% of districts that had a comprehensive crisis preparedness, response, and recovery plan.

[‡]Among the 97.1% of schools that had a comprehensive crisis preparedness, response, and recovery plan.

[§]An additional 2.8% of schools did not have a local health department.

 $^{^{\}parallel}$ An additional 16.1% of districts did not have a local emergency management agency.

[¶]An additional 8.1% of schools did not have a local emergency management agency. #An additional 2.8% of schools did not have a local mental health or social services

[#]An additional 2.8% of schools did not have a local mental health or social services agency.

^{**}An additional 4.5% of schools did not have a local hospital.

 $^{^{\}dagger\dagger} \text{An}$ additional 29.9% of districts did not have a local homeland security office.

^{‡‡}An additional 16.7% of schools did not have a local homeland security office.

^{§§}An additional 47.0% of districts did not have a local public transportation department.

An additional 28.3% of schools did not have a local public transportation department.

^{*}During the 12 months preceding the study.

[†]Among 93.7% of districts that provided funding for or offered any health promotion activities or services.

 $^{^{\}ddagger}\text{Among the 93.6\%}$ of schools that offered any health promotion activities or services for faculty or staff.

which students' families helped develop, communicate, or implement policies and activities related to alcohol-use prevention (from 45.4% to 35.1%), tobacco-use prevention (from 40.2% to 29.2%), injury prevention and safety (from 39.3% to 28.0%), and violence prevention (from 56.9% to 44.7%).

Collaboration with businesses increased at the state level between 2000 and 2006. The percentage of states in which health services staff worked with businesses increased from 51.0% to 70.8%, the percentage of states in which physical education staff worked with businesses on physical education activities increased from 31.3% to 43.1%, and the percentage of state-level school health education staff who worked with businesses on health education activities increased from 49.0% to 62.7%. Similarly, the percentage of states in which nutrition services staff worked with businesses increased from 49.0% in 2000 to 62.7% in 2006. At the district level, the percentage of districts in which nutrition services staff worked with businesses increased from 8.8% to 19.9%. Similarly, the percentage of districts in which health services staff worked with businesses increased from 30.0% to 40.7%.

Increases in other state-level collaborations also were detected. Between 2000 and 2006, the percentage of states in which state-level physical education staff worked on physical education activities with colleges and universities increased from 70.6% to 88.2% and the percentage that worked with state-level health organizations (eg, the American Heart Association or American Cancer Society) increased from 64.6% to 78.0%. The only decrease in collaboration at the state level was in the percentage of states in which mental health or social services staff worked with state-level health organizations (from 60.5% to 43.8%).

Increases also were detected in the percentage of districts in which physical education staff worked on physical education activities with local health organizations (from 46.4% to 59.2%) and the local health department (from 24.1% to 34.3%). In contrast, at the school level, the percentage of schools in which mental health and social services staff worked on mental health or social services activities with a local health department decreased from 51.3% in 2000 to 41.0% in 2006.

Between 2000 and 2006, the percentage of districts that had adopted a policy requiring high schools to participate in programs in which family or community members serve as role models to students or mentor students, increased from 17.9% to 30.8%.

The percentage of schools that had or participated in a community-based prevention program decreased from 49.6% to 38.5% for alcohol-use prevention programs and from 60.0% to 46.8% for illegal drug-use prevention programs.

Between 2000 and 2006, changes in the availability of staff development were detected. The percentage of states that provided funding for staff development or offered staff development during the 2 years preceding the study to physical education teachers on encouraging family and community involvement in physical activity increased from 24.5% to 59.2%, and the percentage of districts that provided funding for staff development or offered staff development on this topic increased from 28.0% to 51.0%. Further, the percentage of districts that provided funding for staff development or offered staff development during the 2 years preceding the study to health education teachers on encouraging family or community involvement increased from 51.0% to 64.2%.

DISCUSSION

The No Child Left Behind Act and other school reform efforts underscore the need for families, communities, and schools to work together to produce healthy and academically successful students. SHPPS 2006 indicates that states, districts, and schools value family and community involvement and have taken some actions to bring educators, families, and other community partners together to develop health policies and practices that affect students at all grade levels. For example, many states, districts, and schools are collaborating with community groups and agencies to promote and support school health programs. Specifically, many states, districts, and schools are working with health departments, health organizations, hospitals, businesses, and colleges and universities to develop and improve school health programs.

Two types of family and community involvement were most prevalent. First, many districts and schools communicated information to families about health education and physical education classes; school lunches; prevention of violence and tobacco use, alcohol use, and other illegal drug use; and other school health program activities. Second, districts and schools connected with organizations and groups in their communities to benefits students, families, faculty, and staff through school health councils and other school health program activities.

More than half of health education classes or courses had teachers who assigned homework for students to involve their family members in discussions and activities concerning health topics they are studying in class. In addition, health education teachers also created opportunities for students to visit a store to compare prices of health products, identify advertising designed to influence health behaviors, and gather information about health services available in their communities.

Between 2000 and 2006, more states, districts, and schools engaged in activities that foster family and community involvement. In particular, communication with family and community members increased as evidenced by increases in the percentage of districts offering health education for families, increases in provision of information to families by districts and schools, increases in meetings with parents' organizations by schools, and increases in collaboration with businesses at the state level. In addition, districts were more likely to require high schools to participate in programs in which family or community members serve as role models to students or mentor students. However, between 2000 and 2006, schools were less likely to involve families in developing, communicating, and implementing policies related to tobacco-use prevention, injury prevention and safety, and violence prevention. The reason for this change is unclear from SHPPS 2006 data and needs further investigation because assistance with policy development is a critical role that families can and should play.

SHPPS 2006 was not explicitly designed to measure the framework provided by the 6 types of involvement, particularly parenting and volunteering. Consequently, it is possible that states, districts, and schools may have additional policies and practices related to family and community involvement that are relevant to the 6 types of involvement but that were not measured. SHPPS 2006 provides initial, but limited, data on the 6 types of involvement at the state, district, school, and classroom levels. More research is needed to enable a fuller understanding of the nature and extent of policies and practices related to family and community involvement and how families from diverse backgrounds, communities, and grade levels can best become and stay involved in school health program activities.

Despite state, district, and school efforts to involve families and communities in school health programs, such involvement is limited in many states, districts, and schools. Limited time and resources, cultural differences, and lack of faculty and staff training are all challenges preventing greater involvement of families and communities in school health program activities. A study that examined barriers to parental involvement in health education found that the reasons parents were not more involved included their limited knowledge of opportunities to participate, perceptions that their schools did not want them to participate, beliefs that their children would be embarrassed by their participation at school, and perceptions that the health education curriculum did not allow for parental involvement.²⁸ Some of these obstacles can be overcome by valuing the diversity of family cultures and opinions, communicating directly with families and providing translators at school events as necessary, making schools physically and socially hospitable to families, and providing transportation to and child care at school events. Schools need to reach out to and make connections with all families and with many community members to enrich their school health programs for students.

Many schools are not doing some of the fundamental things schools could do to increase family involvement. All schools should have families represented on school health councils, but only about half of schools with councils currently do. In addition, schools should meet with the PTA about school health programs, deliver health education to families, and collect suggestions for school health programs from families but less than half currently do. Furthermore, teachers should give students health education and physical education assignments that involve family members and have students collect information about community physical activity opportunities for families. Although slightly more than half of teachers gave health education assignments that involve family members, only about 1 in 5 teachers provided these other opportunities for family involvement.

One of the strongest predictors of family and community involvement is what the school does to promote it.29 Principals must be engaged in partnership efforts, and they must develop strong support for partnerships among families, teachers, and community members. The National Association of Elementary School Principals' 6 standards for principal leadership state that principals should actively engage the community to create shared responsibility for student and school success.²³ Equally important, teachers need the skills to engage families in student learning. SHPPS 2006 showed that less than half of teachers of health education and physical education classes or courses at all grade levels had been taught how to encourage family and community involvement during the 2 years preceding the study. The professional development strategies, tools, and materials for planning, evaluation, and ongoing support from the NNPS, for example, aim to increase the capacity of schools and districts to conduct and sustain better partnership programs, including involvement in health education. 30

Another innovative approach for increasing community involvement is through "community schools," which focus on partnerships between the school and the other community groups to increase resources for student learning. The integrated focus on academics, health and social services, youth and community development, and community engagement has the potential to increase student learning, strengthen families, and sustain healthier communities. Community organizing also can advance family

and community involvement in school programs as parents and other residents work together to transform low-performing schools toward higher performance with intentional shared power and responsibilities.^{31,32} All of these approaches reinforce the Association for Supervision and Curriculum Development statement that "Educating the whole child requires the community."³³

In summary, the framework of the 6 types of involvement allows educators to conceptualize family and community involvement in a concrete way. It also helps schools choose a variety of practices that will strengthen family and community partnerships on health-related topics. Each of the 6 types of involvement has its own set of challenges. Thus, a single person cannot develop, implement, evaluate, and sustain comprehensive programs of school and family partnerships; it must be a team effort. SHPPS 2006 suggests that although some steps forward have been made, much more can be done to improve family and community involvement in school health programs in states, districts, schools, and classrooms nationwide.

REFERENCES

- Hawkins JD, Catalano RF, Kosterman R, Abbott R, Hill KG. Preventing adolescent health-risk behaviors by strengthening protection during childhood. *Arch Pediatr Adolesc Med.* 1999; 153:226-234.
- 2. Fan X, Chen M. Parental involvement and students' academic achievement: a meta-analysis. *Educational Psychology Review*. 2001:13:1-22
- 3. Carlyon P, Carlyon W, McCarthy AR. Family and community involvement in school health. In: Marx E, Wooley SF, Northrop D, eds. *Health Is Academic: A Guide to Coordinated School Health Programs*. New York, NY: Teachers College Press; 1998.
- Epstein JL, Sanders MG. Connecting home, school, and community: new directions for social research. In: Hallinan M, ed. Handbook of the Sociology of Education. New York, NY: Kluwer Academic/Plenum Publishers; 2000:285-306.
- Henderson AL, Mapp KT. A New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement. Austin, Tex: Southwest Educational Development Laboratory; 2002.
- Jeynes WH. A meta-analysis: the effects on parental involvement on minority children's academic achievement. *Educ Urban Soc.* 2003;35:202-218.
- Redding S, Langdon J, Meyer J, Sheley P. The Effects of Comprehensive Engagement on Student Learning Outcomes. Cambridge, Mass: Harvard Family Research Project; 2004.
- Epstein J, Sheldon S. Present and accounted for: Improving student attendance through family and community involvement. J Educ Res. 2002;95:308-318.
- 9. Jeynes WH. The relationship between parental involvement and urban secondary school student academic achievement: a meta-analysis. *Urban Educ.* 2007;42:82-110.
- 10. Sheldon SB, Epstein JL. Improving student behavior and school discipline with family and community involvement. *Educ Urban Soc* 2002;35:4-26.

- 11. National Research Council and the Institute of Medicine. Family, community, and peers. In: Board on Youth, Children, and Families, Division of Behavioral and Social Sciences and Education, ed. *Engaging Schools: Fostering High School Students' Motivation to Learn.* Washington, DC: The National Academies Press; 2004:120-144.
- 12. Epstein JL. School, Family, and Community Partnerships: Preparing Educators and Improving Schools. Boulder, Colo: Westview Press; 2001.
- 13. Epstein JL. School/family/community partnerships: caring for the children we share. *Phi Delta Kappan*. 1995;76(9):701-712.
- Gerne KM, Epstein JL. The power of partnerships: school, family, and community collaboration to improve children's health. RMC Health Educator. 2004;4:1-2, 4-6.
- Karshin C, Schultz J, Haslam S, Vietinghoff L. Healthy connections. Poster presentation at the annual conference of the American School Health Association. Pittsburgh, Pa; 2004.
- 16. Van Voorhis FL, Epstein JL. *Teachers Involve Parents in Schoolwork (TIPS) Interactive Homework CD.* Baltimore, Md: Center on SFCP, Johns Hopkins University; 2002.
- Van Voorhis FL. Interactive homework in middle school: effects on family involvement and students' science achievement. J Educ Res. 2003;96:323-339.
- 18. Sanders MG. Building School-Community Partnerships: Collaboration for Student Success. Thousand Oaks, Calif: Corwin Press; 2005.
- Weiss HB, Kreider H, Lopez ME, Chatman CM, eds. Preparing Educators to Involve Families. Thousand Oaks, Calif: Sage Publications Inc., 2005.
- Epstein J. Attainable goals? The spirit and letter of the No Child Left Behind Act on parental involvement. Sociol Educ. 2005;78:179-182.
- 21. State assistance for school support and improvement. 20 USC §6318 (2006).
- National Coalition for Parent Involvement in Education. Developing Family/School Partnerships: Guide for Schools and School Districts. Washington, DC: National Coalition for Parent Involvement in Education: 1995.
- Coalition for Community Schools. Community and Family Engagement: Principals Share What Works. Washington, DC: Coalition for Community Schools; 2006.
- Caspe M. Family-School-Community Partnerships: A Compilation of Professional Standards of Practice. Cambridge, Mass: Family Involvement Network of Educators, Harvard Family Research Project; 2001.
- 25. National PTA. National Standards for Parent/Family Involvement Programs. Chicago, Ill: National PTA; 1998.
- National Board for Professional Teaching Standards. NBPTS Physical Education Standards. Arlington, Va: NBPTS; 1999.
- Brener ND, Dittus PJ, Sathrum PR. Family and community involvement in schools: results from the School Health Policies and Programs Study 2000. J Sch Health. 2001;71:340-344.
- 28. Winnail SD, Geiger BF, Nagy S. Why don't parents participate in school health education? *Am J Health Educ.* 2002;33:10-14.
- Epstein JL, Dauber SL. School programs and teacher practices of parent involvement in inner-city elementary and middle schools. *Elementary Sch J.* 1991;91:289-305.
- Epstein JL, Sanders MG, Simon BS, Salinas KC, Jansorn NR, Van Voorhis FL. School, Family, and Community Partnerships: Your Handbook for Action. Thousand Oaks, Calif: Corwin Press; 2002.
- Adelman H, Taylor L. Fostering school, family, and community involvement. In: Safe and Secure: Guides to Creating Safer Schools. Portland, Ore: Northwest Regional Educational Laboratory; 2002.
- 32. Henderson AL, Mapp KT, Johnson VR, Davies D. *Beyond the Bake Sale: The Essential Guide to Family-School Partnerships.* New York, NY: The New Press; 2007.
- 33. Blank M, Berg A. *All Together Now: Sharing Responsibility for the Whole Child.* Washington, DC: Association for Supervision and Curriculum Development; 2006.

APPENDIX 1.

Figure 1. Estimated Standard Error for District-Level Health Education Questionnaire, SHPPS 2006

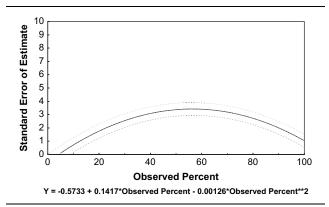


Figure 2. Estimated Standard Error for District-Level Physical Education and Activity Questionnaire, SHPPS 2006

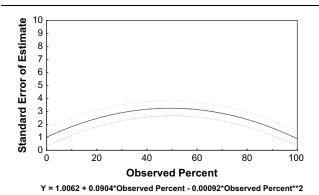


Figure 3. Estimated Standard Error for District-Level Health

Services Questionnaire, SHPPS 2006

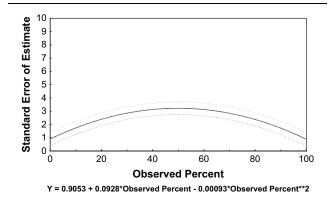


Figure 4. Estimated Standard Error for District-Level Mental Health and Social Services Questionnaire, SHPPS 2006

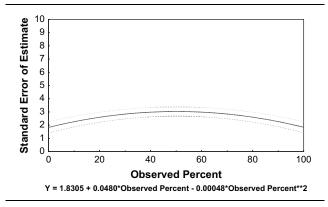


Figure 5. Estimated Standard Error for District-Level Nutrition Services Questionnaire, SHPPS 2006

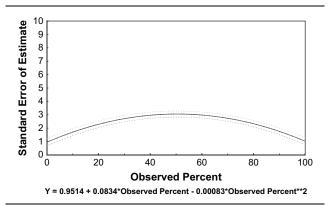
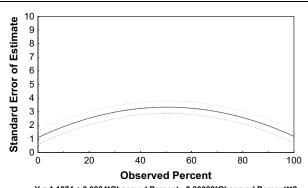


Figure 6. Estimated Standard Error for District-Level School Healthy and Safe Environment Questionnaire, SHPPS 2006



Y = 1.1074 + 0.0884*Observed Percent - 0.00088*Observed Percent**2

Figure 7. Estimated Standard Error for District-Level Faculty and Staff Health Promotion Questionnaire, SHPPS 2006

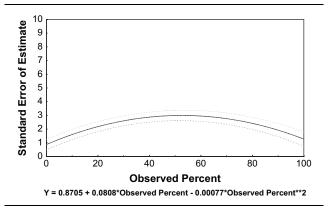


Figure 8. Estimated Standard Error for School-Level Health Education Questionnaire, SHPPS 2006

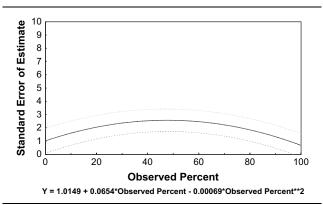


Figure 9. Estimated Standard Error for School-Level Physical Education and Activity Questionnaire, SHPPS 2006

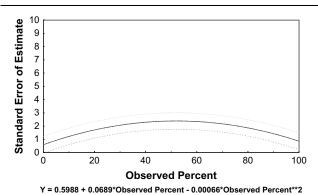


Figure 10. Estimated Standard Error for School-Level Health Services Questionnaire, SHPPS 2006

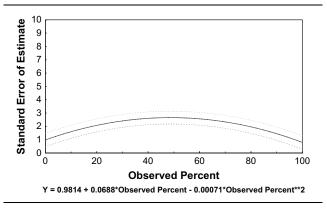


Figure 11. Estimated Standard Error for School-Level Mental Health and Social Services Questionnaire, SHPPS 2006

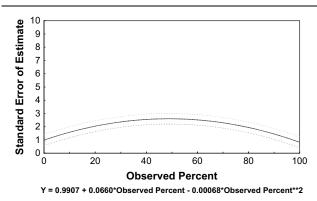


Figure 12. Estimated Standard Error for School-Level Nutrition Services Questionnaire, SHPPS 2006

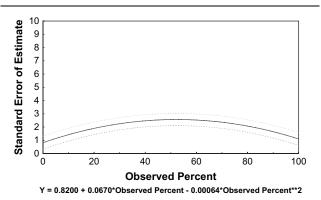


Figure 13. Estimated Standard Error for School-Level Healthy and Safe School Environment Questionnaire, SHPPS 2006

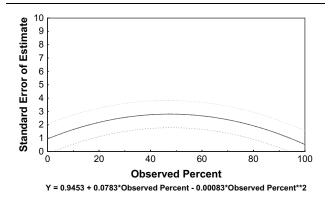


Figure 14. Estimated Standard Error for School-Level Faculty and Staff Health Promotion Questionnaire, SHPPS 2006

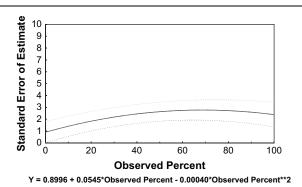


Figure 15. Estimated Standard Error for Classroom-Level Health Education Questionnaire, SHPPS 2006

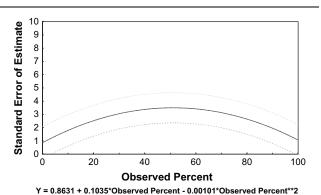
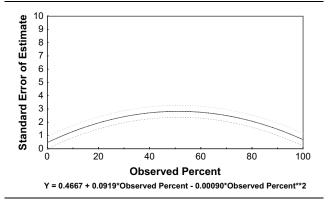


Figure 16. Estimated Standard Error for Classroom-Level Physical Education and Activity Questionnaire, SHPPS 2006



APPENDIX 2

Expert Panelists

Physical School Environment

Eric Althouse

Assured Indoor Air Quality

Robert Axelrad

U.S. Environmental Protection Agency

Dana Carr

U.S. Department of Education, Office of Safe and Drug-Free Schools

Rani Gereige

American Academy of Pediatrics

Janet Heitgerd

Agency for Toxic Substances and Disease Registry

Wayne N. Kemp

National Clearinghouse for Educational Facilities (NCEF)/ National Institute of Building Sciences (NIBS)

Amy Kyle

University of California—Berkeley

John Palassis

National Institute for Occupational Safety and Health

Lani Wheeler

Centers for Disease Control and Prevention

Crisis Preparedness, Response, and Recovery

Ted Feinberg

National Association of School Psychologists

Rocky Lopes

American Red Cross

Steven Marans

National Center for Children Exposed to Violence

Bill Modzeleski

U.S. Department of Education, Office of Safe and Drug-Free Schools

Bradley D. Stein

Center for Domestic and International Health Security,

RAND Corporation

Marleen Wong

National Center for Child Traumatic Stress

School Climate

Trina Anglin

Health Resources and Services Administration, Maternal

and Child Health Bureau

Michael Arthur

University of Washington

Victor A. Battistich

University of Missouri—St. Louis

Amanda Birnbaum Cornell University

Robert W. Blum

Johns Hopkins University

Kris Bosworth University of Arizona

H. Jerome Freiberg *University of Houston*

Paul Kesner

U.S. Department of Education

Sr. Dale McDonald

National Catholic Education Association

Nancy Miller

American Association of School Administrators

Michael Resnick University of Minnesota

Bruce Simons-Morton

National Institute of Child Health and Human

Development

National Reviewers
Howard Adelman

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Council for Exceptional Children

John Allegrante

National Center for Health Education

Diane Allensworth

Centers for Disease Control and Prevention

John Allensworth Georgia State University

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Targeted Abstinence Project of America

Claire Barnett

Healthy Schools Network

Lisa Barrios

Centers for Disease Control and Prevention

Elaine Belansky

Rocky Mountain Prevention Research Center

Ev Beliveau

School Nutrition Association

Derek Bell

National Wellness Institute

Kathy Flores Bell

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