bridging the gap

Research Informing Policies & Practices
for Healthy Youth

Local Wellness Policies: Assessing School District Strategies for Improving Children's Health

2006-2007
2007-2008
SCHOOL YEARS

nationwide
evaluation
results

July 2009

Robert Wood Johnson Foundation

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About Bridging the Gap

Bridging the Gap is a nationally recognized research program of the Robert Wood Johnson Foundation dedicated to improving the understanding of how policies and environmental factors affect diet, physical activity and obesity among youth, as well as youth tobacco use. The program identifies and tracks information at the state, community and school levels; measures change over time; and shares findings that will help advance effective solutions for reversing the childhood obesity epidemic and preventing young people from smoking. Bridging the Gap is a joint project of the University of Illinois at Chicago's Institute for Health Research and Policy and the University of Michigan's Institute for Social Research. For more information, visit *www.bridgingthegapresearch.org*.

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Research Informing Policies & Practices
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Executive Summary

Executive Summary

Over the past four decades, the obesity rate has more than quadrupled for children ages 6 to 11 and more than tripled for adolescents ages 12 to 19.[1,2] And while obesity has increased in all segments of the population, rates are significantly higher among specific ethnic and racial groups.[3] Obese children are at increased risk for serious health problems,[4] including heart disease, type 2 diabetes and asthma.

Schools play an important role in the lives of our children. Consequently, the relationship between schools and the childhood obesity epidemic must be explored. Research already has shown us that overweight and obese children tend to miss more school,[5] which may affect academic performance.[6] In contrast, strong evidence links healthy nutrition and physical activity behaviors with improved academic performance and classroom behavior among school-age children.[7]

Federal Requirement for School District Wellness Policies

Schools serve as a fundamental setting for providing children and adolescents with a healthy environment where they can consume nutritious meals, snacks and beverages; get regular physical activity; and learn about the importance of lifelong healthy behaviors.[8,9] Recognizing this, Congress included language in the Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265, Section 204) that required school districts[a] participating in the National School Lunch Program (NSLP; [42 U.S.C.1751 et seq.]) or other child nutrition programs (42 U.S.C. 1771 et seq.), such as the School Breakfast Program, to adopt and implement a wellness policy by the first day of the 2006–07 school year.

According to the Act, the wellness policies were required to include:

- *goals for nutrition education;*
- *an assurance that school meal nutrition guidelines meet the minimum federal school meal standards;*
- *guidelines for foods and beverages sold or served outside of school meal programs;*
- *goals for physical activity and other school-based activities; and*
- *implementation plans.*

While no funding for these provisions was authorized, the wellness policy requirement has significant potential for improving school nutrition and physical activity environments—during the 2007–08 school year, more than 31 million students participated in the National School Lunch Program, and more than 10 million students participated in the School Breakfast Program.

Report Overview

This report presents the most comprehensive review of these wellness policies to date. It uses research to set a baseline for examining and ultimately improving these policies. Future reports by Bridging the Gap will continue to examine the refinement of the policies that result from the upcoming reauthorization and innovation at the state and district levels.

[a] In the United States, public schools are governed by local districts at the school-board, town or district level. Local education agencies adopt policies that apply to all schools within their jurisdiction.

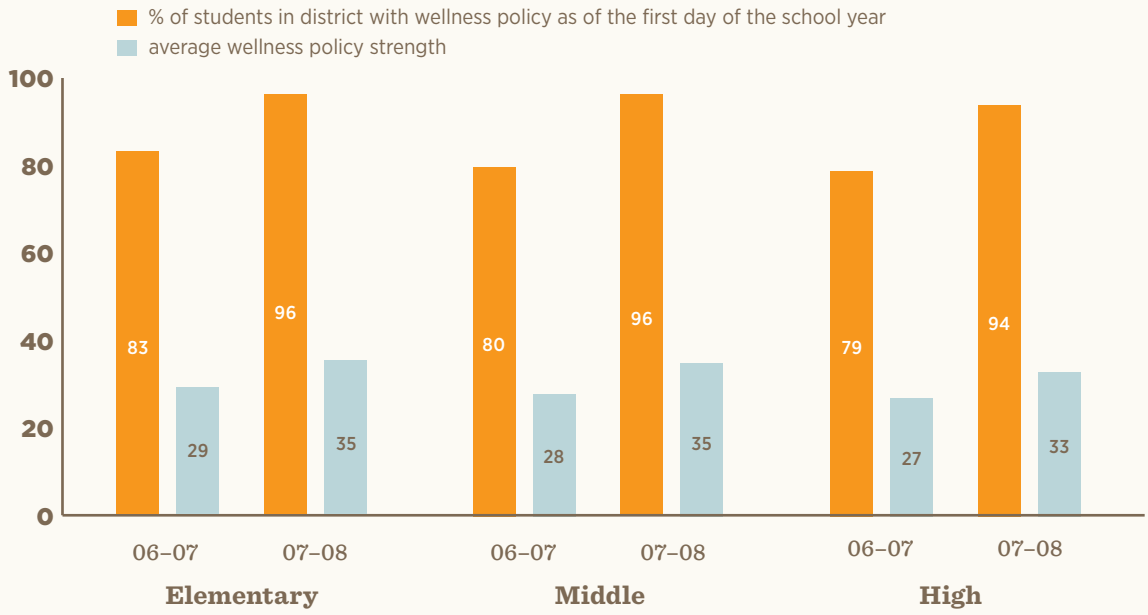
The current report examines policies that were in place at the beginning of the 2006–07 and 2007–08 school years, which were the first two years of the federal wellness policy requirement. Using a nationally representative sample of school districts, the report provides details about the characteristics of these districts and is organized according to the components and provisions of the wellness policies.

These findings are particularly important as Congress works to reauthorize the law governing school district wellness policies and as school districts continue to look for guidance about how to strengthen their policies.

Major Findings

By the beginning of the 2007–08 school year, most students nationwide were enrolled in a district with a wellness policy, which represented a noticeable increase from the beginning of the previous school year. Strikingly, the quality of the policies varied—many were underdeveloped and fragmented, lacking sufficient plans for implementation and monitoring. Although the strength of the policies did increase during the first two years of the requirement, they were still weak overall and did not necessarily require schools to take action.

FIGURE 1.1 Wellness Policy Reach vs. Wellness Policy Strength



Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

This figure compares the percentages of students nationwide enrolled in a school district with a policy in place at the beginning of school years 2006–07 and 2007–08 with the average overall wellness policy strength score. The overall wellness policy strength score is based on a scale of 0 to 100, and reflects the average policy strength for policy components related to nutrition education, school meals, competitive foods and beverages, physical activity and physical education, and implementation. We defined **STRONG POLICY PROVISIONS** as those that were definitively required and specified an implementation plan or strategy for the given policy component. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce.*

Nutrition-Related Findings

Nutrition Education

Key Findings

While the majority of students were in a district that included nutrition education goals in its wellness policy, there was great inconsistency in the specific provisions. For example, many students were enrolled in a district with a policy that only suggested a nutrition education curriculum, while others were enrolled in a district that did not define or indicate whether nutrition education was a component of the health education curriculum. The majority of students were enrolled in a district with a policy that did not address integrating nutrition education into core subjects.

Policy Opportunities

Ensure That Nutrition Education Is a Core Component of a Comprehensive Health Education Program

Given the variability in the nutrition education components of the wellness policies, attention might be given to ensuring that nutrition-specific elements are included in health education curricula requirements.

School Meals

Key Findings

Most districts established a wellness policy that required the nutritional guidelines for school meals to meet the minimum U.S. Department of Agriculture (USDA) school meal standards, which are based on the outdated 1995 Dietary Guidelines for Americans and do not reflect current nutrition science. However, in many cases, the wellness policies went beyond the federal school meal requirements. More than 50 percent of all students nationwide were enrolled in a district with a policy that clearly required the school meal standards to meet or exceed the more stringent 2005 Dietary Guidelines.

Policy Opportunities

Improve Nutritional Quality of School Meals

Given the wide variation in school meal provisions included in the wellness policies, Congress and school districts have the opportunity to strengthen school meal requirements so they meet or exceed current nutrition science, such as information reflected by the 2005 Dietary Guidelines.

Competitive Foods and Beverages

Key Findings

The majority of students were enrolled in a district that addressed the sale of competitive foods and beverages in its wellness policy. However, policy provisions related to the accessibility and content of competitive foods and beverages were relatively weak, especially at the middle- and high-school levels. About 25 percent of students were enrolled in a district with a policy that discouraged or prohibited the marketing of unhealthy foods and beverages in schools, although this provision was not required by law to be included in the wellness policy.

Policy Opportunities

Update Standards for Foods and Beverages Sold Outside of School Meal Programs

Standards for foods and beverages sold outside of school meal programs—in vending machines, à la carte lines and school stores—are out of date. Some districts have exceeded these standards by prohibiting the sale of all competitive foods during the school day, while other districts have restricted the types and content of foods and beverages sold through competitive venues. Congress, states and school districts could consider these strategies as they review and refine competitive food and beverage policies.

Expand Competitive Food and Beverage Standards Across All Grade Levels

Because there is wide variability in competitive food and beverage standards across grade levels, districts have the opportunity to implement consistent provisions.

Restrict Food Marketing and Advertising

There are no national restrictions on the marketing of competitive foods and beverages on school campuses. Wellness policies may provide a vehicle for addressing this issue.

Physical Activity and Physical Education

Key Findings

The majority of students were enrolled in a district with a policy that suggested or required providing physical activity outside of physical education for every grade level, but the strength and quality of the policy provisions varied greatly. For example, the majority of schools districts did not require physical activity breaks throughout the school day, and only 18 percent of elementary-school students were enrolled in a district with a strong policy that required daily recess.

Although federal law did not require districts to include provisions related to physical education in their wellness policies, the vast majority of students were enrolled in a district that included such provisions in its policy, but the quality and strength of the provisions varied greatly. For instance, policies did not meet evidence-based recommendations for time devoted to moderate-to-vigorous physical activity.

A number of districts had policies that required a specific amount of time for physical activity, but not for physical education. In this way, some district policies actually encouraged schools to fall below recommendations of the National Association for Sport & Physical Education (NASPE) for time spent in physical education (i.e., 150 minutes of physical education per week at the elementary level and 225 minutes per week at the middle- and high-school levels).[10]

Policy Opportunities

Continue to Strengthen Physical Activity Provisions

Districts could identify additional ways to include strategies in their wellness policies that specifically address physical activity during the school day.

Expand Policies to Address Physical Education

Congress and school districts can encourage and support efforts to ensure that physical education remains a priority, and to establish specific goals that are more closely aligned with evidence-based guidelines, such as those recommended by NASPE.

Implementation and Evaluation of Wellness Policies

Key Findings

Only 5 percent to 6 percent of students were enrolled in a district that identified a potential source of funding to support implementation of its wellness policy. Additionally, the vast majority of students were enrolled in a district that did not require evaluation of the implementation or effectiveness of its wellness policy or any provisions for reviewing and revising the wellness policy.

Policy Opportunities

Provide Adequate Funding to Support Wellness Policy Implementation

Funding for implementation of the policies, which has been cited as a barrier by school districts, will continue to be a key issue during the reauthorization of federal legislation and subsequent implementation by school districts.

Ensure That Implementation and Evaluation Are a High Priority

Despite the fact that the majority of districts have wellness policies, there is great variation across districts as to implementation and evaluation. Decision-makers at all levels could evaluate how the policies are being implemented and assess their effectiveness.

Next Steps

This report is the first in an ongoing series of reports prepared by the Bridging the Gap program to examine school district wellness policies nationwide. Future reports will highlight continued policy progress and district-level innovations following the reauthorization of the wellness policy requirement. Companion reports will explore the implementation of the wellness policies and related practices in elementary and secondary (middle and high) schools nationwide. These reports are part of a larger effort by the Robert Wood Johnson Foundation to identify and evaluate policies and environmental factors that affect physical activity levels, dietary patterns and body mass indices among U.S. children and adolescents.

Overview of Study Methods

This study examined written policies from districts in 47 of the 48 contiguous states,[b] and included a nationally representative sample of 579 and 641 districts with policies in place by the first day of the 2006–07 and 2007–08 school years, respectively. All of the written policies were collected between April 2007 and June 2008, with a 94 percent response rate achieved for both study years.

For purposes of this study, **WELLNESS POLICY** was defined to include: 1) the actual district wellness policy; 2) the associated administrative policies, including implementation regulations, rules, procedures or administrative guidelines; and 3) any district, state or model policies that were referenced within the wellness policy or administrative documents.

All policies were analyzed by two trained analysts using an adaptation of a wellness policy coding scheme developed by Schwartz et al.[11] For each policy provision described, data are presented on the percentage of students in a district with: 1) a strong policy; 2) a weak policy; or 3) no policy. We defined **STRONG POLICY PROVISIONS** as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce.* We defined **WEAK POLICY PROVISIONS** as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should, might, encourage, some, make an effort to, partial* and *try*.

Changes in policy strength between the first and second years of the policy requirement can be explained by the following:

- Not all district policies were in place by the first day of the 2006–07 school year—these policies were counted for only the 2007–08 school year.
- Some district policies were revised between the school years.
- Many policies included delayed effective dates, particularly for the competitive food and beverage restrictions, which did not take full effect until the 2007–08 school year.

Data are presented on the weighted percentages of students nationwide who were enrolled in districts with each policy provision discussed. Data are presented on the percentage of students nationwide to provide readers with a sense of the relative reach of the policies. Findings presented in this report are based on analyses of wellness policy data representing approximately 41.7 million students for the 2006–07 school year, and approximately 45.3 million students for the 2007–08 school year.

[b] No school districts in the state of Wyoming were randomly selected in the sample.

Introduction

CHAPTER 1

CHAPTER 1

Introduction

Over the past few decades, childhood obesity rates in the United States have risen dramatically.[12] The obesity rate has more than quadrupled among children ages 6 to 11 (from 4% to 17%), and more than tripled for adolescents ages 12 to 19 (from nearly 5% to nearly 18%) during the past four decades.[13,14] And while the prevalence of obesity has increased in all segments of the population, rates of obesity are significantly higher among specific ethnic and racial groups. For example, data from the 2003–06 National Health and Nutrition Examination Survey (NHANES) indicated that non-Hispanic black girls and Mexican-American boys and girls were significantly more likely to be obese or overweight than were non-Hispanic white children and adolescents.[15]

Studies find that obese children are more likely to become obese adults who suffer from poor health. An obese 4-year-old has a 20 percent chance of becoming an obese adult, and an obese older teenager has up to an 80 percent chance of becoming an obese adult.[16,17] The health risks associated with obesity in adulthood include heart disease, type 2 diabetes, hypertension and some forms of cancer.[18] And the annual cost of obesity in the United States is estimated at $117 billion in direct medical costs and indirect costs, such as lost productivity.[19]

There also are academic consequences linked to obesity. Overweight and obese children tend to miss more school,[20] which may affect academic performance.[21] In contrast, strong evidence links healthy nutrition and physical activity behaviors with improved academic performance and classroom behavior among school-age children.[22] Experts and advocates recognize that schools serve as a fundamental setting for providing children and adolescents with a healthy environment where they can consume nutritious meals, snacks and beverages; get regular physical activity; and learn about the importance of lifelong healthy behaviors.[23,24]

Legislation passed by Congress indicates that many policy-makers agree. Congress included language in the Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265, Section 204), which required school districts[a] participating in the National School Lunch Program (NSLP; [42 U.S.C. 1751 et seq.]) or other child nutrition programs (42 U.S.C. 1771 et seq.), such as the School Breakfast Program, to adopt and implement a wellness policy by the first day of the 2006–07 school year. While no funding for these provisions was authorized, the wellness policy requirement has significant potential for improving school nutrition and physical activity environments—during the 2007–08 school year more than 31 million students participated in the National School Lunch Program, and more than 10 million students participated in the School Breakfast Program.

a In the United States, public schools are governed by local school districts at the school-board, town or district level. Local school districts adopt policies that apply to all schools within their jurisdiction.

TABLE 1.1 National School Lunch and School Breakfast Program Participation, School Year 2007–08

National School Lunch Program	
Average daily student participation	>31 million
Number of schools participating	101,000
School Breakfast Program	
Average daily student participation	>10 million
Number of schools participating	>85,000

Source: Unpublished data, U.S. Department of Agriculture, Food and Nutrition Service, 2009.

According to the law, the minimum requirements for each school district's wellness policy were to:

1. *include goals for nutrition education, physical activity and other school-based activities that are designed to promote student wellness;*
2. *include nutrition guidelines—to promote student health and reduce childhood obesity—for all foods available on campus throughout the school day. The local school district was responsible for selecting the guidelines;*
3. *assure that guidelines for reimbursable school meals meet the minimum federal school meal standards established by the U.S. Department of Agriculture (42 U.S.C. 1751 et seq. and 42 U.S.C. 1771 et seq.);*
4. *establish a plan for measuring implementation of the wellness policy, including designating at least one person within the school district or at each school, who is charged with operational responsibility for ensuring that the school meets the wellness policy requirements; and*
5. *involve parents, students and representatives of the school food authority, the school board, school administrators and the public in the development of the wellness policy.*

The wellness policy language in the law provided school districts with wide latitude for determining how extensive they wanted their policy response to be. Not surprisingly, the wellness policy approaches varied tremendously across school districts nationwide.

Report Overview

This report provides data on the most comprehensive review of wellness policies to date. Data are presented by grade level to show the percentages of students nationwide enrolled in a district with a wellness policy by the first day of the 2006–07 and the 2007–08 school years. This time period represents the first two years of the wellness policy requirement. Data are presented on district policy provisions that address each of the first four requirements noted above.[b] This report also includes data on a number of other related elements that some districts included in their policy to supplement the federal requirement.

[b] Data are not reported on the fifth item (stakeholder involvement), as many districts did not fully document in the policies who was involved in the policy-development process.

The report is organized according to the required wellness policy elements. Chapter 2 provides an overview, including a brief study methodology and descriptive information about the characteristics of the districts that were included in the study for the two-year period. The remaining chapters present data on the required components of the wellness policy. The full study methodology is presented in the Appendix.

Notably, we also chose to include data on physical education provisions included in the wellness policies—even though they were not a required component of the original wellness policy law. We did so because: 1) the majority of school districts nationwide included such information in their policies; and 2) the forthcoming reauthorization of the wellness policy language is likely to include some mention of physical education.

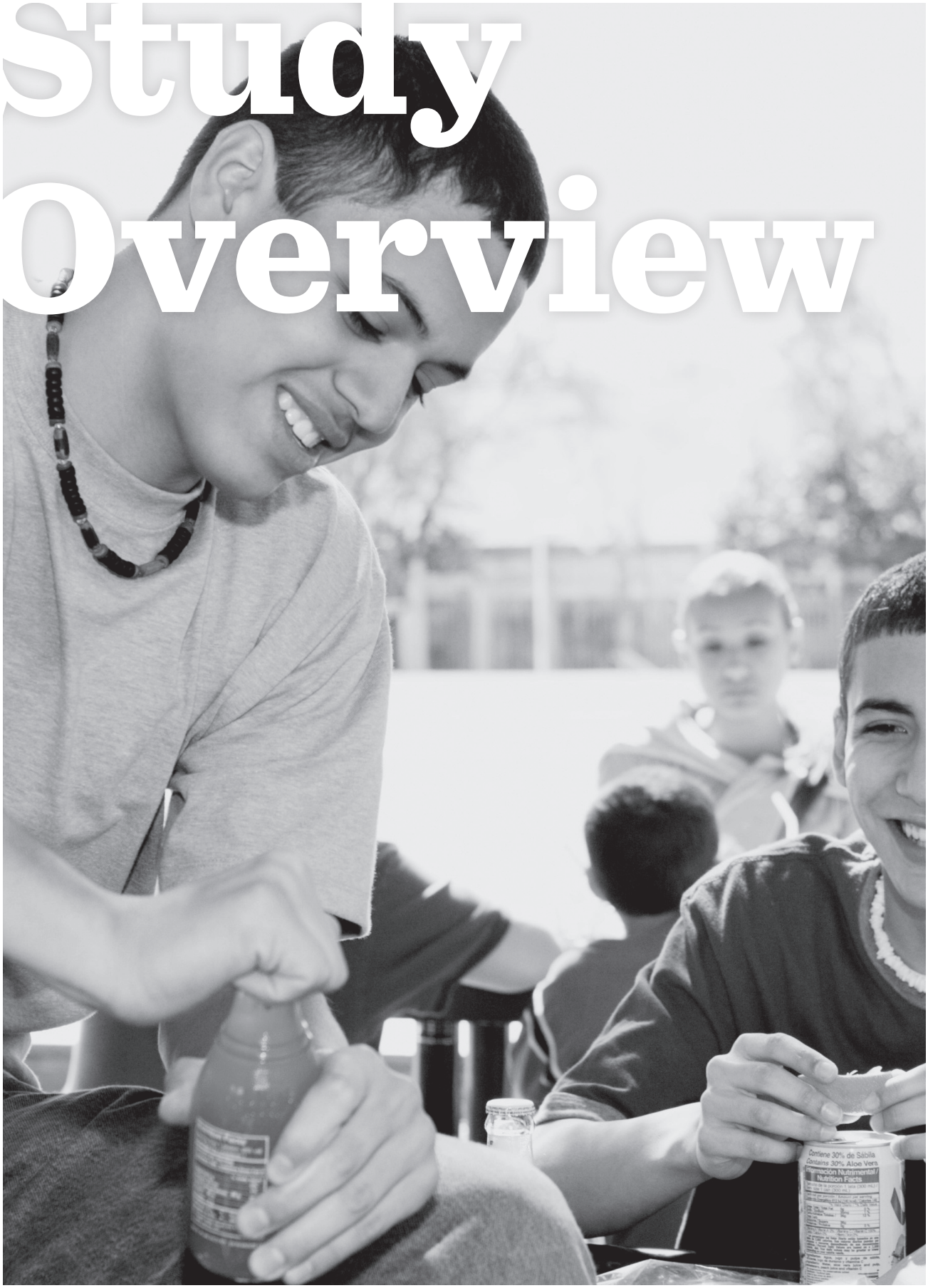
In the chapters that follow, data are presented on the weighted percentages of students nationwide who were enrolled in a district with each policy provision discussed. We chose to present data weighted to the percentage of students nationwide to provide readers with a sense of the relative reach of the policies. Additionally, brief sections are provided within several chapters to highlight selected policy differences by socioeconomic status and race and ethnicity.

For each policy provision described, data are presented on the percentage of students in a district with: 1) a strong policy; 2) a weak policy; or 3) no policy. We defined strong policy provisions as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce*. We defined weak policy provisions as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

The pending reauthorization of the Child Nutrition and WIC Reauthorization Act presents an important opportunity for school districts nationwide to continue to address the childhood obesity epidemic. Each chapter of this report highlights strong and weak wellness policy provisions for components of the Act, as well as some issues that districts were not required to address in their wellness policies. Data from this analysis could help school districts identify opportunities to revise and strengthen existing policies. Additionally, these findings may inform Congress and other policymakers about the quality of the current policies; areas where districts have exceeded the initial requirements specified by the Act; and opportunities for continued policy enhancement, such as those provisions related to implementation and evaluation.

We defined **STRONG POLICY PROVISIONS** as those that required action and specified an implementation plan or strategy. They included language such as *shall, must, will, require, comply* and *enforce*. **WEAK POLICY PROVISIONS** offered suggestions or recommendations, and some required action, but only for certain grade levels or times of day. They included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

Study Overview



CHAPTER 2

CHAPTER 2

Study Overview

This chapter summarizes the study methodology and provides descriptive information about districts that were included in this study, as well as students who were enrolled in those districts during the first two years of the wellness policy requirement.

Brief Study Methodology

This is the first of an ongoing series of reports prepared by the Bridging the Gap program to examine the prevalence and strength of wellness policies for school districts nationwide. Companion reports that will explore the implementation of the wellness policies and provide details about existing policies and practices of elementary and secondary (middle and high) schools are forthcoming. These reports are part of a larger effort by the Robert Wood Johnson Foundation to identify and evaluate policy and environmental factors that affect physical activity levels, dietary patterns and body mass indices among U.S. children and adolescents.

This initial study represents the most comprehensive analysis to date of district wellness policy provisions for students across the nation for the first two years of the wellness policy requirement. Future studies by Bridging the Gap will continue to examine the refinement of the policies that result from the upcoming reauthorization and innovation at the state and district levels.

This study examined written policies from districts in 47 of the 48 contiguous states,[c] and included a nationally

For purposes of this study, **WELLNESS POLICY** was defined to include: **1)** the actual district wellness policy; **2)** the associated administrative policies including implementation regulations, rules, procedures or administrative guidelines; and **3)** any district, state or model policies that were referenced within the wellness policy or administrative documents.[d] Additionally, in many instances, districts indicated that they followed existing state laws, state regulations and rules, and/or state curriculum frameworks, benchmarks or standards (e.g., health education curriculum framework, physical education benchmarks). In such cases, districts were given credit for the state laws, state regulations and rules, and/or state frameworks, benchmarks or standards as part of the evaluation of the given district's policy. Likewise, a number of districts followed model wellness policies created by their state association of school boards or other organizations such as the National Alliance for Nutrition and Activity (NANA). Some districts also followed voluntary national standards for physical education that were created by the National Association for Sport & Physical Education (NASPE). In all such instances, districts were given full credit in the analysis of their policy for the associated model policy embedded into their policy.

[c] No school districts in the state of Wyoming were randomly selected in the sample.

[d] For example, the wellness policy or administrative procedure for a given district may indicate that the district follows the district's food services policy regarding the sale of competitive foods without repeating the language of the food services' policy in the wellness policy or administrative procedure document. In such cases, the wellness policy, administrative procedure, and the cross-referenced food services' policy were all coded as reflective of the given district's wellness "policy."

representative sample of 579 and 641 districts with policies in place by the first day of the 2006–07 and 2007–08 school years, respectively. All of the policies were collected between April 2007 and June 2008, with a 94 percent response rate achieved for both study years.

Selected wellness policy data compiled for this study are presented in the chapters that follow. The items chosen for inclusion in this report were intended to highlight the range of policy content across the required wellness policy elements, as well as a few supplemental areas. We also reviewed and analyzed the language of each district wellness policy to illustrate the variability in policy strength among the nationally representative sample. Aggregate data for all of the topics analyzed for this study, including the report items, are provided on our Web site at *www.bridgingthegapresearch.org.* All data were coded using an adaptation of a valid and reliable ordinal coding scheme developed by Schwartz et al.[25] Each policy provision was double-coded by two independent reviewers as follows: 0 (no policy/no provision), 1 (weak policy provision) or 2 (strong policy provision). The detailed coding scheme that explains the coding for each study item and coding level also is available at *www.bridgingthegapresearch.org.*

Throughout this report and on our Web site, data are presented by grade level using the following assumptions: elementary (grades 1 to 5), middle school (grades 6 to 8) and high school (grades 9 to 12). Further, in order to illustrate the relative "exposure" of students nationwide to varied district wellness policy provisions, district-level data were adjusted to reflect the percentage of students nationwide enrolled in a district with a specified wellness policy provision. For example, readers will be able to identify the percentage of students in each grade level nationwide who were enrolled in a district that banned the sale of regular soda or required schools to provide all students with physical activity opportunities throughout the school day. Ultimately, findings presented in this report are based on analyses of wellness policy data representing approximately 41.7 million students for the 2006–07 school year, and approximately 45.3 million students for the 2007–08 school year.

A complete discussion of the study methodology is provided in the Appendix.

Characteristics of the Districts

Table 2.1 summarizes the characteristics of the districts and students included in this study. Data show the percentages of students who were enrolled in a district with a wellness policy, as well as demographic, geographic, size and resource characteristics of the districts. A brief summary of each category follows.

Wellness Policy Status

More than 94 percent of all students were enrolled in a district that had adopted a wellness policy by the first day of school year 2007–08.

Demographic Characteristics

In Table 2.1 and in selected chapters that follow, data are provided that highlight selected policy differences by socioeconomic status (SES) and race and ethnicity. Following the approach used by O'Malley et al. in their analysis of school characteristics associated with secondary (i.e., middle and high school) student obesity rates,[26] data on the proportion of students that were white, black or Latino were computed to identify

TABLE 2.1 Characteristics of the Study Population* by Grade Level and School Year†

Characteristic	Elementary		Middle		High	
	06–07	07–08	06–07	07–08	06–07	07–08
Number of students in millions	16.7	18.1	10.9	11.5	14.1	15.7
% students in district with wellness policy by first day of school year	83%	96%	80%	96%	79%	94%
Race/Ethnicity						
% students in majority white (>66%) districts	50%	41%	49%	41%	51%	42%
% students in majority black (>50%) districts	7%	8%	8%	10%	7%	12%
% students in majority Latino (>50%) districts	16%	18%	17%	17%	14%	15%
% students in diverse districts	27%	33%	25%	32%	27%	32%
Socioeconomic Status (SES)						
% students in low-SES districts	36%	38%	38%	39%	34%	38%
% students in medium-SES districts	35%	34%	34%	33%	36%	34%
% students in high-SES districts	29%	28%	28%	28%	30%	28%
Region						
% students in districts located in the West	23%	25%	22%	23%	25%	25%
% students in districts located in the Midwest	21%	19%	21%	19%	23%	20%
% students in districts located in the South	38%	39%	37%	38%	34%	34%
% students in districts located in the Northeast	18%	17%	20%	20%	18%	21%
Locale						
% students in districts located in cities	31%	36%	32%	37%	28%	36%
% students in districts located in suburbs	37%	38%	35%	36%	40%	39%
% students in districts located in rural areas	19%	16%	20%	16%	19%	15%
% students in districts located in townships	13%	10%	13%	11%	13%	10%
District Size and Resources						
Mean number of schools	44	72	42	68	40	64
Mean number of teachers	945	2071	745	1504	711	1438
Mean instruction dollars per pupil	$5,410	$5,456	$5,416	$5,486	$5,479	$5,470

Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

* For purposes of this study, all data are weighted to the student level using data obtained from the National Center for Education Statistics' Common Core of Data on the number of students enrolled in school districts by grade level. See Appendix for further detail.

† Grade levels were computed as Elementary School (Grades 1–5), Middle School (Grades 6–8) and High School (Grades 9–12).

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, based on data from the National Center for Education Statistics Common Core of Data.

whether the student population was: majority white (>66% white), majority black (>50% black) or majority Latino (>50% Latino). Districts with diverse student populations represented the remaining districts.

Throughout this report, free and reduced-price lunch (FRL) participation has been used as a proxy for SES within districts. FRL is based on verified family income or categorical eligibility based on household participation in other federal assistance programs, including the Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families.[27] The groupings were computed as tertiles as follows: low SES (>47% FRL participation), medium SES (>28% to 47% FRL participation) and high SES (0 to 28% FRL participation).

This report highlights only SES and racial and ethnic variations that were different in analyses after controlling for other district-level factors (e.g., total instruction dollars per pupil, region and locale).

Race and Ethnicity

Across both school years, approximately one-half of all students were enrolled in a district with a predominantly white student population. Approximately one-third of all students were enrolled in a district with a diverse student population. The remaining students were enrolled in predominantly Latino or predominantly black school districts.

Socioeconomic Status

Students were fairly evenly distributed across SES status levels during both study years; however, the percentage of students in low-SES districts was slightly higher than the percentage of students in medium- or high-SES districts.

Geographic Characteristics

The districts included in the study also varied by geographic region and locale.

Region

More than one-third of all students were enrolled in a district that was located in the South across both study years. Approximately one-quarter of students were enrolled in a district that was located in the West; slightly lower percentages of students were enrolled in a district that was located in the Midwest or Northeast.

Locale

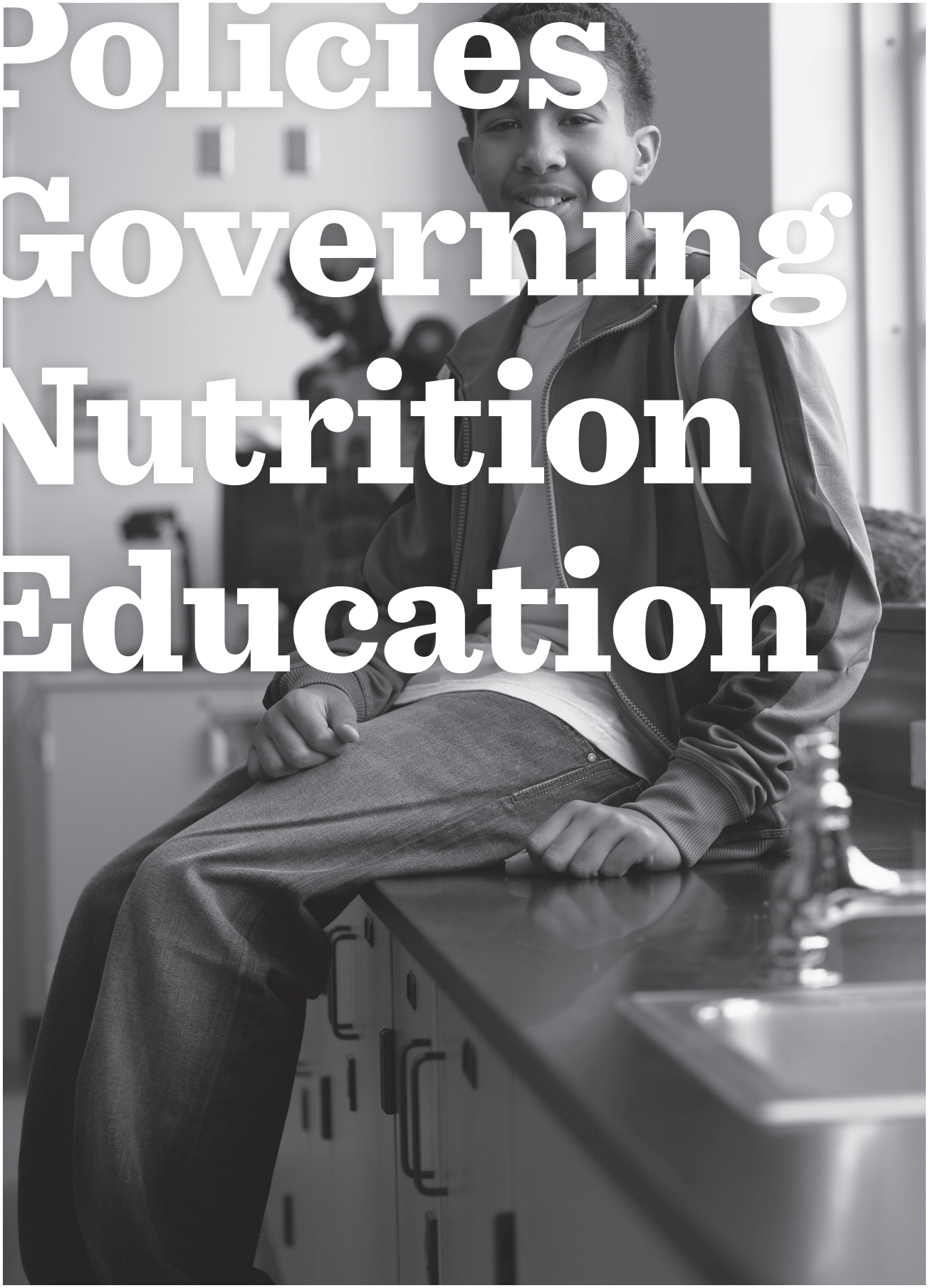
Most students were enrolled in a district that was located in a large- to mid-size city or suburban area; fewer students were enrolled in a district that was located in a rural area or township.

District Size and Resources

The size and resources of the districts included in the study increased between school years 2006–07 and 2007–08. On average, districts spent more than $5,400 on instruction per pupil across both study years.

Ultimately, findings presented in this report are based on analyses of wellness policy data representing approximately 41.7 million students during the 2006–07 school year, and approximately 45.3 million students during the 2007–08 school year.

Policies Governing Nutrition Education



CHAPTER 3

CHAPTER 3

Policies Governing Nutrition Education

According to the Centers for Disease Control and Prevention (CDC), nutrition education is a critical component of a comprehensive health education program. The CDC defines health education as "a planned, sequential K–12 curriculum that addresses the physical, mental, emotional and social dimensions of health. The curriculum is designed to motivate and assist students to maintain and improve their health, prevent disease and reduce health-related risk behaviors. It allows students to develop and demonstrate increasingly sophisticated health-related knowledge, attitudes, skills, and practices."[28] However, the CDC Task Force on Community Preventive Services has found insufficient evidence to determine the effectiveness of multicomponent school-based nutrition education on changing dietary behavior and intake (e.g., of fresh fruits and vegetables, fat, saturated fat) among children in grades 1 to 12.[29]

Data from the CDC's School Health Policies and Programs Study (SHPPS) revealed that more than 57 percent of all schools required health education instruction as part of a specific course or class during the 2006–07 school year. Among those schools, more than 82 percent specified that a nutrition and dietary behavior component be included as part of the health education curriculum, yet the median number of hours dedicated to nutrition and dietary behavior instruction during the entire 2006–07 school year was limited to only 3.4, 4.2 and 5.9 hours for elementary-, middle- and high-school classes, respectively.[30] Research has demonstrated that relatively few hours (e.g., 10 hours) of health education instruction increased students' knowledge, but behaviors did not change until students received approximately 40 to 50 classroom hours per year.[31]

Studies have identified several school-related barriers to the successful implementation of nutrition education initiatives, including conflicting food service policies and practices (e.g., the availability of unhealthy competitive foods in schools); priority given to state-mandated academic proficiency examinations; lack of funding, time and parental support; insufficient communication among teachers, health educators and food service staff; and advertising of unhealthy foods and beverages on school campuses.[32,33]

The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265, Section 204) required that each school district's wellness policy include goals for nutrition education. This chapter includes data showing the percentages of students enrolled in districts nationwide that met this requirement by the first day of the 2006–07 and 2007–08 school years, which were the first two years of the wellness policy requirement. It also provides examples of specific nutrition education provisions that were or were not incorporated into the district wellness policies for those school years.

For each policy provision described, data are presented on the percentage of students in a district with: 1) a strong policy; 2) a weak policy; or 3) no policy. We defined strong policy provisions as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce.* We defined weak policy provisions as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

Nutrition Education Goals

- By the first day of the 2007–08 school year, approximately 90 percent of all students were enrolled in a district with a strong policy that included goals for nutrition education, as required by the federal legislation.
    - During the two-year period, the percentage of students enrolled in a district with such a policy increased by more than 16 percent in elementary schools, almost 19 percent in middle schools and 18 percent in high schools.

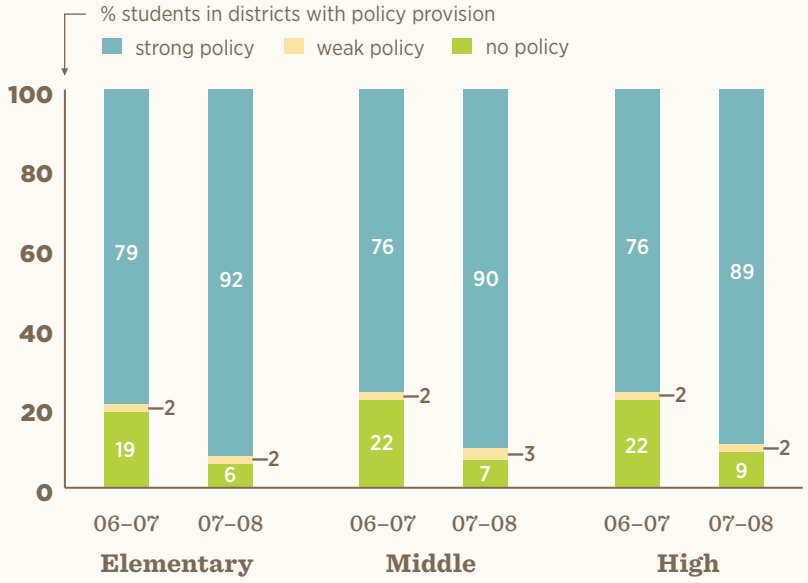
Other Provisions Related to Nutrition Education

Nutrition Education Curriculum

Many states have developed health and/or nutrition education standards, indicators, and/or grade-level benchmarks that school districts can use as a framework to create instructional curricula. Nationwide, 83 percent, 81 percent and 89 percent of all elementary, middle and high schools, respectively, followed national, state or district health education guidelines, such as content standards and benchmarks for health education, during the 2006–07 school year. In some schools, health education was required, but not at all grade levels.[34] Including nutrition education curricula guidelines is one strategy that some districts used to address the nutrition education goal requirement in their wellness policy.

- By the first day of the 2007–08 school year, approximately one-third of all students were enrolled in a district that did not address a nutrition education curriculum in its policy. About one-third of all students were enrolled in a district with a weak policy that suggested a nutrition education curriculum or required a curriculum but not for all grade levels. The same proportion of students was enrolled in a district with a strong policy that clearly required a nutrition education curriculum for all grade levels.
    - Some students were enrolled in a district with a weak policy that addressed health education, but did not define or indicate whether nutrition education was a component of the health education curriculum. As such, it is possible that students in these districts also had a nutrition education curriculum.
    - Additionally, many students were enrolled in a district that followed state-mandated nutrition education-related curricula, but did not include the state standards in its wellness policy. These state standards were broadly defined, and included: 1) integrating nutrition-related lessons into other subject areas; 2) integrating specific nutrition components in the curriculum; and 3) integrating nutrition-related learning opportunities outside of the classroom (e.g., in the cafeteria and community-based efforts).

FIGURE 3.1 Nutrition Education Goals*



*Required wellness policy element

Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

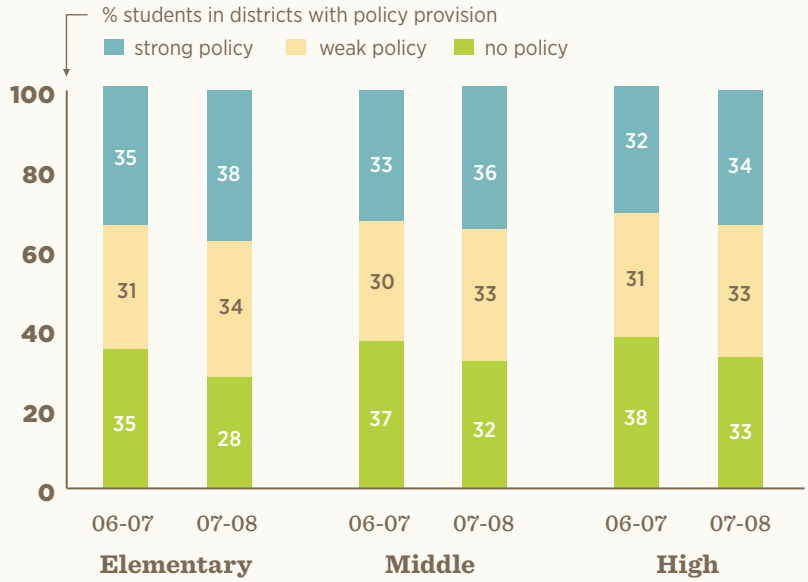
Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

By the first day of the 2007–08 school year, approximately 90 percent of all students were enrolled in a district with a strong policy that included nutrition education goals.

We defined **STRONG POLICY PROVISIONS** as those that required action and specified an implementation plan or strategy. They included language such as *shall, must, will, require, comply* and *enforce.* **WEAK POLICY PROVISIONS** offered suggestions or recommendations, and some required action, but only for certain grade levels or times of day. They included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

FIGURE 3.2 Nutrition Education Curriculum



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Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

Many students were enrolled in a district that followed state-mandated nutrition education-related curricula rather than developing its own curricula.

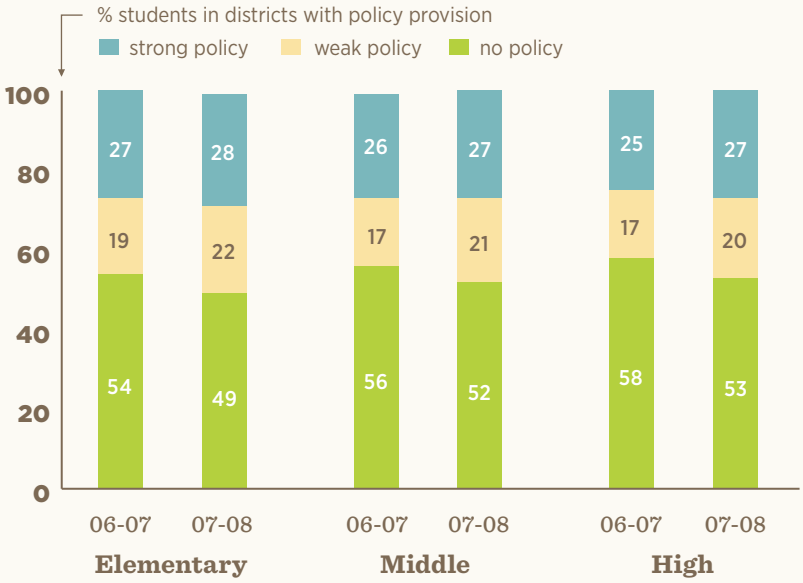
We defined **STRONG POLICY PROVISIONS** as those that required action and specified an implementation plan or strategy. They included language such as *shall, must, will, require, comply* and *enforce.* **WEAK POLICY PROVISIONS** offered suggestions or recommendations, and some required action, but only for certain grade levels or times of day. They included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

Nutrition Education Integrated Into Other Subjects

In addition to teaching nutrition as part of the health education curriculum, several interventions have evaluated the effectiveness of integrating nutrition into the broader core curriculum of reading, writing, mathematics, science and social studies. For instance, nutrition can be integrated into science, where students learn about the botanical functions of plant leaves and their nutritional value for good health.[35] Two recent studies at the elementary level found school-based interventions that included integrating nutrition education into other subjects were associated with significant shifts in body mass index to a healthy range; better academic achievement; improved nutrition-related behaviors (e.g., increased fruit and vegetable intake, acceptance of skim or low-fat milk); and improved nutrition-related knowledge (e.g., food guide pyramid, fat content of foods).[36,37] Some districts included provisions that suggested or required nutrition education opportunities to be integrated with other subjects as another strategy to address the nutrition education goal requirement in their wellness policies.

- By the first day of the 2007–08 school year, more than one-half of all students were enrolled in a district with a policy that did not address integrating nutrition education into core subjects.
- Among districts that did address integrating nutrition education into core subjects by the beginning of the 2007–08 school year, students were more likely to be enrolled in a district with a strong policy that clearly required this provision rather than a weak one that only suggested or encouraged it.
    - By the first day of the 2007–08 school year, more than 27 percent of all students were enrolled in a district with a strong policy that required nutrition education to be integrated into other subjects—a 5 percent to 6 percent increase from the beginning of the 2006–07 school year.
    - From 20 percent to 22 percent of all students were enrolled in a district with a weak policy that suggested or encouraged nutrition education to be integrated into other subjects at the beginning of the 2007–08 school year. This represented an increase of 18 percent to 19 percent across all grade levels during the two-year period.

FIGURE 3.3 Nutrition Education Integrated Into Other Subjects



The majority of students were enrolled in a district with a policy that did not address integrating nutrition education into core subjects.

Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

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Nutrition Education Required to Teach Behavior-Focused Skills

Behavior-focused nutrition education skills include those that demonstrate an understanding of caloric balance and energy expenditure; food groups and the food pyramid; food labels; and industry efforts to promote food and beverage products through targeted advertisements.

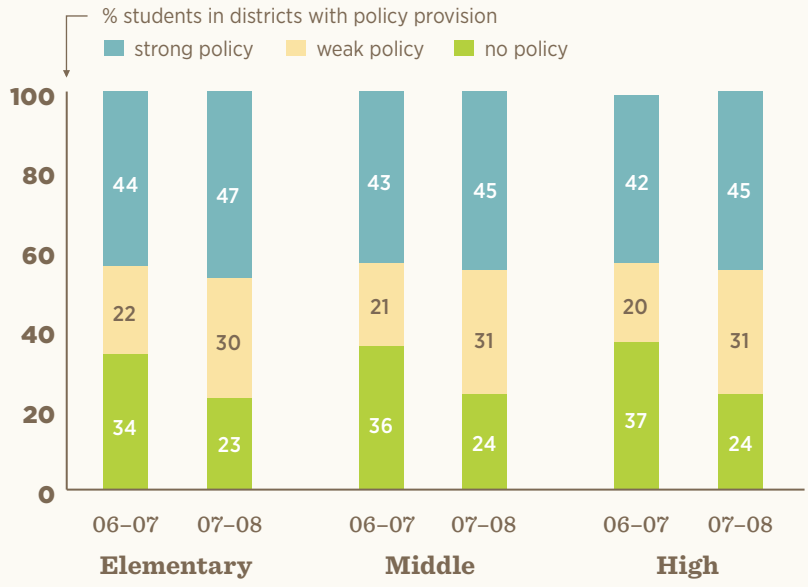
Several short-term interventions in elementary schools have linked behavior-focused nutrition education with improved nutrition knowledge; increased self-efficacy (e.g., greater confidence regarding food preparation); lower rates of overweight and obesity; and increased fruit and vegetable consumption, particularly in elementary schools with a high proportion of students who are eligible for free and reduced-price lunch.[38–41] Hands-on food preparation and tasting experiences also have been shown to be effective teaching methods for changing attitudes and for increasing knowledge and self-efficacy related to nutrition at the elementary level.[42] Studies also found that nutrition education involving a school garden was linked with increased produce intake and willingness to taste fruits and vegetables among elementary students, but empirical evidence in this area is limited.[43]

Relatively few nutrition education behavior-related studies have been conducted at the middle- and high-school levels. Findings from a week-long study that involved teaching Florida teenagers about obesity, nutrition, healthy behaviors and eating disorders demonstrated improved nutrition knowledge and positive behavior intentions (e.g., intentions to eat fewer fried foods and sweets, intentions to read food labels, intentions to limit TV time) following the intervention. It is unknown whether such interventions are sustainable over time.[44]

Some districts included behavior-focused skills training as part of the nutrition education curriculum to address the nutrition education goal in their wellness policies.

- By the first day of the 2007–08 school year, more than three-quarters of all students were enrolled in a district with a strong or weak policy that addressed teaching behavior-focused skills as part of nutrition education. This represented nearly a 33 percent increase during the two-year period.
    - More than 45 percent of all students were enrolled in a district with a strong policy that specifically required schools to teach behavior-focused skills (e.g., reading nutrition fact labels, understanding different types of fats) as part of nutrition education.
    - More than 30 percent of students were enrolled in a district with a weak policy that encouraged or suggested behavior-focused skills as part of nutrition education. Most of the policy changes during the two-year period were attributed to those that encouraged such provisions.

FIGURE 3.4 Nutrition Education Required to Teach Behavior-Focused Skills



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Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

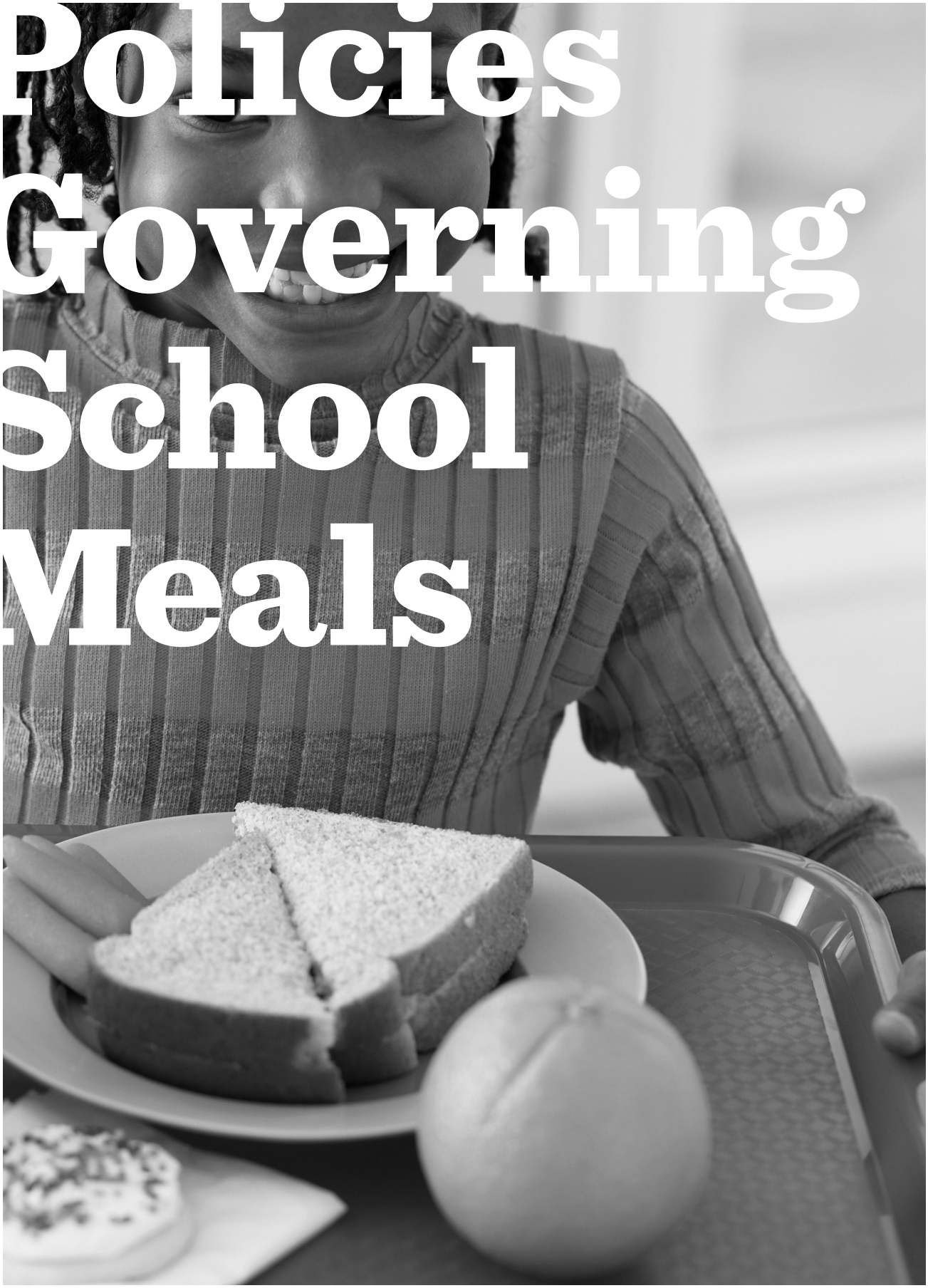
Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

Summary

Across all grade levels there was great inconsistency in how districts addressed nutrition education in their wellness policies, which was likely because the federal legislation required that wellness policies include general goals—but not specific requirements—for nutrition education. Unlike some of the other district wellness policy components, nutrition education provisions did not differ markedly by grade level or, in many cases, did not distinguish among grade levels.

By the first day of the 2007–08 school year, approximately 90 percent of all students were enrolled in a district that included nutrition education goals in its wellness policy. In many instances, districts specified goals for nutrition education but deferred to the state nutrition education curricula requirements without addressing the subject further in their district policy.

Policies Governing School Meals



CHAPTER 4

CHAPTER 4

Policies Governing School Meals

The National School Lunch Program and the School Breakfast Program provided more than 31 million lunches and more than 10 million breakfasts to schoolchildren during the school year 2007.[45] Both programs require that meals sold and served meet the school meal guidelines set forth by the U.S. Department of Agriculture (USDA). These guidelines include: 1) the nutritional recommendations of the 1995 Dietary Guidelines for Americans,[46] which limit the amount of calories from fat to no more than 30 percent and limit calories from saturated fat to fewer than 10 percent; and 2) applicable Recommended Dietary Allowances (RDAs) for calories, protein, calcium, iron, Vitamin A and Vitamin C.[47,48]

Most schools met the 1995 Dietary Guidelines recommendations for protein, vitamins and minerals during the 2004–05 school year, according to nationally representative data from the third School Nutrition Dietary Assessment Study (SNDA-III). The study also found that more than three-quarters of schools met the total fat and saturated fat standards for school breakfasts, but fewer than one-third met the fat standards for school lunches.[49] Analyses of SNDA-III data provided insight about these findings. Researchers identified two major sources of saturated fat in the school lunch menus: whole milk was offered by 31 percent of schools, and 2% milk was offered by 58 percent of schools.[50] In addition, commercially prepared products, such as pizza, burritos, breaded chicken nuggets and other processed commodities accounted for 40 percent of the available lunch entrees and were major sources of fat, sodium and calories in the lunches.[51]

Analyses of SNDA-III data also found that more than 90 percent of schools surveyed did offer students low-fat items and low-fat lunch options, yet most students selected items that were high in fat.[52] The analyses confirmed that National School Lunch Program participants were *more* likely to consume milk, fruit and vegetables and *less* likely to consume snacks, desserts and sugar-sweetened beverages than were non-participants.[53]

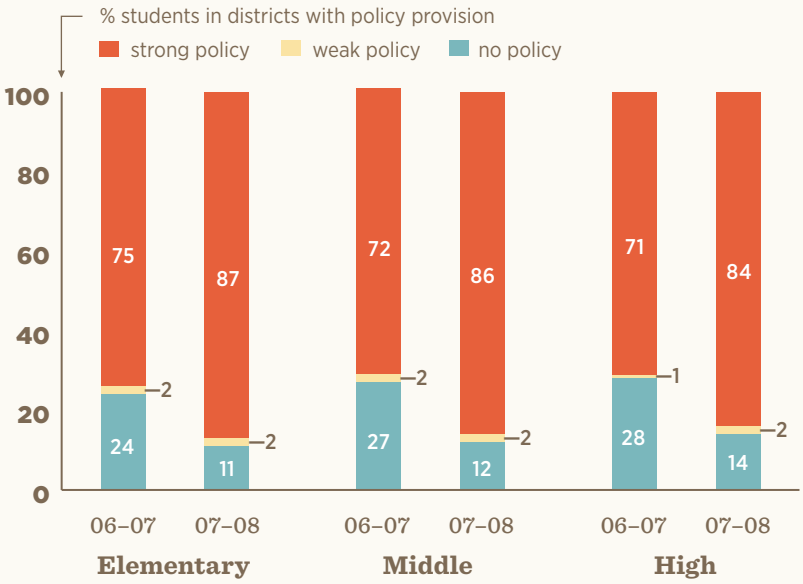
The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265, Section 204) required that each school district's wellness policy include an assurance that the nutritional guidelines for reimbursable school meals meet the minimum federal school meal standards established by the USDA. This chapter includes data showing the percentages of students enrolled in districts nationwide that met this requirement by the first day of the 2006–07 and 2007–08 school years, which were the first two years of the wellness policy requirement. It also provides examples of specific school meal-related items included in the district policies for those years.

For each policy provision described, data are presented on the percentage of students in a district with: 1) a strong policy; 2) a weak policy; or 3) no policy. We defined strong policy provisions as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall*, *must*, *will*, *require*, *comply* and *enforce*. We defined weak policy provisions as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should*, *might*, *encourage*, *some*, *make an effort to*, *partial* and *try*.

Policies Required That School Meal Nutritional Guidelines Meet the Federal School Meal Requirements

- By the first day of the 2007–08 school year, more than 84 percent of students across all grade levels were enrolled in a district with a strong policy that explicitly required the guidelines for school meals to meet the minimum federal school meal standards, as required by the federal legislation.
    - The proportion of students in a district with this policy requirement increased by more than 17 percent across all grade levels during the two-year period.

FIGURE 4.1 Policies Required That School Meal Nutritional Guidelines Meet the Federal School Meal Requirements*



*Required wellness policy element

Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

We defined **STRONG POLICY PROVISIONS** as those that required action and specified an implementation plan or strategy. They included language such as *shall, must, will, require, comply* and *enforce.* **WEAK POLICY PROVISIONS** offered suggestions or recommendations, and some required action, but only for certain grade levels or times of day. They included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

Most districts established a wellness policy requiring that the nutritional guidelines for school meals meet the minimum USDA school meal standards.

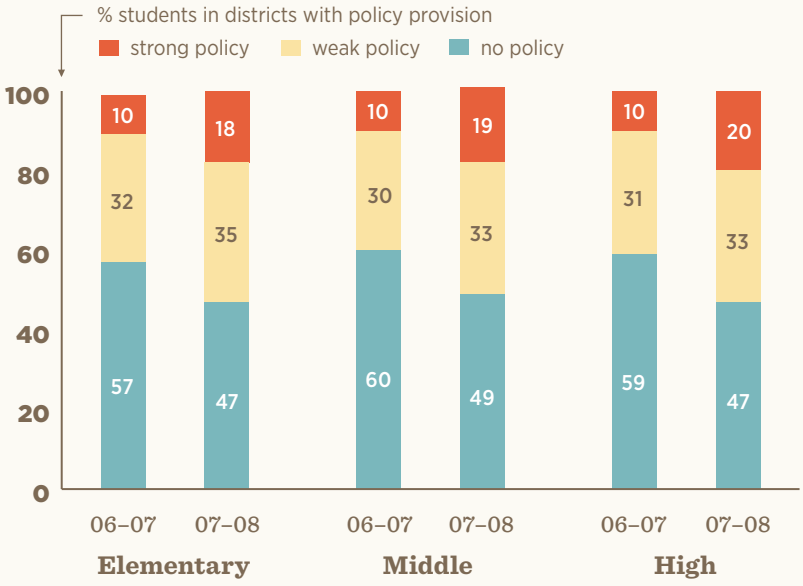
Other Provisions Related to School Meals

Nutritional Guidelines for School Meals That Met or Exceeded the 2005 Dietary Guidelines

The current federal school meal standards are based on the 1995 Dietary Guidelines and do not reflect current nutrition science as included in the 2005 Dietary Guidelines and Dietary Reference Intakes for energy, fat, fiber, sodium and essential nutrients.[54] Some school districts had policies that went beyond the required federal meal standards—these policies either met or exceeded the 2005 Dietary Guidelines requirements. The following data describe the strength of those wellness policies that reflect the most current nutrition science.

- By the first day of the 2007–08 school year, fewer than 20 percent of all students nationwide were enrolled in a district with a strong policy that clearly required the school meal guidelines to exceed the 2005 Dietary Guidelines (e.g., limiting milk options to 1% or skim, requiring that a specific amount of fruits and/or vegetables be offered daily, or requiring that at least one-half of all grains offered are whole grains).
    - Although the percentage of students enrolled in a district with a strong policy that clearly exceeded the 2005 Dietary Guidelines was relatively low, the percentage of students enrolled in a district with such a policy doubled during the two-year period at the middle-school level and nearly doubled at the high-school level.
- During the same period, approximately one-third of all students were enrolled in a district with a weak policy that only required the school meals to meet the 2005 Dietary Guidelines or suggested, but did not require, guidelines (e.g., encouraging schools to eliminate trans fats, recommending whole-grain items, or encouraging a minimum amount of fruits and/or vegetables at meal times).

FIGURE 4.2 Nutritional Guidelines for School Meals That Met or Exceeded the 2005 Dietary Guidelines



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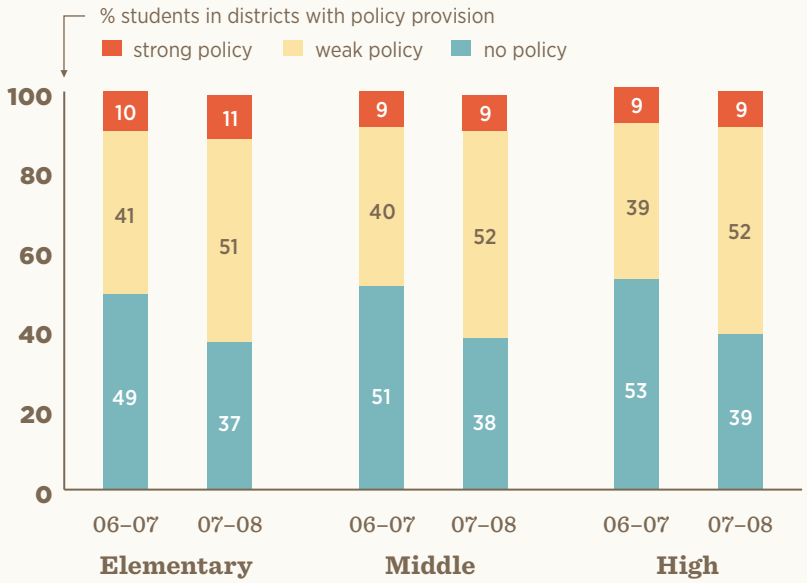
Adequate Time to Eat Meals

According to the USDA, providing adequate time for students to eat meals contributes to healthy eating among students during the school day and helps reduce plate waste.[55,56] The USDA suggests that students should have a minimum of 20 minutes from the time they receive their lunch and 10 minutes at breakfast to allow for eating, socializing, food service, clean-up and other lunch-related activities.[57]

- By the first day of the 2007–08 school year, more than half of all students nationwide were enrolled in a district with a weak policy that: 1) only suggested that students receive "adequate" time to eat meals without specifying *how much* time students should have for meals; or 2) specified a minimum amount of time that was less than 20 minutes for lunch and/or less than 10 minutes for breakfast.
- During the same period, only 11 percent of elementary students and 9 percent of middle- and high-school students were enrolled in a district with a strong policy that required students to receive at least 20 minutes for lunch and 10 minutes for breakfast from the time they receive their meals.

FIGURE 4.3 Adequate Time To Eat Meals



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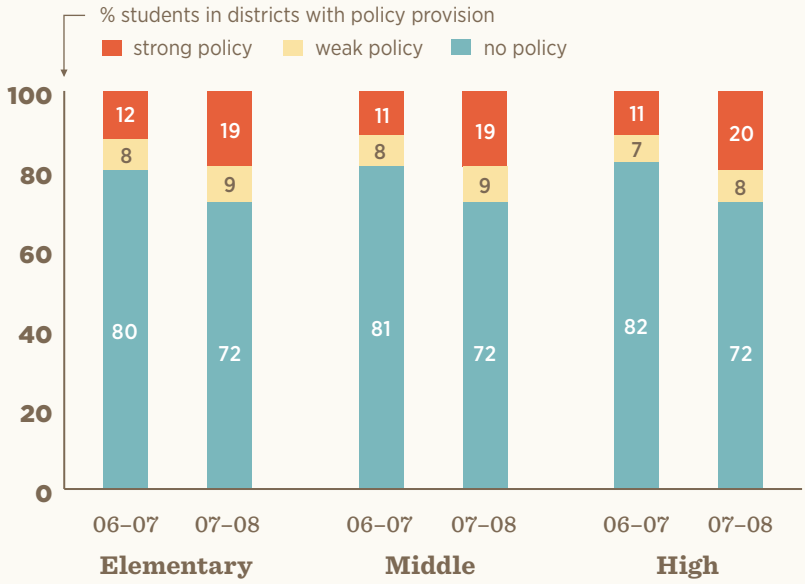
Only slightly more than 9 percent of students nationwide were enrolled in a district with a policy requiring that they receive at least 20 minutes for lunch and 10 minutes for breakfast.

Nutritional Information for School Meals

- At the beginning of the second year of the policy requirement, 72 percent of all students were enrolled in a district that did not mention in its wellness policy whether nutritional information (e.g., calories, fat, sugars, sodium) should be provided for school meals. While this finding seems to conflict with SNDA-III data indicating that more than 60 percent of all schools provided nutrient content information for USDA school meals,[58] it is likely that schools did provide the information, but that districts did not address it in their wellness policies.
- During the same period, students were more likely to be enrolled in a district with a strong policy that required providing nutritional information for school meals, as opposed being in a district with a weak policy that encouraged or suggested such action.

FIGURE 4.4 Nutritional Information for School Meals



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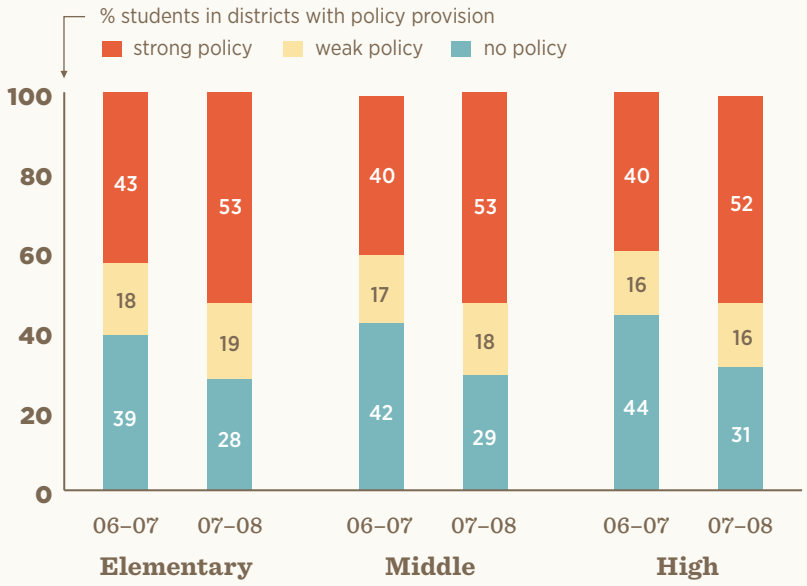
School Breakfast Program

Research confirms that students who ate breakfast at school had better standardized test scores, math grades, attendance and classroom behavior than did those who skipped breakfast or ate breakfast at home.[59-61] SNDA-III data also found that School Breakfast Program participants had lower body mass index than non-participants, especially among non-Hispanic, white students.[62] Many advocates support efforts that aim to increase participation in the School Breakfast Program due to evidence linking these and other benefits to regular nutritious breakfast meals. Although the federal wellness policy requirement did not specifically address the School Breakfast Program, this chapter includes data showing the percentage of districts that explicitly mentioned participation in the School Breakfast Program within their wellness policies. Findings from SNDA-III indicated that 85 percent of schools participating in the National School Lunch Program also participated in the School Breakfast Program.[63]

- By the first day of the 2007–08 school year, more than half of all students nationwide were enrolled in a district with a strong policy that clearly indicated their participation in the School Breakfast Program.
- During the same period, more than 16 percent of all students were enrolled in a district with a weak policy that encouraged students to eat a healthy breakfast or mentioned a school breakfast program, but did not clearly reference the national School Breakfast Program.

FIGURE 4.5 Policies Governing School Breakfast Program



Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

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Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

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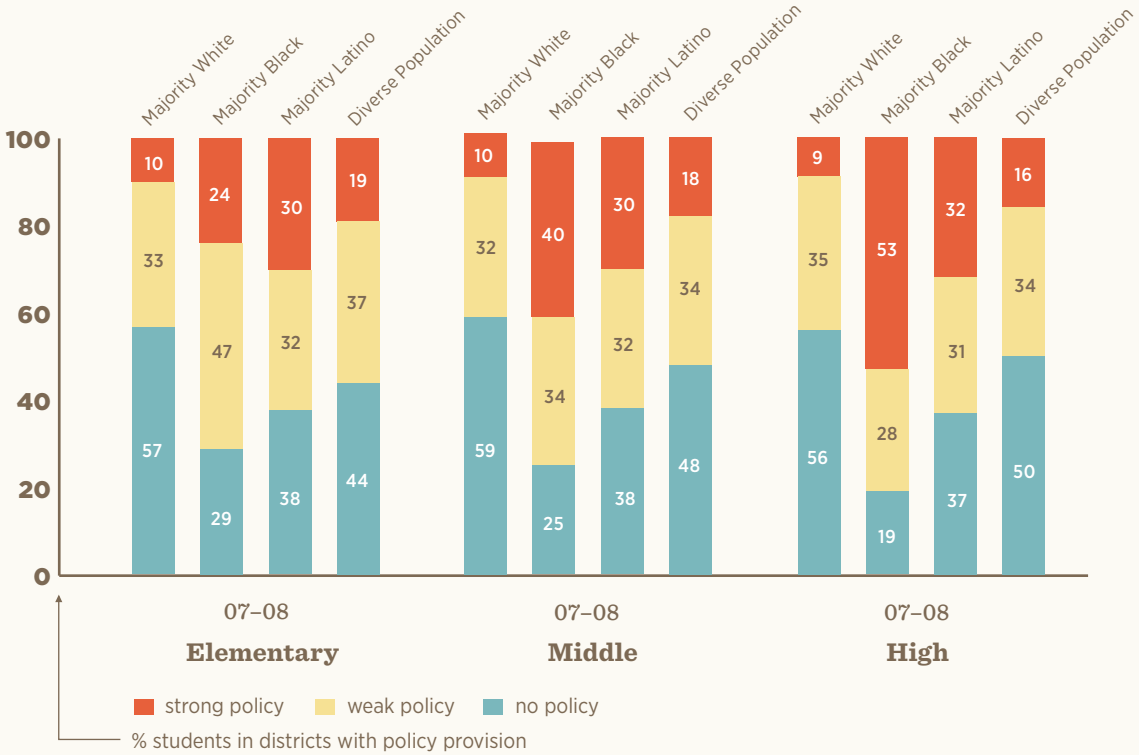
School Meal Requirements by Race/Ethnicity

School meal policies in place at the beginning of the 2007–08 school year varied by racial/ethnic composition[e] of the districts' students, but did not vary based on socioeconomic status within districts.[f]

Elementary- and high-school students in predominantly black districts were more likely to be in a district with a strong policy that required an "adequate" amount of time be provided for students to eat school meals or a weak policy that suggested specific time requirements than were students in predominantly white districts. Such distinctions were not seen at the middle-school level.

Students in predominantly black or Latino districts were more likely to be in a district with a strong policy that required school meals to meet or exceed the 2005 Dietary Guidelines than were students in predominately white districts. This was true across all grade levels.

FIGURE 4.6 Nutritional Guidelines for School Meals that Met or Exceeded the 2005 Dietary Guidelines by District Racial/Ethnic Composition



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[e] Data on the proportion of students who were white, black or Latino were computed to identify whether the student population was: majority white (>66% white), majority black (>50% black), or majority Latino (>50% Latino). Districts with diverse student populations that were not majority white, black or Latino represent the remaining districts.

[f] Only racial/ethnic variations that were different in analyses controlling for other district-level factors (e.g., SES, total instruction dollars per pupil, region and locale) have been highlighted in this section.

Summary

By the first day of the 2007–08 school year, most districts established a policy that included the same school meal standards as those required by the USDA. Although most districts were in compliance with the federal policy, it is worth noting that the meal standards set forth by the USDA are based on the 1995 Dietary Guidelines—and do not reflect the 2005 Dietary Guidelines and Dietary Reference Intakes for energy, fat, fiber, sodium and essential nutrients.[64] Relatively few districts definitively provided additional nutritional guidelines for school meals beyond the federal requirement.

As Congress considers the reauthorization of child nutrition programs, it is likely that nutrition standards for the National School Lunch Program and School Breakfast Program will be closely examined to ensure they meet current nutrition science. Accordingly, changes to district policies will likely follow. Some districts have gone beyond the federal school meal guidelines by including language in their wellness policy to: 1) specify that nutritional guidelines meet or exceed the 2005 Dietary Guidelines; 2) require a minimum time to eat lunch and/or breakfast; and/or 3) require nutritional information to be made readily available for school meals.

Policies Related to Competitive Foods and Beverages

CHAPTER 5

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Policies Related to Competitive Foods and Beverages

The availability and consumption of competitive foods and beverages—those items that are sold or served outside of federal school meal programs—[65,66] have increased significantly during the past two decades.[67,68] Competitive foods and beverages include items sold through à la carte cafeteria sales, vending machines, school stores, snack bars and fundraisers, as well as items offered through classroom parties or as rewards for students. According to data from the third School Nutrition Dietary Assessment Survey (SNDA-III), during the 2004–05 school year:

- *more than 40 percent of public school students consumed at least one competitive food item during the school day;*
- *nearly two-thirds of all elementary students and almost 90 percent of middle- and high-school students were enrolled in schools that sold à la carte foods and beverages; and*
- *more than 25 percent of elementary-school students, 87 percent of middle-school students and 98 percent of high-school students had access to food and beverage vending machines.*[69]

In addition, data from the Centers for Disease Control and Prevention's School Health Policies and Practices Study (SHPPS) indicate that competitive foods and beverages were sold through school stores and snack bars in nearly 17 percent of elementary schools, 33 percent of middle schools and 50 percent of high schools during the 2006–07 school year. The study also found that only 17 percent of all schools prohibited using foods to reward students for good behavior or performance, and an additional 19 percent of schools discouraged this practice.[70]

Several studies demonstrate that the availability of competitive foods and beverages at school (whether sold or offered at parties or used as rewards) was associated with increased student consumption of soft drinks, other sugar-sweetened beverages and foods that were low in nutrients and high in fat and calories, such as desserts, candy and chips. Access to competitive foods and beverages on campus also was associated with decreased student consumption of nutrient-rich foods and beverages, such as low-fat and skim milk, fruits and vegetables.[71–74]

In 2007, the Institute of Medicine recommended specific limits on the fat, sugar and calorie content, and the serving sizes of competitive foods and beverages sold during the school day.[75] While many state governments and school districts have developed policies regarding the availability of competitive foods and beverages at school,[76,77] the only federal restriction on foods sold or served outside of school meal programs prohibits the sale of foods of minimal nutritional value (FMNVs), including certain candies, soft drinks and gum, during school meal times.[78] This federal requirement was developed more than 30 years ago and does not reflect current nutrition science.

The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265, Section 204) required that each school district's wellness policy include nutritional guidelines for all foods available on campus, including foods and beverages sold or offered outside of school meal programs. This chapter includes data showing the percentages of students enrolled in districts nationwide that met this requirement by the first day of the 2006–07 and 2007–08 school years, which were the first two years of the wellness policy requirement.

It also provides examples of specific competitive food and beverage restrictions that were or were not incorporated into the district wellness policies for those school years, and highlights district policy provisions governing food and beverage marketing and advertising.

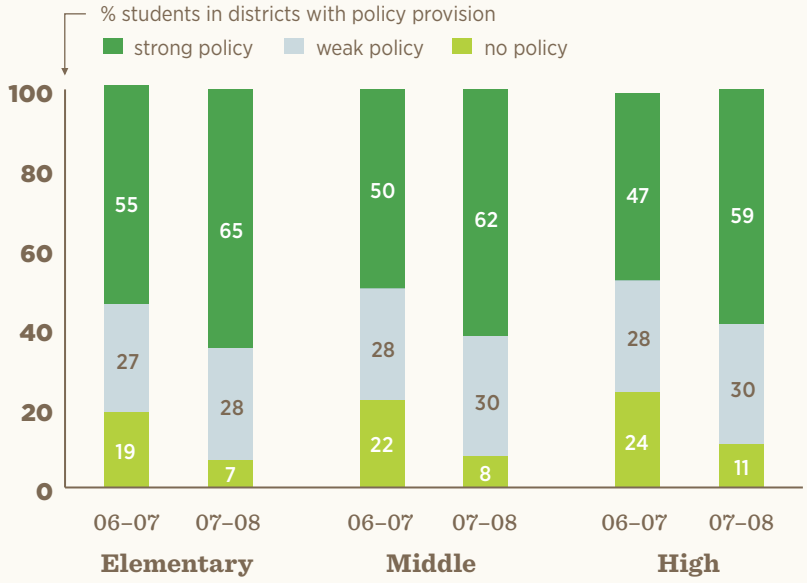
For each policy provision described, data are presented on the percentage of students in a district with: 1) a strong policy; 2) a weak policy; or 3) no policy. We defined strong policy provisions as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce*. We defined weak policy provisions as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should, might, encourage, some, make an effort to, partial* and *try*.

Nutritional Guidelines for Competitive Foods and Beverages

- At the beginning of the 2007–08 school year, more than 89 percent of all students were enrolled in a district that addressed competitive food and beverage sales its wellness policy.
    - Sixty-five percent of elementary-school students, 62 percent of middle-school students and 59 percent of high-school students were enrolled in a district with a strong policy that included guidelines for all foods and beverages sold or served outside of school meal programs during the school day, as required by the federal legislation.
        - During the two-year period, the percentage of students enrolled in a district with a strong policy containing guidelines for competitive foods and beverages increased by nearly 20 percent in elementary schools, almost 23 percent in middle schools and by 24 percent in high schools.
    - Across grade levels, more than 28 percent of students were enrolled in a district with a weak policy that: 1) had vague or suggested competitive food and beverage guidelines; or 2) required competitive foods and beverages to meet only minimum dietary guidelines that did not recommend whole-grain items or limit sodium or trans fats.

Districts with guidelines that addressed competitive foods did not necessarily have strong policies or require schools to take action.

FIGURE 5.1 Nutritional Guidelines for Competitive Foods and Beverages*



*Required wellness policy element

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Other Provisions Related to Competitive Foods and Beverages

Limits on Access to Competitive Foods

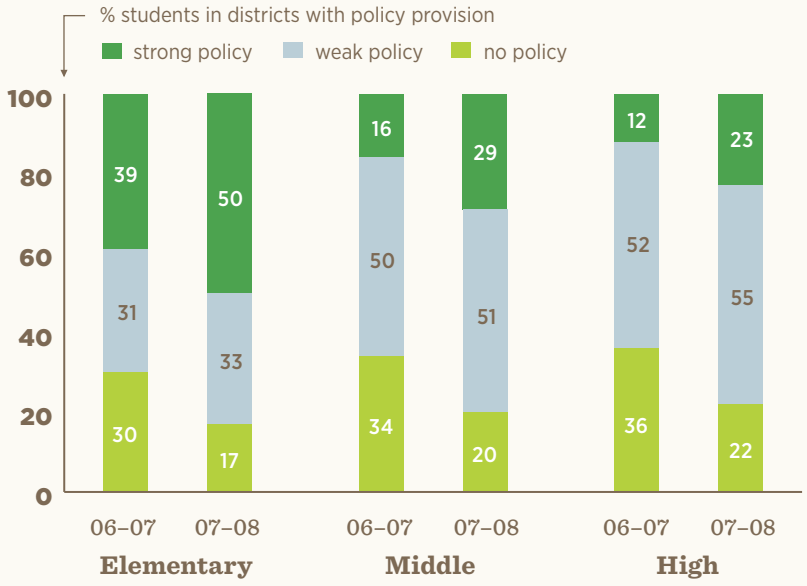
Vending machines, à la carte sales and school stores are widely available to students in public schools across the country.[79,80] As such, school districts nationwide have incorporated into their wellness policies provisions for limiting student access to competitive foods and beverages and/or requiring these venues to give preference to the sale of healthy items, such as fruits, vegetables, skim or low-fat milk and 100% juice. Research shows that removing or prohibiting the sale of competitive foods and beverages in school stores and eliminating the sale of low-nutrient energy-dense foods sold à la carte were associated with reduced consumption of those items among elementary-school students, and of sugar-sweetened beverages, especially among middle- and high-school students.[81]

Districts had substantially stronger restrictions on competitive foods in elementary schools compared with middle or high schools. During the two-year period, districts intensified their efforts to address competitive foods in middle and high schools, but the restrictions were still weaker than those established in elementary schools.

Vending Machine Restrictions

- By the first day of the 2007–08 school year, more than 78 percent of students were enrolled in a district that had some type of policy restriction on vending machine sales, but the requirements varied by grade level.
    - Fifty percent of elementary-school students, 29 percent of middle-school students and 23 percent of high-school students were enrolled in a district that had a strong policy banning vending machines, banning competitive foods or requiring that vending machine sales comply with the district's nutrition standards governing fat, calorie and sugar content.
        - Elementary-school students were 1.7 times more likely than middle-school students and 2.2 times more likely than high-school students to be enrolled in a district with a strong vending machine policy.
- During the two-year period, there was a substantial increase in the percentage of students enrolled in a district that had a policy regarding vending machines. The change was attributable to an increased percentage of districts with strong policies that specified definitive nutritional guidelines for competitive foods and beverages sold through vending machines, bans on vending machine sales, or complete bans on the sale of competitive foods and beverages.

FIGURE 5.2 Vending Machine Restrictions During the School Day



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Policy restrictions on vending machines were markedly stronger for elementary schools as compared with middle or high schools.

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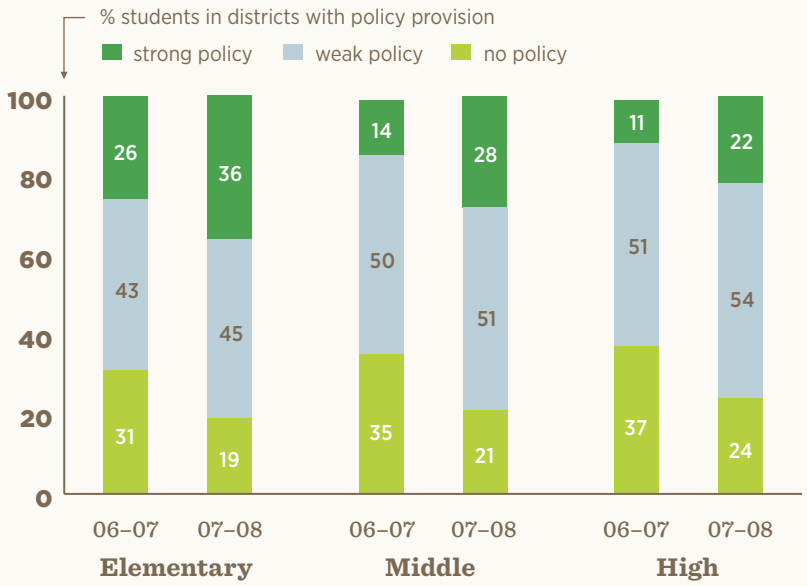
À la Carte Restrictions

- By the first day of the 2007–08 school year, more than 76 percent of students nationwide were enrolled in a district that had a weak policy suggesting restrictions or a strong policy completely restricting the sale of à la carte foods and beverages that are high in fat, sugar and calories.
- While still below 30 percent, the proportion of middle- and high-school students enrolled in a district with a strong policy that either banned à la carte sales, banned competitive foods and beverages, or imposed specific limits on fat, sugar and calorie content of à la carte foods and beverages doubled during the two-year period.

FIGURE 5.3 À La Carte Restrictions During Meal Times



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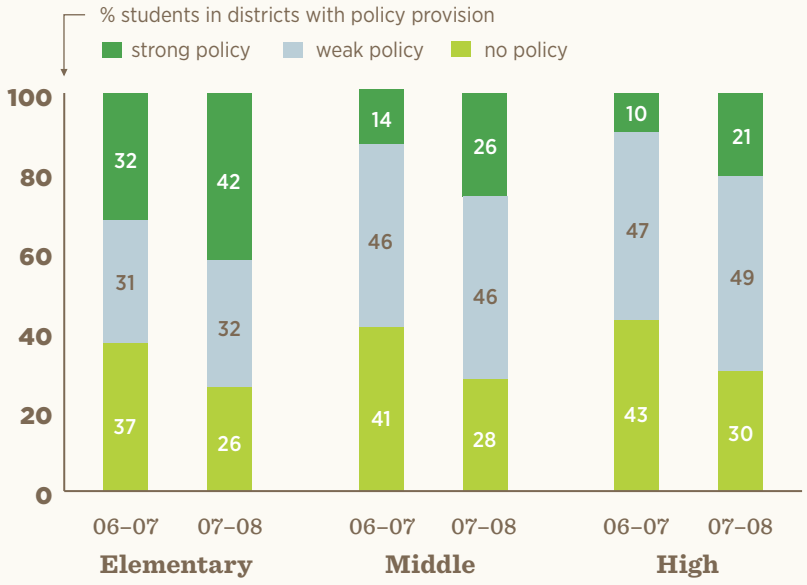
School Store Restrictions

- By the first day of the 2007–08 school year, more than 70 percent of all students were enrolled in a district with a weak policy that suggested limits or a strong policy that banned school stores, banned competitive foods and beverages, or required school stores to comply with the district's nutrition standards governing fat, calorie and sugar content.
- During the same period, 42 percent of all elementary-school students were enrolled in a district with a strong policy that banned school stores, banned competitive foods and beverages, or required that school store sales comply with the district's nutrition standards governing fat, calorie and sugar content. Elementary-school students were still 1.6 and 2.0 times more likely to be enrolled in a district with such a policy than were middle- and high-school students, respectively.
    - The greatest increases in strong policies that banned or imposed limits on the nutritional value of competitive foods sold through school stores were observed at the middle- and high-school levels during the two-year period.

FIGURE 5.4 School Store Restrictions During the School Day



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Classroom Parties and Food as a Reward

National data from the 2004–05 school year show that providing competitive foods through classroom parties or offering them as rewards or incentives was most common at the elementary level, and was the primary source of such foods for elementary-school students.[82] Foods served at parties or used for rewards often were low in nutrients and included unhealthy items, such as cookies and candy. Establishing policies that limit the availability or use of competitive foods through these practices is one strategy districts have implemented to address the availability of unhealthy competitive foods and beverages at the elementary level.

CLASSROOM PARTIES

- By the first day of the 2007–08 school year, 65 percent of elementary-school students were enrolled in a district with a policy that placed some restriction on the availability of competitive foods during classroom parties. However, the vast majority of these policies were weak and only suggested or encouraged that healthy foods be provided or discouraged unhealthy foods.

- During the same period, only 6 percent of all elementary-school students were enrolled in a district with a strong policy that banned competitive foods at all times, prohibited the provision of foods at classroom parties, or limited the fat, sugar and calorie content of foods and beverages provided at such celebrations.

USING FOOD AS A REWARD OR WITHHOLDING FOODS AS A PUNISHMENT

- During the two-year period, district policies that governed the use of food as a reward or prohibited withholding foods (e.g., lunch or snack) as punishment were much less prevalent than were policies that governed classroom parties.

- By the first day of the 2007–08 school year, 36 percent of all elementary-school students were enrolled in a district with a policy that addressed using food as a reward or withholding foods as punishment. Only 8 percent of elementary-school students were enrolled in a district with a strong policy that explicitly prohibited these practices, and the remaining students were enrolled in a district with a weak policy that suggested such restrictions or only prohibited withholding foods as punishment.

FIGURE 5.5A Policies Governing Classroom Parties at the Elementary-School Level

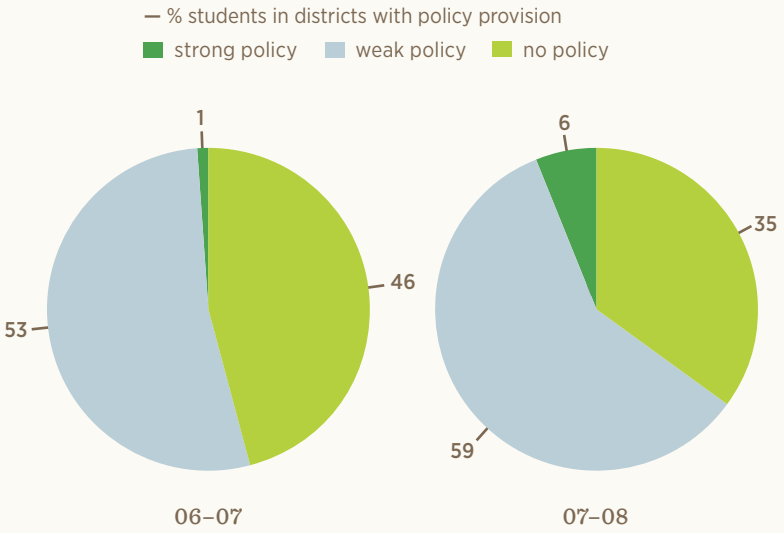

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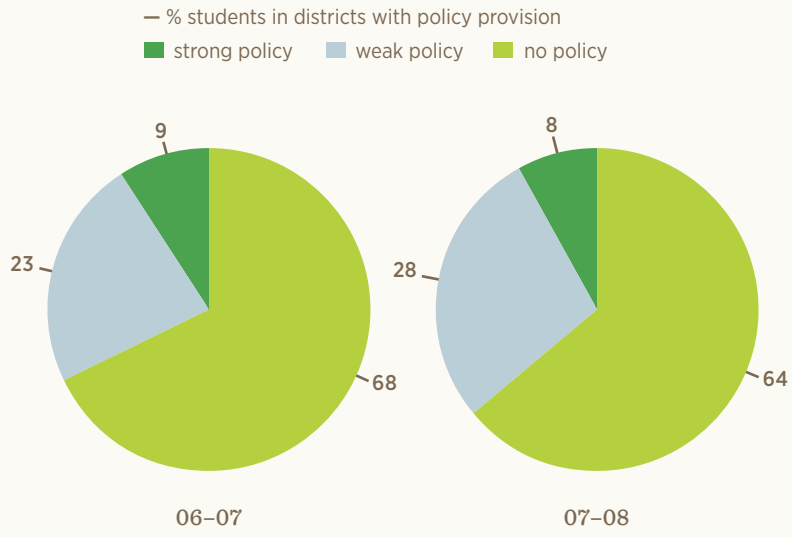
FIGURE 5.5B Policies Governing Food as a Reward at the Elementary-School Level



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Limits on Fat, Sugar and Calorie Content of Competitive Foods and Beverages

In addition to policies that addressed the sale of competitive foods and beverages in vending machines, à la carte lines and school stores, many policies also offered guidelines for the nutritional quality and calorie content of those foods and beverages. The federal legislation that required districts to develop a wellness policy did not include specific guidelines for restricting the fat, sugar or calorie content of foods available on campus. Accordingly, there was great variation in how school districts addressed the issue, and many policies had weak language that suggested—but did not require—that schools comply with the guidelines.

There was great variation in how school districts addressed guidelines for the nutritional quality and calorie content of competitive foods and beverages. Many policies had weak language that suggested that schools adhere to district guidelines, but did not require compliance.

Food Standards

SUGAR CONTENT OF COMPETITIVE FOODS

- More than 45 percent of all students were enrolled in a district with a policy that did not address limits on the sugar content of competitive foods at the beginning of the 2007–08 school year.
- By the first day of the 2007–08 school year, more than 28 percent of all students were enrolled in a district with a weak policy that only suggested restrictions or provided limited restrictions on the sugar content of competitive foods (e.g., during only certain times of the school day).
- At the beginning of the 2007–08 school year, policy restrictions on sugar content were more common at the elementary-school level than at the middle- and high-school levels.
    - Only 26 percent of elementary-school students were enrolled in a district with a strong policy that either banned competitive foods or placed specific restrictions on the amount of sugar per competitive food serving, while 23 percent of middle-school students and 18 percent of high-school students faced such restrictions.
- Policy restrictions on the sugar content of competitive foods increased substantially more at the middle- and high-school levels during the two-year period.

FAT CONTENT OF COMPETITIVE FOODS

- By the first day of the 2007–08 school year, more than two-thirds of all students were enrolled in a district with a weak policy that suggested or a strong policy that specified limits on the fat content of competitive foods sold and served during the school day. Most of these policies were strong and included specific restrictions on the percentage or amount of total fat calories per serving.
- Policy restrictions on fat content more than doubled at the middle- and high-school levels during the two-year period.

FIGURE 5.6 Sugar Content of Competitive Foods

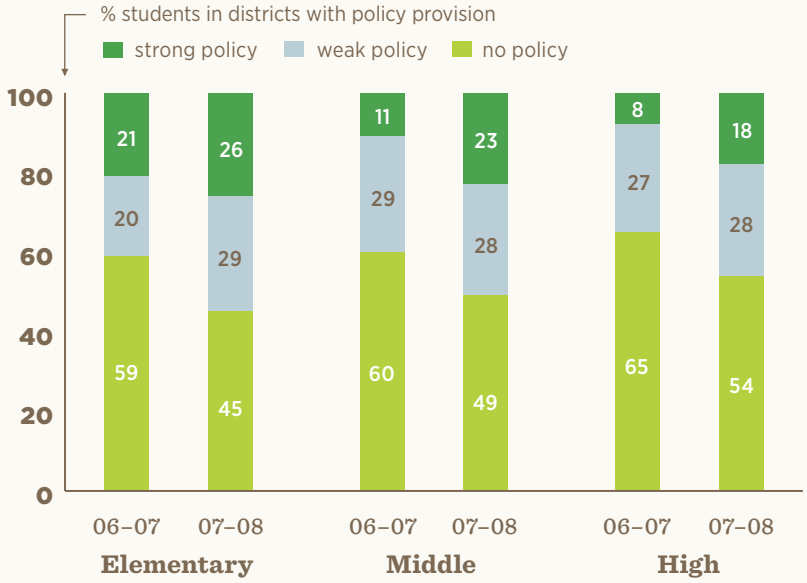

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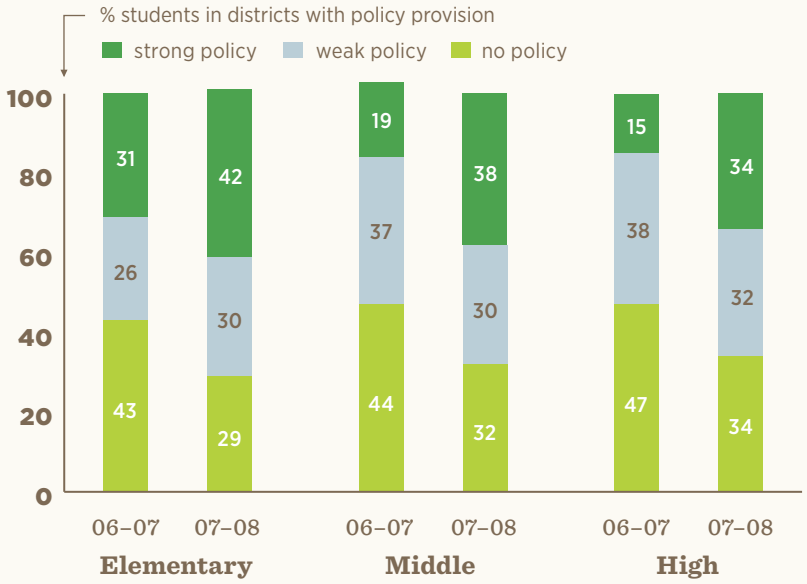
FIGURE 5.7 Fat Content of Competitive Foods



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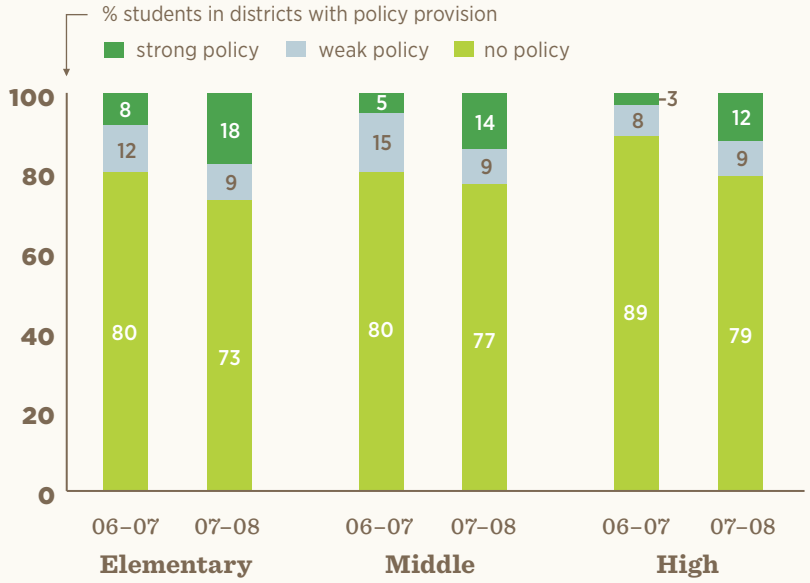
CALORIE CONTENT OF COMPETITIVE FOODS

- During the two-year period, the vast majority of students were enrolled in a district that did not have a policy that addressed limits for the calorie content of competitive foods sold or served at school.
- When addressed, calorie limits were more prevalent in policies focused on the elementary-school level than on middle- and high-school levels at the beginning of the 2007–08 school year.
    - Only 18 percent of all elementary-school students, 14 percent of middle-school students and 12 percent of high-school students were enrolled in a district with a strong policy that included specific calorie restrictions.
    - The percentage of students enrolled in a district with a strong policy containing specific calorie limits more than doubled at the elementary-school and middle-school levels, and increased from 3 percent to 12 percent at the high-school level.

NUTRITIONAL INFORMATION FOR COMPETITIVE FOODS

- By the first day of the 2007–08 school year, more than 82 percent of all students were enrolled in a district that did not address in its policy whether nutritional information (e.g., calories, fat, sugars, sodium) should be provided for competitive foods.
- Among district policies that did address this issue as of the beginning of the 2007–08 school year, it was more likely that nutritional information be required (strong policy), as opposed to encouraged or suggested (weak policy).
- While relatively uncommon in the district policies, the percentage of students enrolled in a district that addressed nutritional information for competitive foods more than doubled at the elementary-school level, and tripled at the middle- and high-school levels during the two-year period.

FIGURE 5.8 Calorie Content per Serving of Competitive Foods



Most students were enrolled in a district that did not have a policy that addressed limiting the calorie content of or providing nutritional information for competitive foods sold or served on campus.

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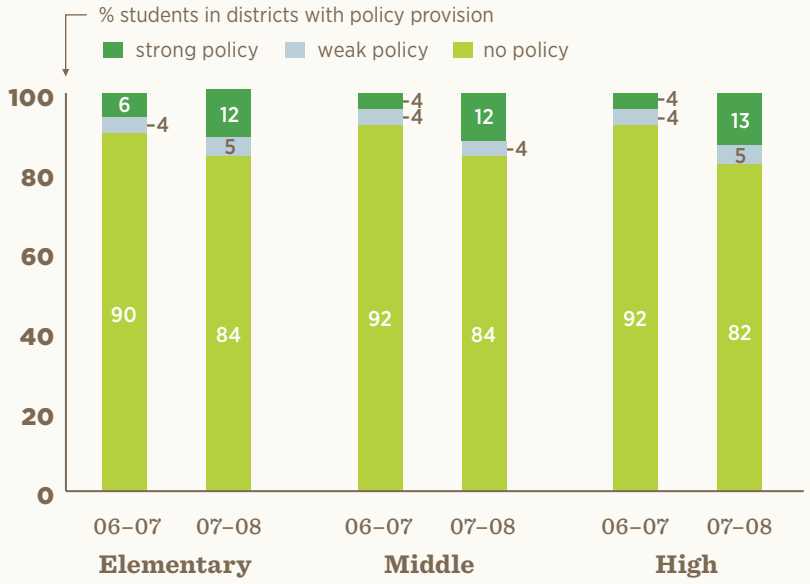
FIGURE 5.9 Nutritional Information Provided for Competitive Foods



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Beverage Standards

SUGAR-SWEETENED BEVERAGES

Sugar-sweetened beverage consumption is associated with increased caloric intake, weight gain and obesity incidence among children and adolescents.[83-87] Sugar-sweetened beverages include regular sodas, sweetened teas, less than 100% fruit juices, juice drinks, energy drinks and other beverages with added sugars. Soda accounts for more than one-half of all sugar-sweetened beverage consumption among youths, particularly among adolescents.[88] Although the majority of youths' weekday consumption of sugar-sweetened beverages occurs at home,[89] some school districts have prohibited or limited the availability of these beverages on campus to help reduce student consumption of these products.

REGULAR SODA

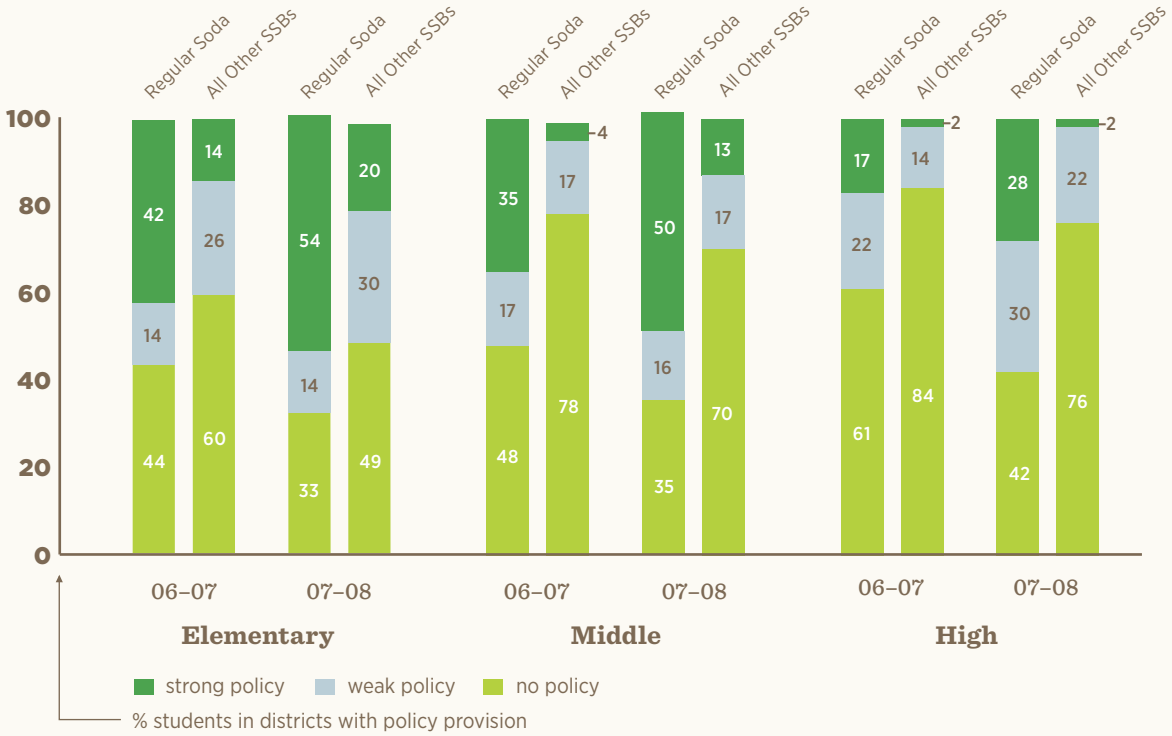
- By the first day of the 2007–08 school year, elementary-school students were nearly twice as likely to be enrolled in a district with a strong policy that prohibited soda sales at their school than were high-school students.
- The percentage of middle-school students enrolled in a district with a strong policy that prohibited soda sales increased from 35 percent to 50 percent during the two-year period.

OTHER SUGAR-SWEETENED BEVERAGES

- Restrictions on other sugar-sweetened beverages were much less common than soda restrictions. By the first day of the 2007–08 school year, 50 percent of elementary-school students, 70 percent of middle-school students and 76 percent of high-school students were enrolled in a district that *did not* impose any limits on the availability of sugar-sweetened beverages or that had a weak policy that limited some but not all such products.
- At the beginning of the 2007–08 school year, only 20 percent of elementary-school students, 13 percent of middle-school students and 2 percent of high-school students were enrolled in a district with a strong policy that completely banned other sugar-sweetened beverages (e.g., sweetened teas, sports drinks) during the school day or that banned all competitive beverages.

By the first day of the 2007–08 school year, only 20 percent of elementary-school students, 13 percent of middle-school students and 2 percent of high-school students were enrolled in a district with a strong policy that completely banned sugar-sweetened beverages other than soda, such as sweetened teas and sports drinks, during the school day.

FIGURE 5.10 Limits on the Sale of Soda and All Other Sugar-Sweetened Beverages (SSBs)



Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

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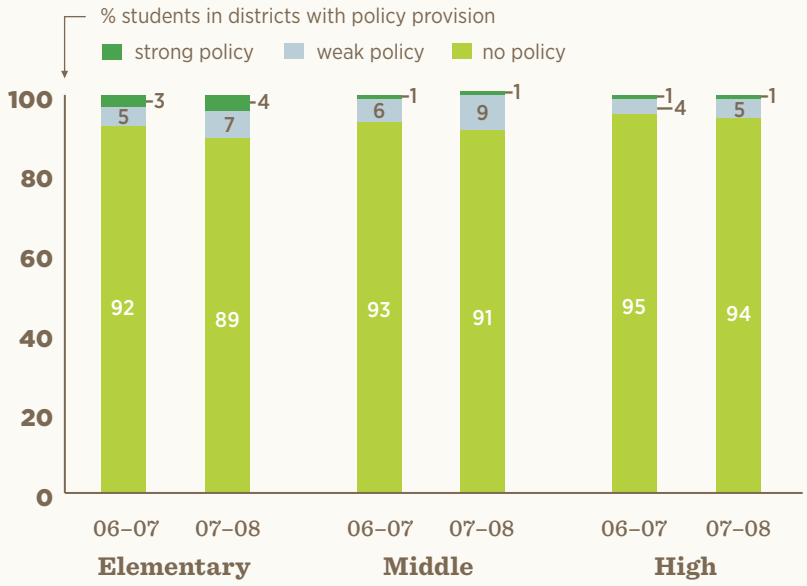
Definitive restrictions on other sugar-sweetened beverages were much less common than restrictions on soda.

OTHER BEVERAGE RESTRICTIONS

CALORIE CONTENT

- By the first day of the 2007–08 school year, more than 89 percent of all students were enrolled in a district that did not have a policy limiting the amount of calories for beverages sold through competitive sources; a slight change from the first year of the policy requirement.
- Among district policies that did address this issue in their policy at the beginning of the 2007–08 school year, it was more likely that calorie content restrictions were suggested or encouraged (weak policy), as opposed to required (strong policy).

FIGURE 5.11 Calorie Content of Competitive Beverages



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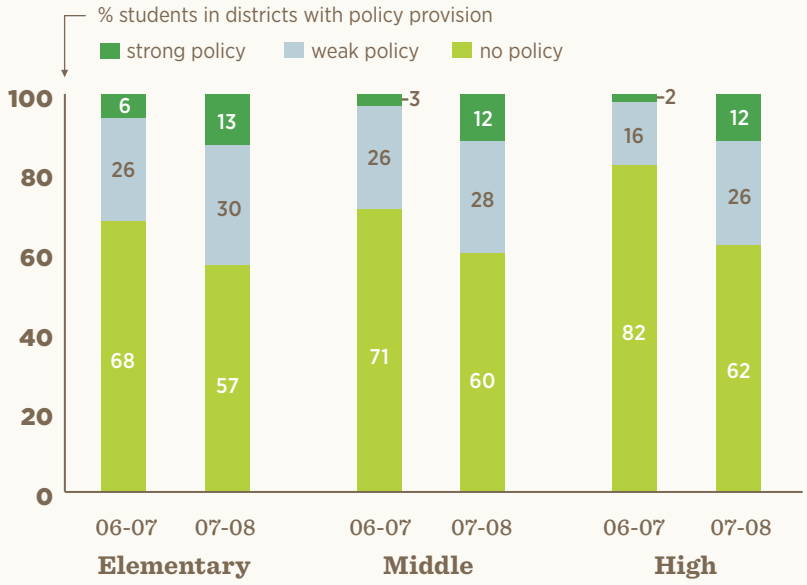
FAT CONTENT OF MILK

Although consumption of milk outside of school meal programs is relatively uncommon across all grade levels,[90] a number of districts have included policy provisions with suggested or required limits on milk fat sold through competitive venues.

- More than 38 percent of all students were enrolled in a district that addressed milk fat in its policy as of the first day of the 2007–08 school year, but few had strong policies that specifically limited options to skim or 1% milk.
- Most of the policy changes regarding milk-fat requirements occurred at the middle- and high-school levels during the two-year period.

FIGURE 5.12 Fat Content of Milk



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Fewer than 13 percent of all students were enrolled in a district with a strong policy that specifically limited milk products to skim or 1% milk by the first day of the 2007–08 school year.

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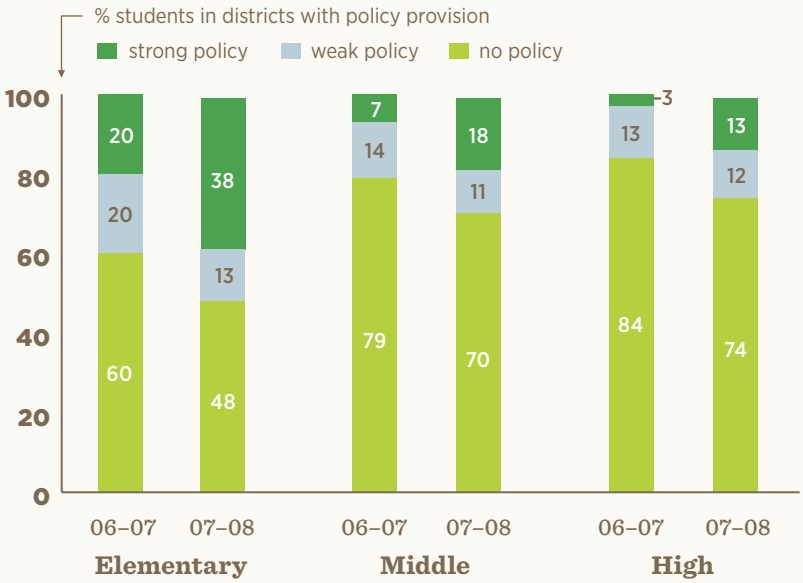
CAFFEINE CONTENT OF BEVERAGES

- By the first day of the 2007–08 school year, more than 48 percent of elementary-school students, 70 percent of middle-school students and 74 percent of high-school students were enrolled in a district that did not prohibit caffeine for all beverages sold and served through competitive venues in its policy.
- During the same period, elementary-school students were more than twice as likely to be enrolled in a district with a policy that banned caffeine in beverages at their grade level than were middle- and high-school students.

FIGURE 5.13 Caffeine Content of Beverages



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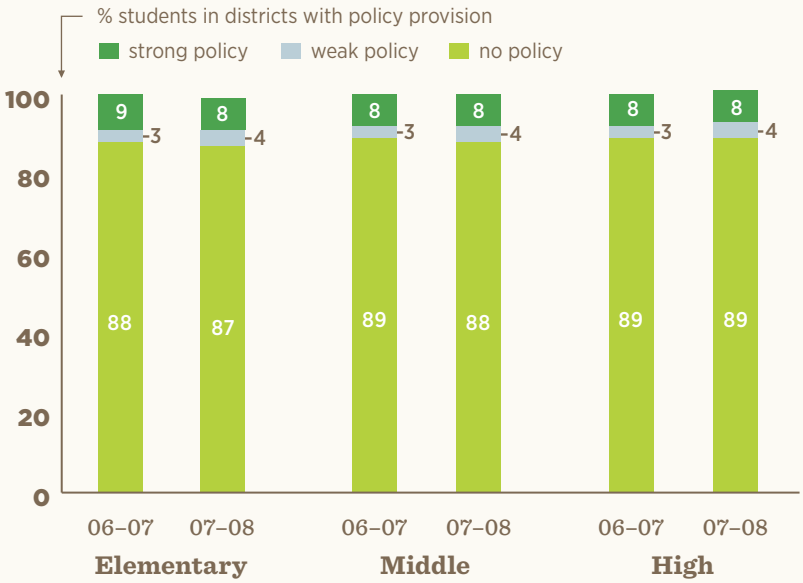
Availability of Free Drinking Water Throughout the School Day

A randomized controlled trial conducted during the 2006–07 school year found that increasing student access to free drinking water throughout the school day combined with a coordinated nutrition education program was associated with reducing the risk of being overweight among elementary-school students in deprived urban areas of Germany.[91] Making free drinking water available on campus throughout the school day is one policy strategy that some districts have used to reduce student consumption of sugar-sweetened beverages and other beverages that offer little to no nutritional value.

- By the first day of the 2007–08 school year, only 12 percent of all students were enrolled in a district with a policy that addressed the availability of free drinking water throughout the school day.
- Most of these policies were strong and included specific requirements to make drinking water freely available throughout the school day, as opposed to making water available only in the cafeteria and/or gymnasium.

FIGURE 5.14 Availability of Free Drinking Water Throughout the School Day



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By the beginning of the 2007–08 school year, 88 percent of all students were enrolled in a district that had no policy regarding the availability of free drinking water throughout the school day.

Advertising and Marketing of Foods and Beverages in Schools

Food and beverage marketing in public schools across the United States has grown substantially in the last decade. Much of this growth has been due to: efforts by food and beverage companies to increase revenue and generate product or brand loyalty; the ability of these companies to reach large numbers of children and adolescents consistently and at one time; and the revenue opportunities that such marketing practices offer to financially strapped districts and schools.[92] The direct advertising and marketing strategies employed by food and beverage companies in schools include: displaying logos on athletic scoreboards, fields, gyms, newspapers, yearbooks and screensavers; providing free textbook covers that include their advertisements; and promoting unhealthy foods and beverages on vending machine fronts.[93]

In 2006, the Institute of Medicine (IOM) concluded that food and beverage marketing influences the diets and behaviors of children and youths.[94] Competitive foods and beverages are widely available in U.S. schools, yet no national standards currently exist for restricting the marketing of these products on campuses.[95] The IOM specifically recommended that state and local education authorities, with support from parents, health officials and other stakeholders, promote healthy diets for children throughout the school environment. Further, the IOM encouraged food and beverage companies to "adopt policies and best practices that promote the availability and marketing of foods and beverages that support healthful diets."[96]

Although the Child Nutrition and WIC Reauthorization Act of 2004 did not address the marketing of foods and beverages in schools, some districts incorporated such provisions into their wellness policies during the two-year period.

- By the first day of the 2007–08 school year, nearly one-quarter of all students were enrolled in a district with a policy that encouraged or required promotion of healthy food and beverage options throughout the school (e.g., preferential pricing for healthy items, healthy food posters in the cafeteria and throughout the school). The majority of these students were in a district with a weak policy that encouraged such promotion, as opposed to a strong policy that required it.

- By the first day of the 2007–08 school year, approximately one-quarter of all students were enrolled in a district with a policy that discouraged or prohibited the marketing of unhealthy foods and beverages in the school. The majority of these students were in a district that with a strong policy that explicitly prohibited the marketing of unhealthy foods and beverages.

    - The percentage of students in a district with a strong policy that prohibited the marketing of unhealthy foods and beverages in school remained relatively low at 17 percent. However, the percentage of students enrolled in a district with such a policy increased by more than 54 percent at the elementary-school level, more than 78 percent at the middle-school level and more than 100 percent at the high-school level during the two-year period.

Although relatively uncommon, wellness policy prohibitions on the marketing of unhealthy foods and beverages increased during the two-year period.

FIGURE 5.15 Promotion of Healthy Foods and Beverages

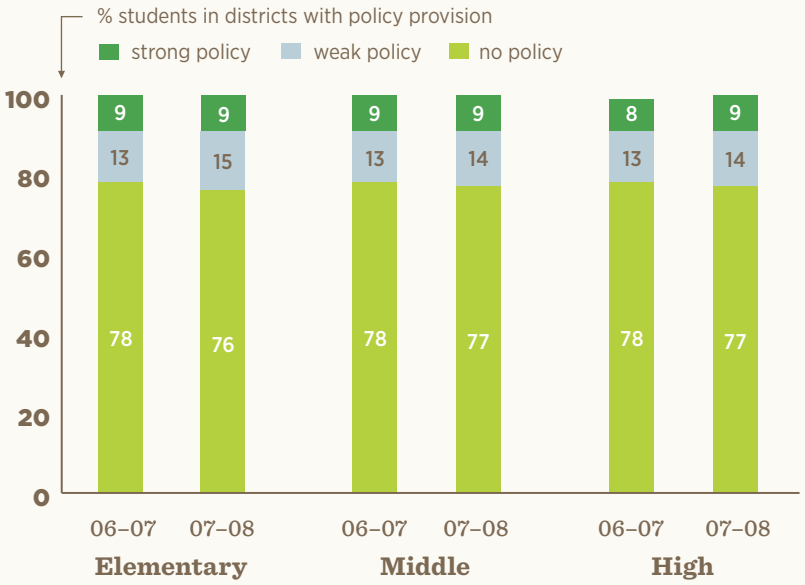

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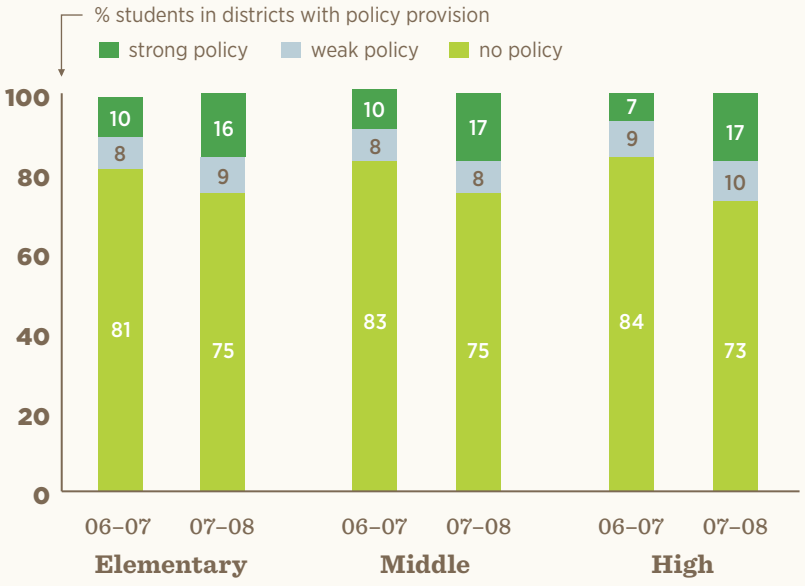
FIGURE 5.16 Restrictions on Marketing of Unhealthy Foods and Beverages



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Competitive Food Restrictions by Socioeconomic Status and Race/Ethnicity

Certain competitive food policies also varied by district socioeconomic status (SES)[g] and the racial/ethnic composition[h] of the districts' students.[i] All data below represent findings by the first day of the 2007–08 school year.

Limits on Access to Competitive Foods

Socioeconomic Status

- At the elementary-school level, students in low- or medium-SES districts were less likely to be in a district with a policy that restricted or prohibited vending machine sales or school stores than were students in high-SES districts.
- At the high-school level, students in low-SES districts were less likely to be in a district with a policy that restricted or prohibited vending machine sales than were students in high-SES districts.

Race/Ethnicity

- Regardless of grade level, students in diverse racial/ethnic districts were more likely than students in predominantly white districts to be in a district with a strong policy that: 1) restricted or prohibited vending machine sales; and 2) restricted or prohibited school stores on campus.
- At the elementary-school level, students in predominantly Latino districts were more likely to be in a district with a strong policy that prohibited school stores than were students in predominantly white districts.

[g] Throughout this document, free and reduced-price lunch (FRL) participation has been used as a proxy for socioeconomic status (SES) within districts. FRL is based on verified family income or categorical eligibility based on household participation in other federal assistance programs, including the Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families (TANF).[97] The SES groupings were computed as tertiles as follows: low SES (>47% FRL participation), medium SES (>28% to 47% FRL participation), and high SES (0 to 28% FRL participation).

[h] Data on the proportion of students who were white, black or Latino were computed to identify whether the student population was: majority white (>66% white), majority black (>50% black), or majority Latino (>50% Latino). Districts with diverse student populations that were not majority white, black or Latino represent the remaining districts.

[i] Only SES and racial/ethnic variations that were different in analyses controlling for other district-level factors (e.g., SES and/or race/ethnicity, total instruction dollars per pupil, region and locale) have been highlighted in this section.

Limits on Fat, Sugar and Calorie Content of Competitive Foods and Beverages

Socioeconomic Status

- At the elementary-school and middle-school levels, students in medium-SES districts were less likely to be in a district with a strong policy that imposed specific limits on the fat content of competitive foods than were students in high-SES districts.

- At the high-school level, students in low- or medium-SES districts were less likely to be in a district with a strong policy that required milk products be limited to skim or 1% milk than were students in high-SES districts.

Race/Ethnicity

Differences in competitive food and beverage content restrictions also varied by racial/ethnic composition of the student population. With a few exceptions, policies related to competitive foods and beverages generally did not vary between districts where the majority of the student population was black and those where it was white.

- At the elementary-school level, students in diverse racial/ethnic districts were more likely than students in predominately white districts to be in a district with a policy that: 1) suggested restrictions or specifically limited the sugar, fat or calorie content of competitive foods; 2) limited or banned the sale of regular soda; 3) limited or banned the sale of other sugar-sweetened beverages; or 4) restricted or banned caffeinated beverages.

- At the elementary-school level, students in predominantly Latino districts were more likely than students in predominately white districts to be in a district with a policy that: 1) suggested restrictions or specifically limited the fat content of competitive foods; 2) limited or banned the sale of regular soda; or 3) restricted or banned caffeinated beverages.

- At the middle-school level, students in diverse racial/ethnic districts were more likely than were students in predominantly white districts to be in a district with a strong policy that limited or banned the sale of regular soda.

- At the middle- and high-school levels, among predominately black districts, no students were enrolled in a district with a strong policy that placed specific limits on the calorie content of competitive foods.

- At the middle- and high-school levels, students in diverse racial/ethnic districts were more likely than were students in predominantly white districts to be in a district with a policy that suggested or completely limited the fat content or calories per serving.

- At the middle- and high-school levels, students in predominantly Latino districts were more likely than were students in predominantly white districts to be in a district with a policy that: 1) suggested restrictions or specifically limited the fat content of competitive foods; or 2) banned the sale of regular soda.

- At the high-school level, students in predominantly Latino districts were more likely than were students in predominantly white districts to be in a district with a strong policy that limited milk sales to skim or 1% milk.

- At the high-school level, students in predominantly black districts were more likely than were students in predominantly white districts to be in a district with a policy that suggested restrictions or specifically limited the fat content of competitive foods.

FIGURE 5.17 Fat Content of Competitive Foods by Race/Ethnicity

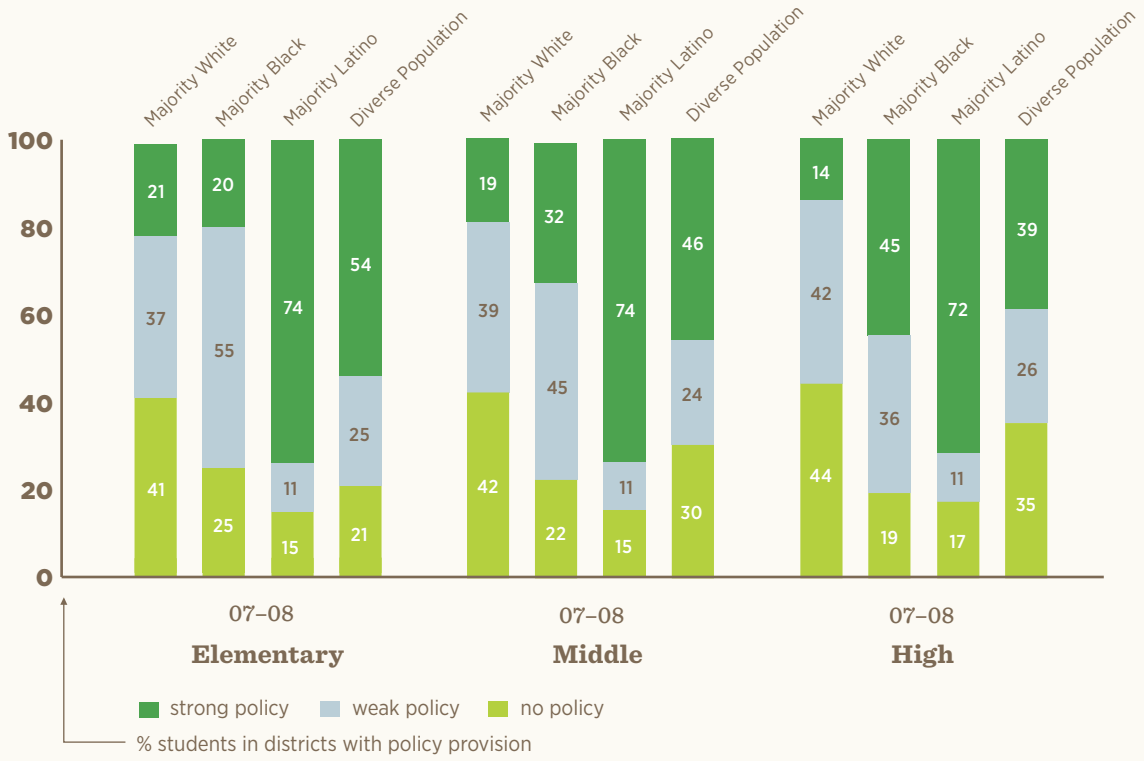

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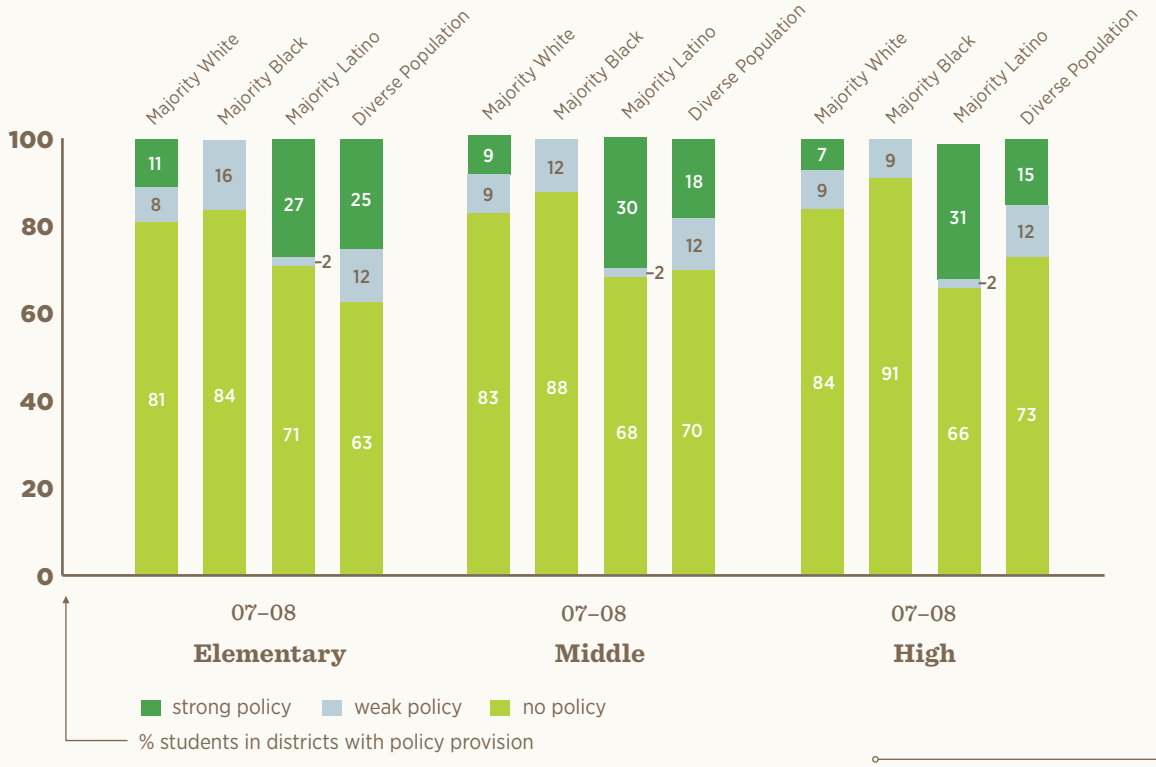
FIGURE 5.18 Calorie Content of Competitive Foods by Race/Ethnicity



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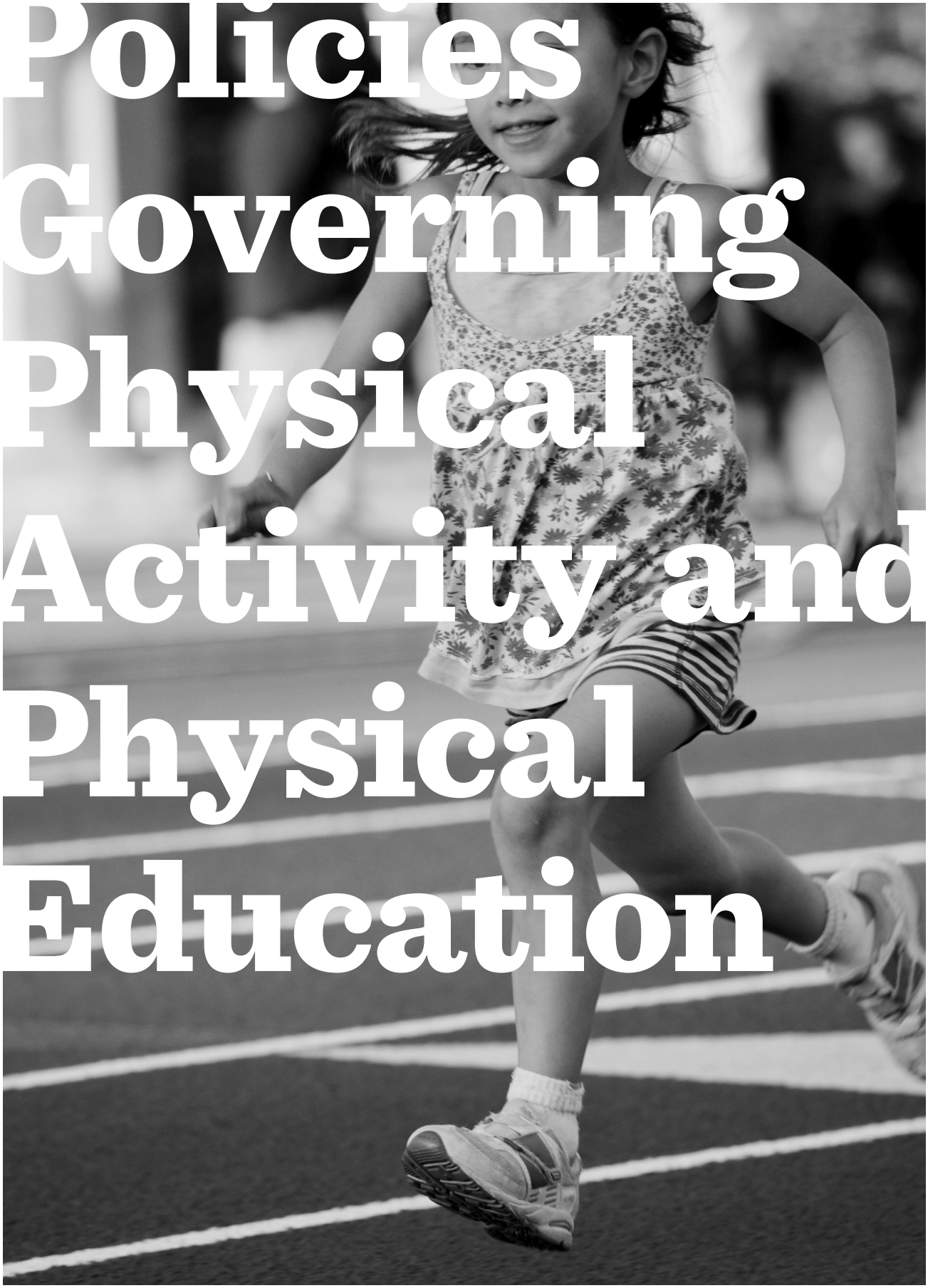
Among districts with a predominately black student population, there were no strong policies setting specific limits on the calorie content of competitive foods at the middle- and high-school levels.

Summary

While the vast majority of students were enrolled in a district that suggested or required guidelines governing competitive foods and beverages, the restrictions set forth by districts varied greatly. Across all provisions, district wellness policies were clearly strengthened during the two-year period. The gains in policy strength demonstrated by data presented in this chapter can be explained by the following:

- *Not all district policies were in place by the first day of the 2006–07 school year—these policies were only counted for the 2007–08 school year.*
- *Some district policies were revised between the school years.*
- *Many policies included delayed effective dates for the competitive food and beverage restrictions, which did not fully take effect until the 2007–08 school year.*
- *Competitive food and beverage access and content restrictions were increasingly applied at the middle- and high-school levels by the 2007-08 school year—an indicator that districts gradually are expanding competitive food and beverage policies at the secondary-school level.*

By far, competitive foods and beverages were the most common and diverse set of policy provisions included in the district wellness policies. However, analyses of data from the first two years of the wellness policy requirement show great variability in the strength and scope of district-level policies governing competitive foods and beverages.



Policies Governing Physical Activity and Physical Education

CHAPTER 6

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Policies Governing Physical Activity and Physical Education

Data from the 2003–04 National Health and Nutritional Examination Survey (NHANES) have shown that physical activity levels, as assessed by accelerometer, decline significantly from childhood to adolescence and continue to decline into adulthood.[98] Forty-two percent of children ages 6 to 11 met the recommendation for 60 minutes of daily physical activity, yet only 8 percent of adolescents ages 12 to 19 met the recommendation. Among adults, fewer than 5 percent achieved 30 minutes of daily physical activity, which is recommended by the Centers for Disease Control and Prevention (CDC).[99] Compared with boys, girls were less likely to engage in an adequate amount of moderate-to-vigorous physical activity by the time they reach adolescence and into adulthood. This trend was more pronounced among Hispanic and black females than Asian-American and white females.[100] One study estimated that girls fell below the recommended level of moderate-to-vigorous physical activity for weekday activity at 13.1 years, while boys fell below at 14.7 years.[101]

The U.S. Department of Health and Human Services' *Physical Activity Guidelines for Americans* and the National Association for Sport & Physical Education (NASPE) recommend that children engage in at least 60 minutes, and up to several hours, of physical activity daily. They also recommend that moderate-to-vigorous physical activity should account for the majority of the activity time; the activity should be accumulated in several short bouts throughout the school day; and strength training should be included. Extended periods of inactivity (e.g., more than two hours) are discouraged.[102,103]

Schools serve as an excellent venue to provide young people the opportunity for daily physical activity and to build skills that will support lifelong healthy behaviors. The CDC Task Force on Community Preventive Services reports insufficient evidence to determine the effectiveness of classroom-based health education focused on providing information on increasing physical activity levels and physical fitness.[104] However, the task force recommends implementing programs that increase the length of, or activity levels in, school-based physical education classes. These recommendations are based on strong evidence of effectiveness in improving both physical activity levels and physical fitness among school-age children and adolescents.[105] In addition, several recent studies have found a positive association between school-based physical activity and cognitive functioning, on-task behavior, motor skills, self-esteem and body image, concentration, memory, and classroom behavior in elementary students.[106-108]

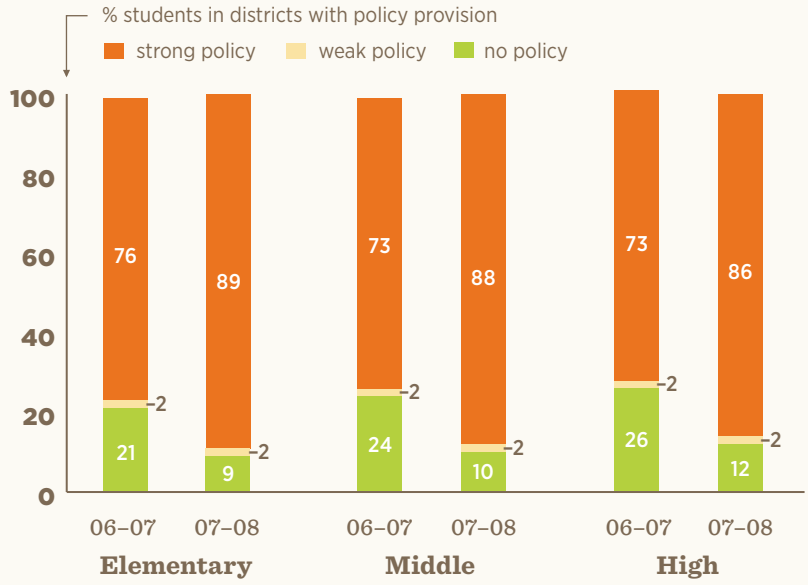
The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265, Section 204) required that each school district's wellness policy include goals for physical activity. This chapter includes data showing the percentages of students enrolled in districts nationwide that met this requirement by the first day of the 2006–07 and 2007–08 school years, which were the first two years of the wellness policy requirement. It also provides examples of specific physical activity provisions that were or were not incorporated into the district wellness policies for those school years. Because physical education is a primary strategy for increasing students' physical activity at school, this chapter also presents data showing the extent to which districts address physical education, even though federal legislation did not require the district policies to include language about physical education.

For each policy provision described, data are presented on the percentage of students in a district with: 1) a strong policy; 2) a weak policy; or 3) no policy. We defined strong policy provisions as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce*. We defined weak policy provisions as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

Physical Activity Goals

- By the beginning of the 2007–08 school year, more than 86 percent of all students were enrolled in a district with a policy that included goals for physical activity, as required by the federal legislation.
    - During the two-year period, the percentage of students enrolled in a district with a policy that had physical activity goals increased by 17 percent in elementary schools, 20 percent in middle schools and 19 percent in high schools.

FIGURE 6.1 Physical Activity Goals*



*Required wellness policy element

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By the first day of the 2007–08 school year, more than 86 percent of all students were enrolled in a district that included physical activity goals in its wellness policy.

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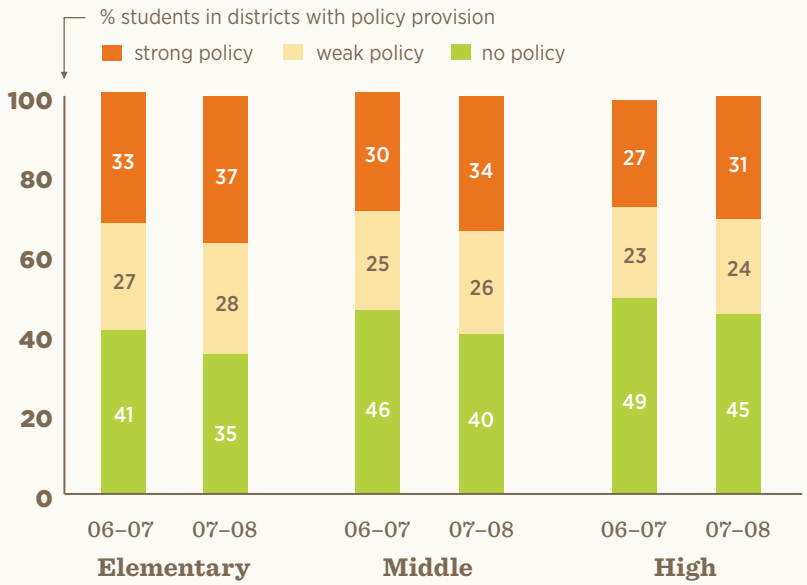
Other Provisions Related to Physical Activity

Physical Activity Opportunities Outside of Physical Education

School-based physical activity opportunities that take place outside of physical education include physical activity breaks, initiatives that integrate regular physical activity throughout the school day and—at the elementary level—recess. *The Guidelines for School and Community Programs to Promote Lifelong Physical Activity among Young People,* which were developed by the CDC, recommend that physical activity programs emphasize enjoyable participation in lifelong physical activities; include a diverse range of competitive and non-competitive activities; help build young people's skills and confidence; and promote physical activity as part of a broader coordinated school health program.[109]

- By the first day of the 2007–08 school year, the majority of students were enrolled in a district with a policy that suggested or required providing physical activity outside of physical education for every grade level, but the policy provisions varied greatly.
    - Fewer than 40 percent of all students were enrolled in a district with a strong policy that required physical activity opportunities to be provided outside of physical education for every grade level. This represents an increase of 13 percent to 14 percent across all grade levels during the two-year period.
    - From 24 percent to 28 percent of students were enrolled in a district with a weak policy that suggested physical activity opportunities be provided outside of physical education, or a policy that required such opportunities for some, but not all, grades.
    - From 35 percent to 45 percent of students were enrolled in a district with a policy that did not address whether physical activity should or must be provided outside of physical education for every grade level.

FIGURE 6.2 Physical Activity Outside of Physical Education for Every Grade Level



Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

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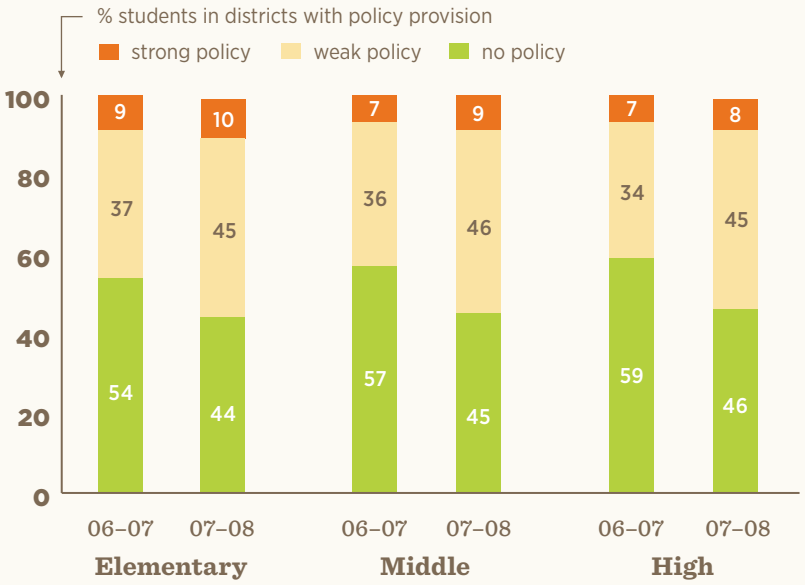
Physical Activity Opportunities Throughout the School Day

According to data from the CDC's School Health Policies and Programs Study (SHPPS), participation in physical activity opportunities during the school day was most common in middle schools, 67 percent, compared with 44 percent and 22 percent at the elementary- and high-school levels, respectively, during the 2006–07 school year.[110]

- By the beginning of the 2007–08 school year, requirements for physical activity opportunities throughout the school day were not commonly addressed in the district wellness policies.
    - Fewer than 10 percent of all students were enrolled in a district with a strong policy that required physical activity opportunities to be provided throughout the school day (e.g., physical activity breaks).
    - More than 45 percent of all students were enrolled in a district with no policy provision that addressed providing physical activity opportunities throughout the school day, including physical activity breaks.

FIGURE 6.3 Physical Activity Throughout the School Day



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Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

By the first day of the 2007–08 school year, fewer than 10 percent of students were enrolled in a district that required physical activity opportunities to be provided throughout the school day.

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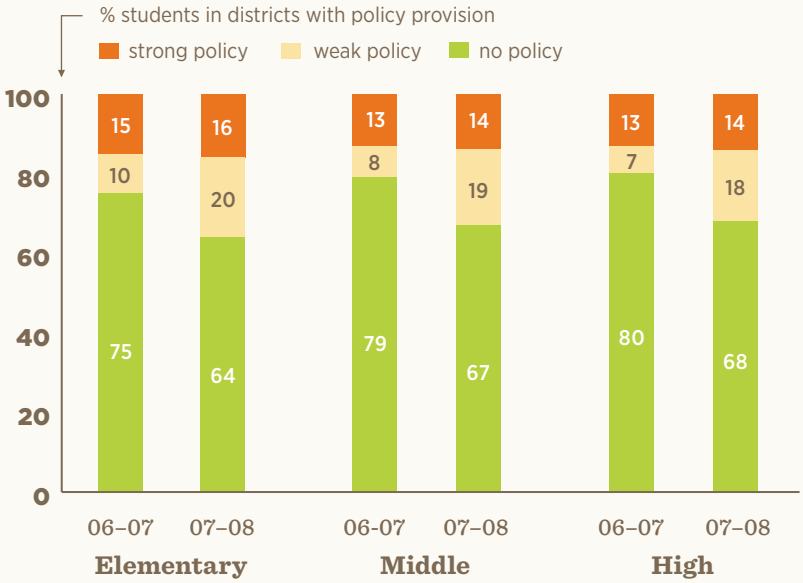
Using or Withholding Physical Activity as Punishment

The CDC discourages using or withholding physical activity as a punishment for students.[111] However, data from SHPPS indicated that 82 percent of schools with regularly scheduled recess periods allowed staff to exclude students from participating as punishment for bad behavior. Only 17 percent of schools discouraged such practices. Furthermore, 32 percent of schools allowed staff to use physical activity as punishment (e.g., running laps) for bad behavior in physical education classes. Only 9 percent of schools discouraged such practices.[112]

- By the first day of the 2007–08 school year, more than two-thirds of all students were enrolled in a district with a policy that did not address using or withholding physical activity as punishment.
- During the same period, only 16 percent of elementary-school students and 14 percent of middle- and high-school students were enrolled in a district with a strong policy that explicitly prohibited using or withholding physical activity as punishment.

FIGURE 6.4 Using or Withholding Physical Activity as Punishment



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By the first day of the 2007–08 school year, the majority of students was enrolled in a district with a wellness policy that did not address using or withholding physical activity as punishment.

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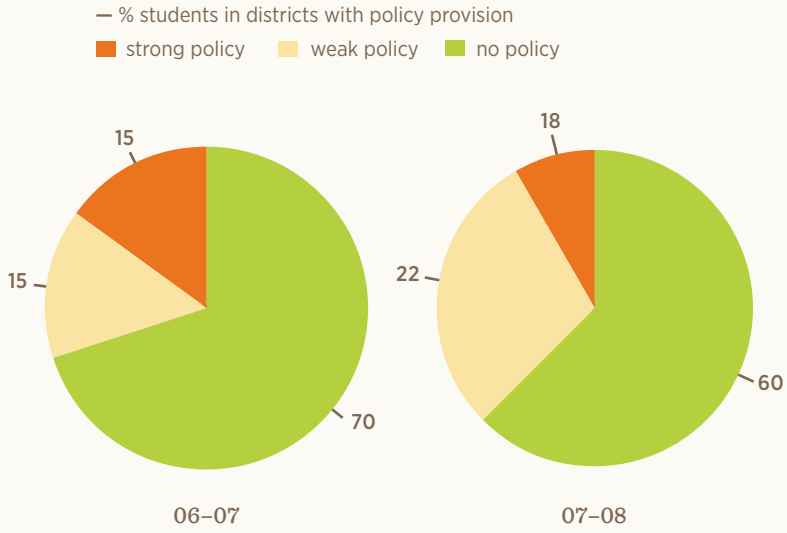
Daily Recess Requirements for Elementary-School Students

NASPE recommends that elementary schools provide students with at least one daily recess period, for a minimum of 20 minutes.[113] According to SHPPS data, 74 percent of elementary schools provided recess, for approximately five days per week and 30 minutes per day, on average, during the 2006–07 school year.[114]

- Although the SHPPS data indicate that daily recess is a common practice at the elementary level, 60 percent of all elementary-school students were enrolled in a district that did not address providing daily recess in its wellness policy by the first day of the 2007-08 school year.
    - Only 22 percent of students were enrolled in a district with a weak policy that either encouraged or required daily recess, but not for every elementary grade level.
    - Only 18 percent of students were enrolled in a district with a strong policy that required daily recess for all elementary-school students.

FIGURE 6.5 Daily Recess Requirements for Elementary-School Students



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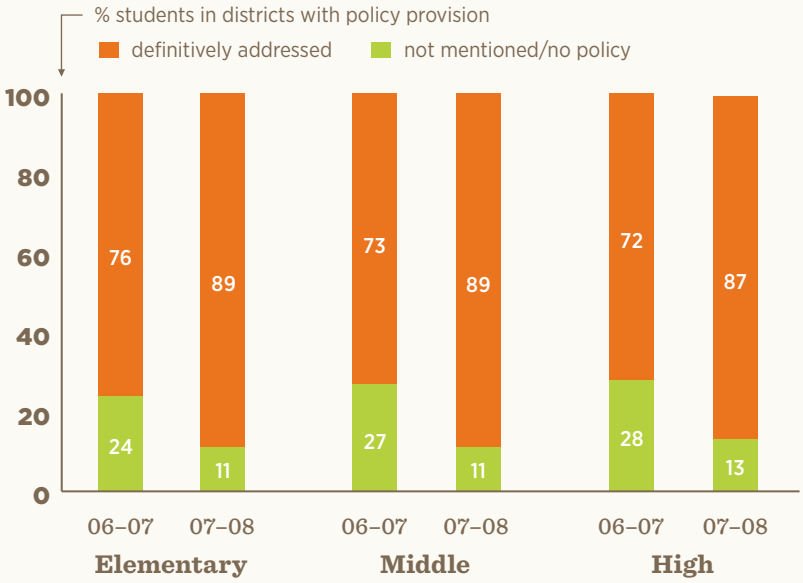
Physical Education Provisions

According to NASPE, a quality physical education program should serve as the foundation of a comprehensive school physical activity program.[115] A quality physical education program includes: 1) daily physical education; 2) a curriculum meeting the National Standards for Physical Education; 3) student assessment aligned with instruction; 4) a certified physical education instructor; 5) a pupil-teacher ratio that is equivalent to that in the classroom context; and 6) adequate equipment.[116]

- Although the federal legislation did not require physical education provisions to be included as part of the district wellness policies, more than 87 percent of students were enrolled in a district that included such provisions within its policy by the first day of the 2007–08 school year. This represents an increase of more than 18 percent during the two-year period.

Some district wellness policies included specific provisions related to physical education, and others referenced state-mandated physical education standards. Data below describe the percentage of students enrolled in a district that either included specific physical education provisions in its policy or referenced state physical education standards.

FIGURE 6.6 Physical Education Provisions



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The vast majority of students were enrolled in a district with a wellness policy that included provisions related to physical education, but the quality and strength of the provisions varied greatly.

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Physical Education Time Requirements

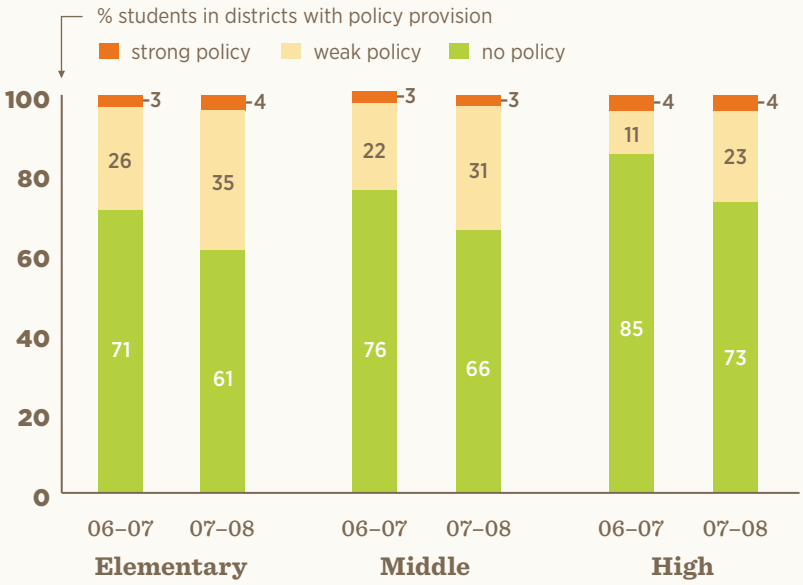
NASPE recommends that a quality physical education program include instructional periods totaling 150 minutes per week for elementary-school students and 225 minutes per week for middle- and high school-students.[117] Data from SHPPS indicated that fewer than 8 percent of all schools provided daily physical education in all grades for the entire school year during 2006–07.[118] SHPPS data also indicated that the total amount of active time spent in a typical physical education period during the 2006–07 school year was 34.9, 39.7 and 44.6 minutes, in elementary, middle and high schools, respectively.[119]

- At the beginning of the 2007–08 school year, only 3 percent to 4 percent of all students were enrolled in a district with a strong wellness policy requiring that the NASPE-recommended amount of weekly physical education be provided.

- During the same period, 35 percent of elementary students, 31 percent of middle-school students and 23 percent of high-school students were enrolled in a district with a weak policy that either included time requirements for physical education that did not meet the NASPE standard or a policy that specified a minimum number of days for physical education, but not the amount of time per day.

Notably, in a number of instances, district wellness policies included the NASPE-recommended time requirements but set requirements for a minimum amount of *physical activity* time rather than *physical education* time. Physical education was included as one possible strategy for meeting the required amount of physical activity time per week. In such instances, the district wellness policies essentially reduced the amount of time required for physical education each week.

FIGURE 6.7 Physical Education Time Requirements



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A number of districts had policies that required a specific amount of time for *physical activity,* but not for *physical education.* In this way, some district wellness policies actually encouraged schools to fall below the NASPE recommendations for time spent in physical education.

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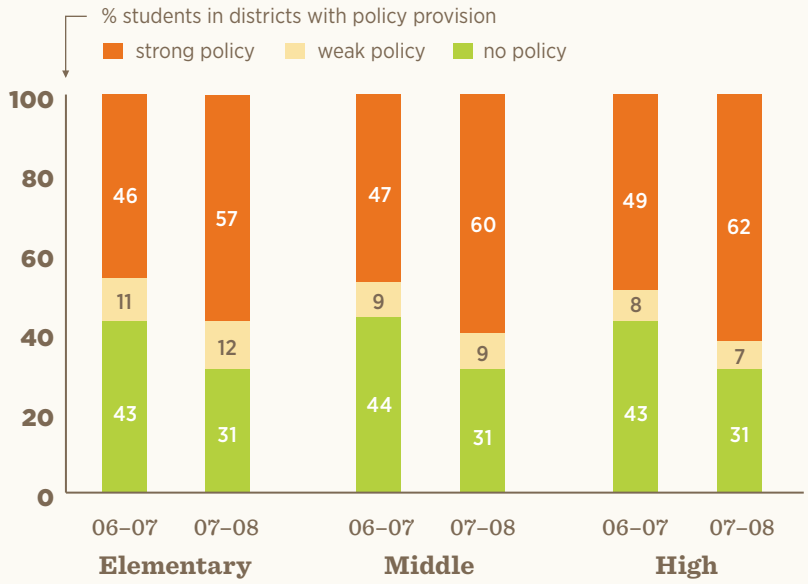
Physical Education Required to Teach About a Physically Active Lifestyle

Both NASPE and the CDC recommend that a quality physical education program provide students with the knowledge, skills and attitudes necessary to adopt and maintain a physically active lifestyle.[120,121] NASPE recommends that physical education programs teach motor-skill development; provide a wide range of developmentally appropriate physical activities; improve personal fitness; provide opportunities to learn positive social skills, such as teamwork and cooperation; and improve self-confidence and self-esteem to help facilitate physical activity throughout the lifespan.[122]

- By the first day of the 2007–08 school year, the majority of students were enrolled in a district that had a policy or followed state-mandated standards requiring physical education to include a component about physically active lifestyles.
    - More than 57 percent of elementary-school students and more than 60 percent of middle- and high-school students were enrolled in a district with a strong policy that required physical education to include a component about physically active lifestyles.

FIGURE 6.8 Physical Education Required to Teach About a Physically Active Lifestyle



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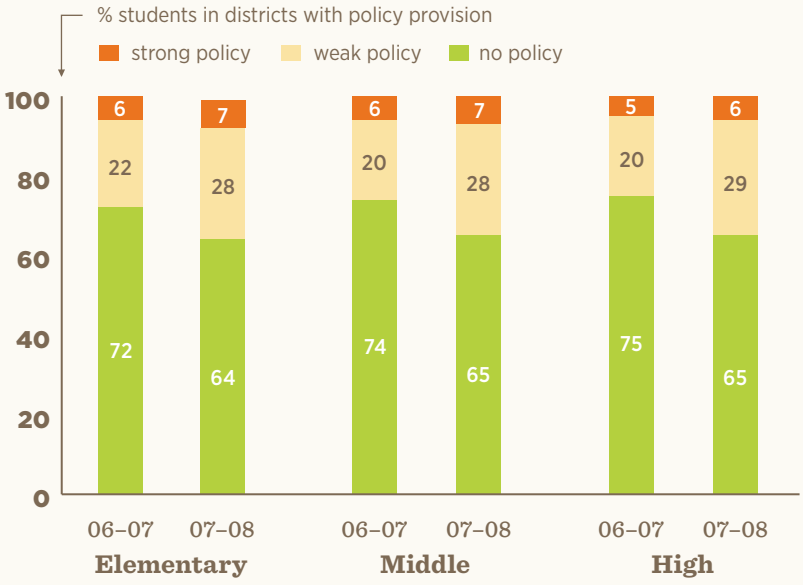
Physical Education Time Devoted to Moderate-to-Vigorous Physical Activity

Recommendations set for *Healthy People 2010* by the U.S. Department of Health and Human Services specify that at least one-half of daily physical education class time should be devoted to moderate-to-vigorous physical activity.[123] Studies observing physical activity among third-grade girls nationwide[124] and female middle-school students in six states[125] found that time spent in moderate-to-vigorous physical activity during physical education classes fell below the national recommendation. A Canadian study that monitored children during a three-year period found that less time engaged in moderate-to-vigorous physical activity was associated with increased odds of overweight and adiposity among children ages 8 to 10.[126]

- By the beginning of the 2007–08 school year, most students were enrolled in a district with a policy that did not mention moderate-to-vigorous physical activity as part of the physical education provisions.
    - Fewer than 7 percent of students were enrolled in a district with a strong policy requiring that at least one-half of physical education class time be devoted to moderate-to-vigorous physical activity or a district that followed state standards with such requirements.
    - Fewer than 30 percent of students were enrolled in a district with a weak policy that encouraged, but did not mandate, these requirements or a district that followed a state standard that encouraged such requirements.

FIGURE 6.9 Physical Education Time Devoted to Moderate-to-Vigorous Physical Activity



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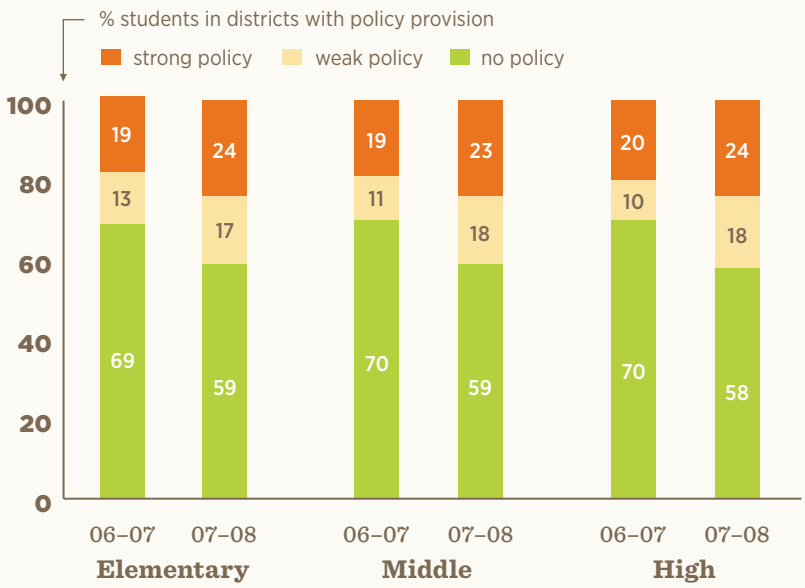
Qualifications of Physical Education Instructors

Most state laws specify certification requirements for instructors seeking to become a state-authorized (e.g., licensed or certified) physical educator.[127,128] National data from SHPPS for the 2006–07 school year indicated that physical education was taught by a physical education teacher or specialist in 89 percent of elementary schools and 94 percent of middle and high schools. Other staff responsible for teaching physical education included health education teachers and teachers of other subjects.[129] Overall, district wellness policies did not require that physical education be taught by a state-authorized physical educator.

- By the first day of the 2007–08 school year, nearly one-quarter of all students were enrolled in a district with a strong policy that required physical education to be taught by a state-authorized physical educator or a policy that referenced a state standard with such a requirement.
- During the same period, more than half of all students were enrolled in a district with a policy that did not address whether physical education must be taught by state-authorized physical educators.

FIGURE 6.10 Required Physical Education to be Taught by a State-Authorized Physical Educator



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Physical Activity and Physical Education Policies by Socioeconomic Status and Race/Ethnicity

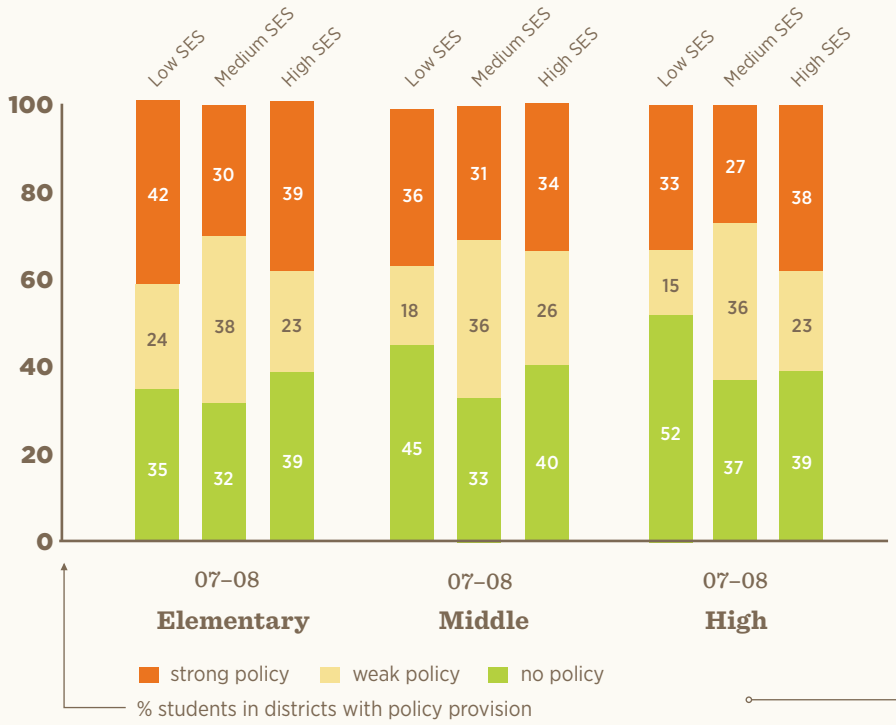
Some physical activity and physical education policies also varied by district socioeconomic status (SES)[j] and the racial/ethnic composition[k] of the districts' students.[l] All data below represent findings by the first day of the 2007–08 school year.

Socioeconomic Status

Certain physical activity and physical education policies varied significantly by SES at the elementary- and high-school levels. No significant differences were found at the middle-school level.

- At the elementary-school level, students from medium-SES districts were less likely than students from high-SES districts to be enrolled in a district with a strong policy that required physical activity outside of physical education for every grade level.
- At the high-school level, students from low-SES districts were less likely than students from high-SES districts to be enrolled in a district with a policy that suggested or required physical activity outside of physical education for every grade level.

FIGURE 6.11 Physical Activity Outside of Physical Education by District Socioeconomic Status (SES)



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[j] Throughout this document, free and reduced-price lunch (FRL) participation has been used as a proxy for socioeconomic status (SES) within districts. FRL is based on verified family income or categorical eligibility based on household participation in other federal assistance programs including the Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families (TANF).[130] The SES groupings were computed as tertiles as follows: low SES (>47% FRL participation), medium SES (>28% to 47% FRL participation), and high SES (0 to 28% FRL participation).

[k] Data on the proportion of students that were white, black or Latino were computed to identify whether the student population was: majority white (>66% white), majority black (>50% black), or majority Latino (>50% Latino). Districts with diverse student populations that were not majority white, black or Latino represent the remaining districts.

[l] Only SES and racial/ethnic variations that were different in analyses controlling for other district-level factors (e.g., SES and/or race/ethnicity, total instruction dollars per pupil, region and locale) have been highlighted in this section.

- At the elementary-school level, students from low- or medium-SES districts were more likely than students from high-SES districts to be enrolled in a district with a strong policy that met the NASPE standard for a minimum of 150 minutes of physical education per week.

- At the high-school level, students from low- or medium-SES districts were less likely than students from high-SES districts to be enrolled in a district with a policy that: 1) suggested that physical education class time include moderate-to-vigorous physical activity; or 2) required at least one-half of physical education class time to be devoted to moderate-to-vigorous physical activity.

Race/Ethnicity

Students in predominantly black, Latino and racially/ethnically diverse districts were enrolled in districts with varying physical activity and physical education policy requirements as compared with students in predominantly white districts.

- Across all grade levels, students in predominantly Latino districts were more likely than students in predominantly white districts to be in a district with a policy that either encouraged or required physical activity opportunities outside of physical education to be provided for all grade levels.

- Across all grade levels, students in racially/ethnically diverse districts were less likely than students in predominantly white districts to be in a district with a policy that either encouraged or required physical activity opportunities outside of physical education to be provided for all grade levels.

- At the elementary- and middle-school levels, students in predominantly Latino districts were more likely than students in predominantly white districts to be in a district with a policy that: 1) suggested that physical education class time include moderate-to-vigorous physical activity; or 2) required at least one-half of physical education class time to be devoted to moderate-to-vigorous physical activity.

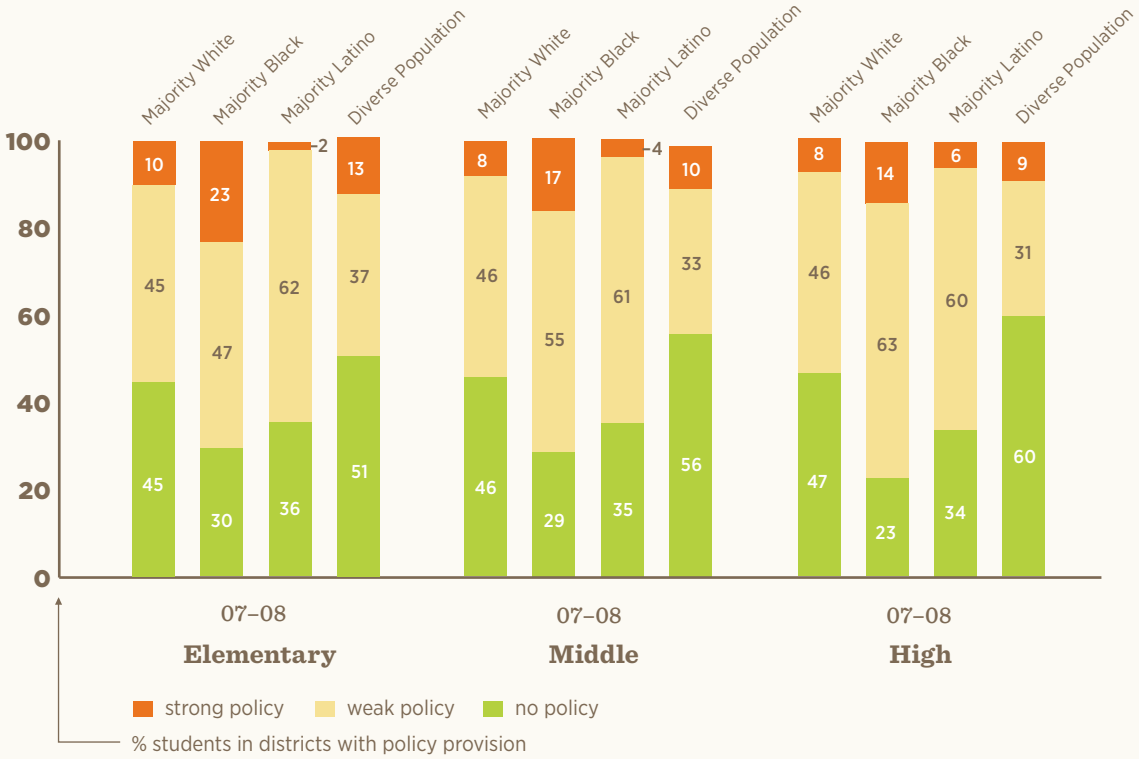
- At the elementary-school level, students in predominantly Latino districts were less likely than students in predominantly white districts to be in a district with a strong policy that required physical activity opportunities to be provided throughout the day.

- At the high-school level, students in predominantly black districts were more likely to be in a district with a strong policy that required physical activity opportunities to be provided throughout the day.

- At the high-school level, students in predominantly Latino districts were more likely than students in predominantly white districts to be in a district with a weak policy that suggested that physical education class time include moderate-to-vigorous physical activity.

Elementary students from low- or medium-SES districts were more likely than students from high-SES districts to be enrolled in a district with a strong policy that met the NASPE standard for 150 minutes per week of physical education.

FIGURE 6.12 Physical Activity Opportunities Throughout the School Day by Grade Level and Race/Ethnicity



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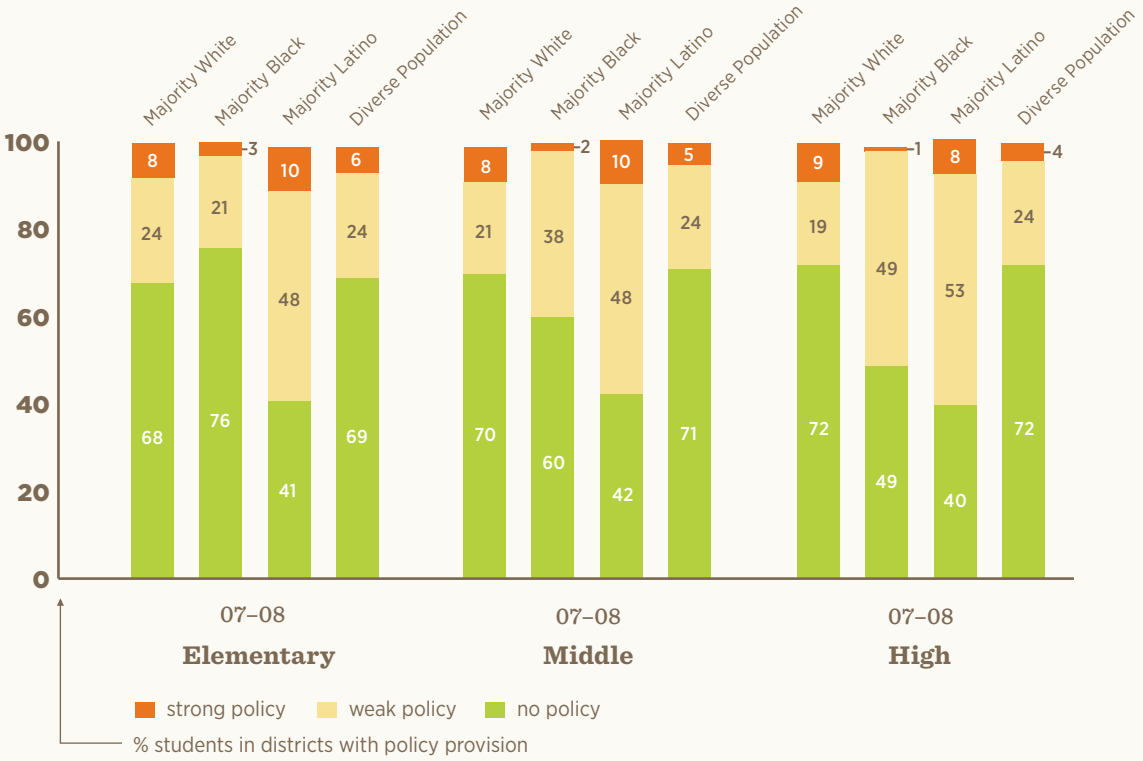
Elementary- and middle-school students in predominantly Latino districts were more likely to be in a district with a policy that either suggested or required that a portion of physical education class time be devoted to moderate-to-vigorous physical activity.

FIGURE 6.13 Physical Education Time Devoted to Moderate-to-Vigorous Physical Activity by Grade Level and Race/Ethnicity



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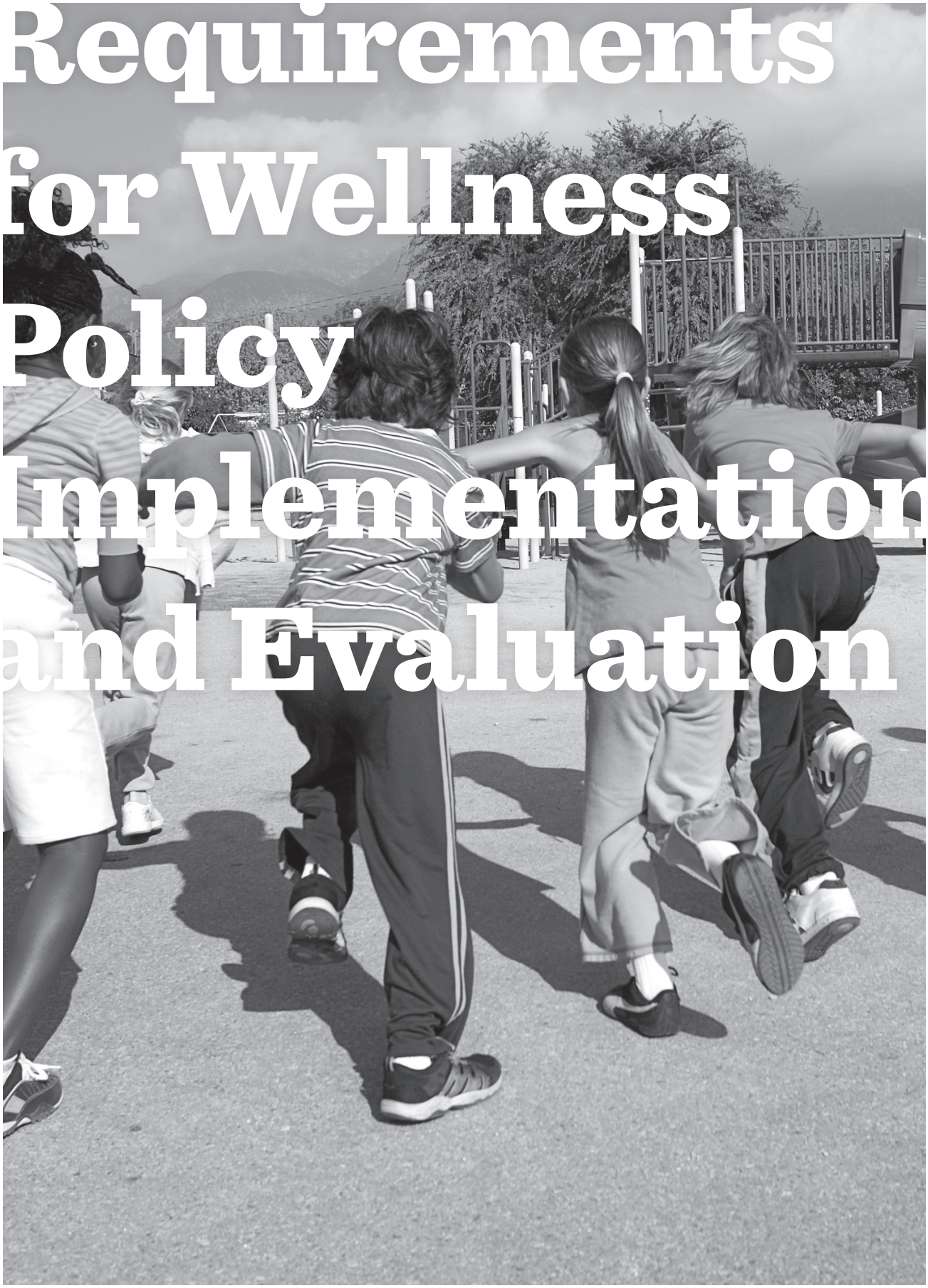
Summary

While the vast majority of students were enrolled in a district that included goals for physical activity in its wellness policy, the related policy provisions set forth by districts varied greatly. In most cases, district wellness policies provided weak language, rather than strong policy requirements, for provisions related to physical activity, such as encouraging (rather than requiring) physical activity opportunities for students throughout the school day. Interestingly, more than 87 percent of students nationwide were enrolled in a district that addressed physical education as part of the wellness policy, even though the Child Nutrition and WIC Reauthorization Act of 2004 did not require this topic to be included in the wellness policy. However, in most cases, district wellness policies fell far short of national standards for physical education among all grade levels and national standards for recess at the elementary level.

Overall, most district wellness policy provisions related to physical activity and physical education did not vary by grade level, and there were not marked changes in these provisions for the first two years of the wellness policy requirement. Because most district wellness policies addressed physical education, Congress will have an opportunity to help districts nationwide identify and establish specific goals for physical education and strengthen requirements for physical activity overall as lawmakers consider the reauthorization of the Child Nutrition and WIC programs.

Requirements for Wellness Policy Implementation and Evaluation



CHAPTER 7

CHAPTER 7

Requirements for Wellness Policy Implementation and Evaluation

The Child Nutrition and WIC Reauthorization Act of 2004 (P.L. 108-265, Section 204) required school districts to develop a wellness policy to help create healthier school environments, reduce childhood obesity and prevent diet-related chronic diseases. Monitoring and evaluating the implementation of the district wellness policies is a critical component of the federal mandate. It is equally important to systematically review each district policy to determine if it meets the needs of the given district, is aligned with current scientific recommendations, and is politically and financially feasible.

Preliminary assessments of the implementation of district wellness policies indicated that their evaluation components were fairly weak. Analyses conducted in Colorado and Connecticut found a mean strength rating of 30 and 38, respectively, for district wellness policy provisions related to evaluation. The scores were based on a scale of 1 to 100.[131,132] In addition, early data from national and statewide studies consistently identified limited resources, such as funding, time and labor, as the primary barrier to implementing district wellness policy components.[133-135] It is not yet clear that results from these studies accurately represent national data or trends. More evidence about the implementation of district wellness policies and their impact on school environments is needed.

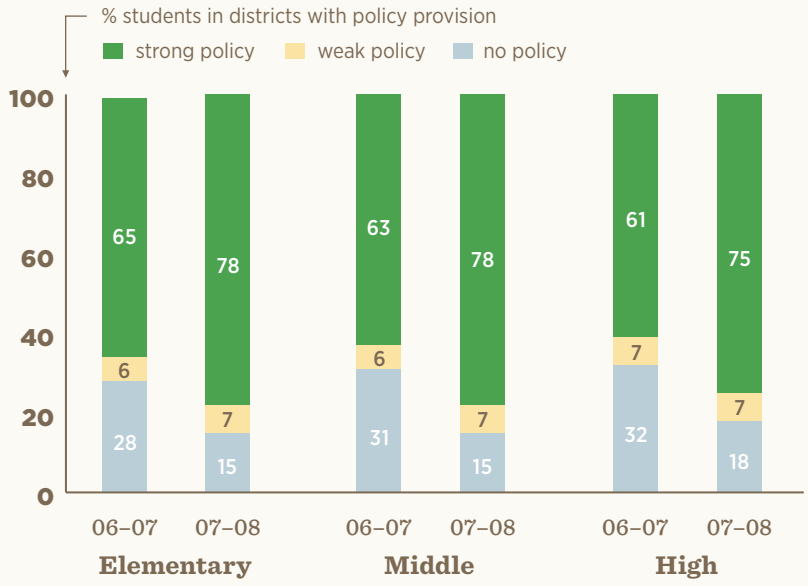
The Child Nutrition and WIC Reauthorization Act of 2004 required that each school district's wellness policy include a plan for measuring implementation of the policy itself and designate at least one person within the school district or at each school, as appropriate, who is charged with operational responsibility for ensuring that the school meets the wellness policy requirements. This chapter includes data showing the percentages of students enrolled in districts nationwide that met this requirement by the first day of the 2006–07 and 2007–08 school years, which were the first two years of the wellness policy requirement. It also provides examples of specific implementation and evaluation strategies that districts included in their wellness policies, including assessing and reporting on body mass index (BMI) for individual students.

For each policy provision described, data are presented on the percentage of students in a district with: 1) a strong policy; 2) a weak policy; or 3) no policy. We defined strong policy provisions as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce.* We defined weak policy provisions as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

Plans for Implementation

- By the first day of the 2007–08 school year, more than three-quarters of all students were enrolled in a district with a strong policy that included a specific implementation plan and designated a person responsible for ensuring implementation, as required by the federal legislation.
- The proportion of students in a district with this policy provision increased by more than 19 percent at the elementary-school level and more than 23 percent at the middle- and high-school levels during the two-year period.

FIGURE 7.1 Plans for Implementation*



*Required wellness policy element

Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

We defined **STRONG POLICY PROVISIONS** as those that required action and specified an implementation plan or strategy. They included language such as *shall, must, will, require, comply* and *enforce.* **WEAK POLICY PROVISIONS** offered suggestions or recommendations, and some required action, but only for certain grade levels or times of day. They included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

More than three-quarters of all students nationwide were enrolled in a district with a strong policy that included a specific implementation plan and designated a person responsible for ensuring implementation.

Implementation Strategies

While the majority of students were enrolled in a district with explicit implementation plan requirements, the specific details of these plans varied greatly. To help measure wellness policy implementation, some districts required the following: an ongoing health advisory committee; plans to evaluate policy implementation; BMI screening and reporting; reporting on implementation progress; revising the policy; and identifying—within the policy—possible sources of funding to support implementation efforts.

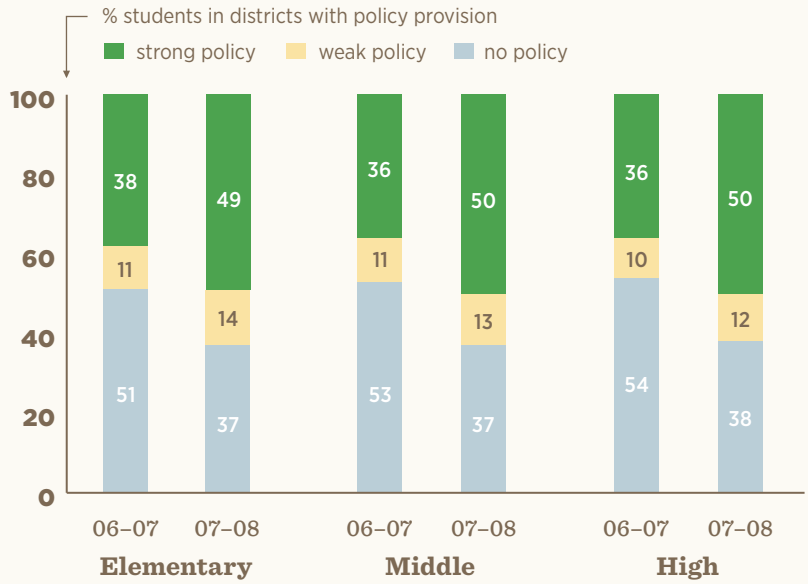
Wellness policy implementation strategies varied greatly among school districts nationwide.

Health Advisory Committee

Districts that addressed implementation, evaluation, review and revision components in their wellness policies often identified a health or wellness advisory committee with operational responsibility for implementation activities. The committees included a broad range of stakeholders, including nutritionists, physical educators, parents, school administrators and board members, students, community members, and occasionally, members of the medical profession. In some cases, an advisory committee was newly formed after the adoption of the wellness policy. Other districts assigned the implementation-related responsibilities to an existing committee.

- By the beginning of the 2007–08 school year, nearly half of all students were enrolled in a district with a strong policy that required an ongoing health advisory committee. This represented a 33 percent to 38 percent increase across all grade levels during the two-year period.
- During the same period, from 12 percent to 14 percent of all students were enrolled in a district with a weak policy that suggested, but did not require, an advisory committee or a policy that required an advisory committee without specifying that the committee would be ongoing.

FIGURE 7.2 Health Advisory Committee



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Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

Plans for Evaluation

Requiring an evaluation of policy implementation is one strategy that districts have used to assess the effectiveness of their wellness policies; to identify barriers to successful implementation; to determine if policies need to be revised; and to identify areas for continued improvement of outcomes related to student weight status, nutrition and physical activity. When included in the district policies, the frequency of conducting an evaluation ranged from three times per year to every five years. The most common evaluation timeframes cited within the policies were "periodically" and "annually."

- By the first day of the 2007–08 school year, approximately 54 percent of all students were enrolled in a district with some type of policy that addressed evaluation.
    - Only 10 percent of all students were enrolled in a district with a strong policy that had specific evaluation requirements, including measureable outcomes. This represents a slight increase from the beginning of the 2006–07 school year.
    - An additional 44 percent to 46 percent of all students were enrolled in a district with a weak policy that suggested, but did not require, an evaluation plan.

Body Mass Index Screening

Due to high rates of obesity among U.S. children and teens, school-based Body Mass Index (BMI) screening has been proposed as a means of monitoring children's weight status. While changes in students' weight status may provide valuable insight about the impact of district wellness provisions over time, significant changes in BMI are unlikely to appear in the early evaluation stages and are affected by many other environmental and contextual factors. The American Academy of Pediatrics recommends that BMI should be calculated and plotted annually for all youths as part of normal health supervision within the child's medical home,[136] and the Institute of Medicine[137] recommends annual school-based screenings.

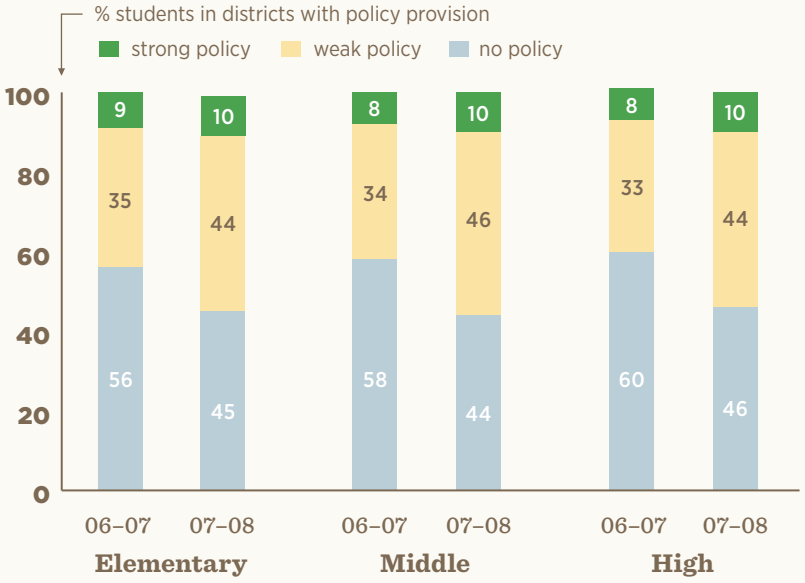
Despite such recommendations, school-based BMI screening remains a controversial issue due to concerns about cost and training of staff; falsely mislabeling children as overweight; ensuring confidential results; parental response to BMI reports (e.g., promotion of restrictive dieting); stigmatization of students; increased body dissatisfaction; and an increase in eating disorders.[138,139] One evaluation of a childhood obesity-prevention initiative that included BMI assessments for Arkansas public school students found no evidence of an increase in weight-based teasing, use of diet pills or other inappropriate dieting behaviors five years after the new school policies were implemented.[140] However, few studies have evaluated the effectiveness of BMI screening on reducing or preventing childhood obesity, and there is currently no consensus on this issue.[141,142]

An expert panel convened by the CDC recommended that, when school-based BMI data is collected, appropriate follow-up must be provided, and school and community resources (e.g., medical providers) must be made available to help students and parents make healthy nutrition and physical activity choices.[143] Currently, a number of states, including Arkansas, California, Delaware, Florida, Texas and West Virginia, have enacted BMI-related legislative provisions to help assess the impact of childhood obesity-prevention initiatives.[144,145]

Although the federal mandate did not require districts to address BMI screening in their wellness policies, some districts did have a policy that included guidelines for BMI measures. It is unclear if the data below accurately reflect the proportion of districts nationwide that have implemented such provisions.

- By the first day of the 2007–08 school year, approximately 27 percent of all students were enrolled in a district that addressed school-based BMI measurements in its wellness policies.
    - Twenty-six percent of all students were enrolled in a district with a weak policy that suggested BMI data be obtained or a policy that referenced a state law suggesting the collection of BMI data.
    - Fewer than 1 percent of all students were enrolled in a district with a strong policy that required the collection of BMI data.

FIGURE 7.3 Plans for Evaluation



Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

By the first day of the 2007–08 school year, about 90 percent of students were enrolled in a district that did not require any evaluation of the implementation or effectiveness of the wellness policy.

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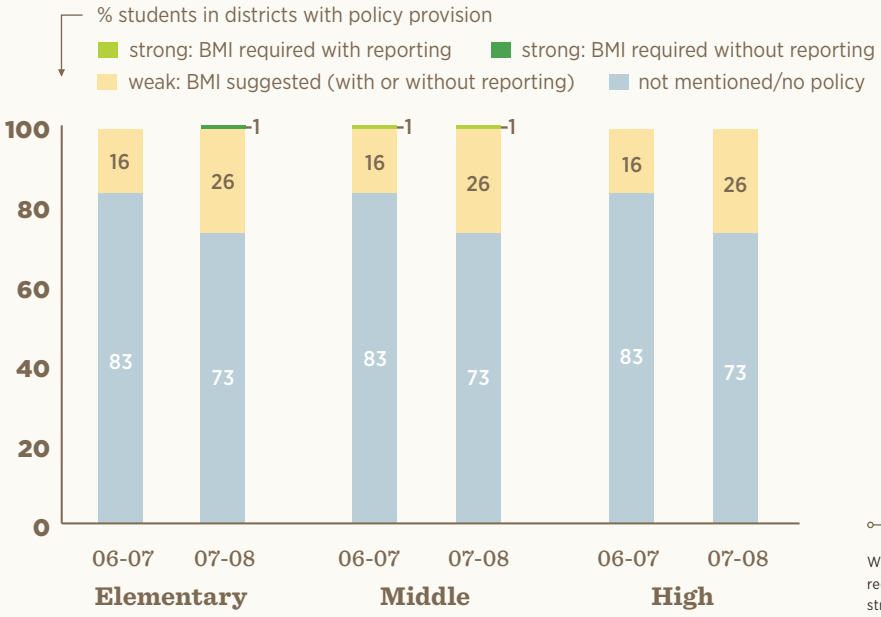
FIGURE 7.4 Body Mass Index Screening



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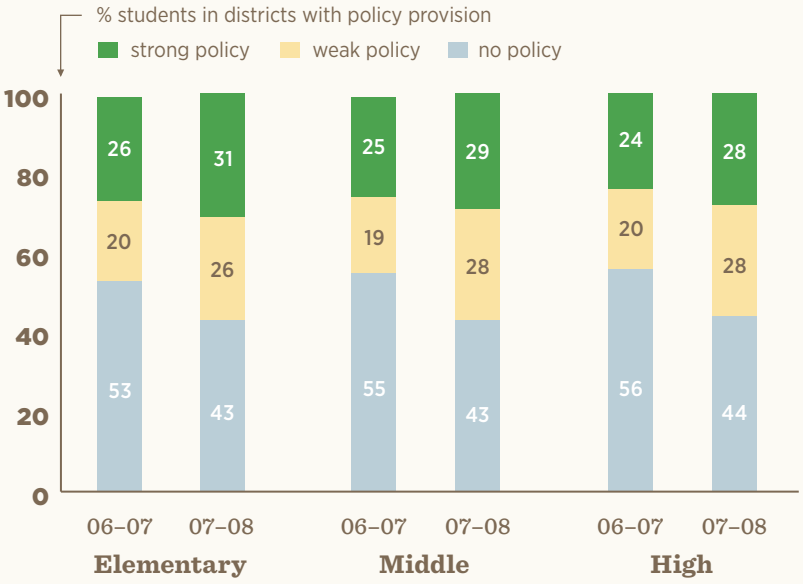
Reporting Requirements

Many districts have required some type of reporting on the progress of implementation efforts to ensure that the wellness policy provisions were being implemented. The timing of these reporting requirements varied greatly, ranging from monthly to once every three years, and annual reporting was the most common requirement.

- By the first day of the 2007–08 school year, the majority of students were enrolled in a district with a policy that included provisions for reporting on implementation progress.
    - Nearly 30 percent of all students were enrolled in a district with a strong policy that included specific requirements for compliance reporting, such as including a specific target audience (e.g., district school board, parent teacher association, school administrators) and specific reporting items (e.g., compliance with nutrition standards, required amount of time for physical activity and physical education).
    - More than one-quarter of all students were enrolled in a district with a weak policy that suggested, but did not require, reporting on implementation progress or a policy that required reporting without specifying a target audience or explicit reporting items.

FIGURE 7.5 Reporting on Policy Compliance and/or Implementation



Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

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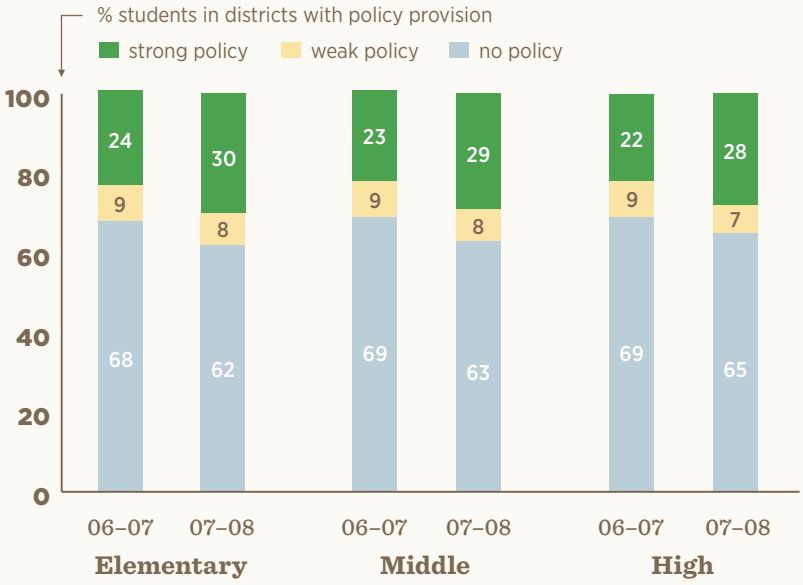
Plan for Policy Revision

Recognizing that policy-making is an incremental process, some districts included specific language in their wellness policy that required or encouraged some type of future policy review. The intent behind the review was often to ensure that a policy was effective; to determine areas for continued improvement of outcomes related to student weight status, nutrition and physical activity; to identify new issues that have emerged and that may require policy attention; and to revise policy language based on new scientific and evaluation data.

- By the first day of the 2007–08 school year, the majority of students were enrolled in a district with a policy that did not address reviewing and revising the wellness policy.
    - Fewer than 30 percent of all students were enrolled in a district with a strong policy requiring that the wellness policy be reviewed and revised. Annual reviews and revisions were most commonly required when frequency was addressed.
    - Fewer than 8 percent of students were enrolled in a district with a weak policy that suggested, but did not require, such provisions.

FIGURE 7.6 Plan for Policy Revision



Data reflect policies in place by the first day of the 2006–07 or 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

Source: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago, 2009.

As of the 2007–08 school year, the majority of students were enrolled in a district with a policy that did not include provisions for reviewing and revising the wellness policy.

We defined **STRONG POLICY PROVISIONS** as those that required action and specified an implementation plan or strategy. They included language such as *shall, must, will, require, comply* and *enforce.* **WEAK POLICY PROVISIONS** offered suggestions or recommendations, and some required action, but only for certain grade levels or times of day. They included language such as *should, might, encourage, some, make an effort to, partial* and *try.*

Funding for Policy Implementation

Lack of resources, such as funding, time and labor, has been cited by school district officials as a primary barrier to implementing their wellness policy.[146-148] Thus, it is not surprising that in a study of 256 school districts conducted at the beginning of the 2007–08 school year, only 2 percent of those districts addressed funding for policy implementation and evaluation efforts within their wellness policies.[149] Consistent with that study, we found that, by the first day of the 2007–08 school year, only 6 percent of elementary-school and middle-school students and 5 percent of high-school students were enrolled in a district with policy that included some indication about how implementation efforts would be funded. Most of these references to implementation funding were weak—they suggested, but did not require, that funds be allocated.

Policy Implementation and Evaluation Requirements by Socioeconomic Status

Data from the beginning of the 2007–08 school year show that certain implementation and evaluation provisions also varied by district socioeconomic status (SES),[m,n] but did not did not vary based on racial/ethnic composition of the district's students.

- Elementary-school and middle-school students in medium-SES districts were more likely than students in high-SES districts to be in a district with a policy that required or suggested evaluation provisions. Such distinctions were not seen at the high-school level.

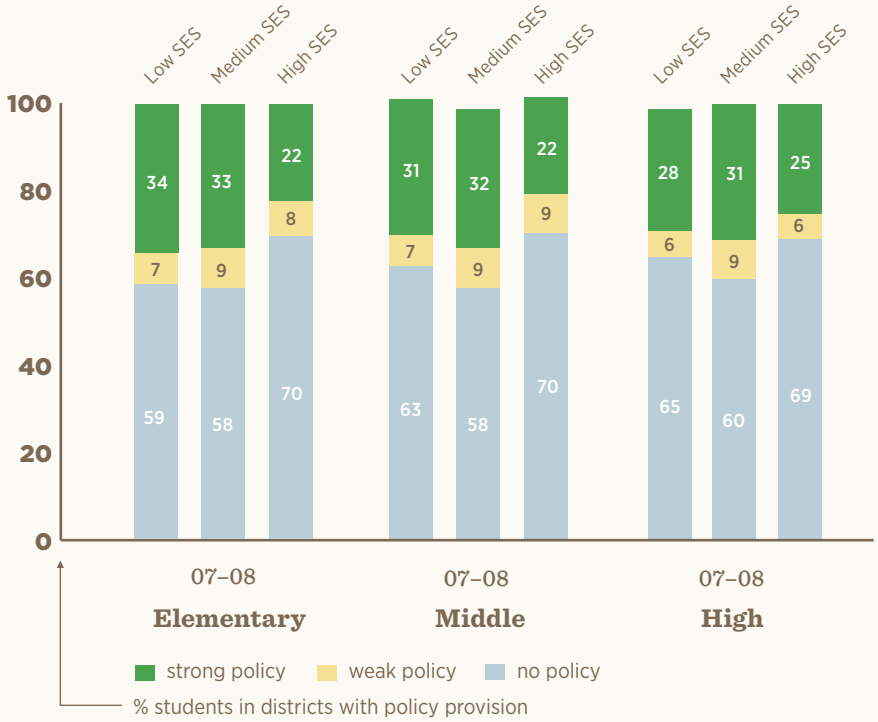
- Similarly, elementary-school and middle-school students in low- or medium-SES districts were more likely than students in high-SES districts to be in a district with a policy that required or suggested that the wellness policy be reviewed and revised. Such distinctions were not seen at the high-school level.

Elementary- and middle-school students in low- or medium-SES districts were more likely than students in high-SES districts to be in a district with plans to review and revise the wellness policy.

m Throughout this document, free and reduced-price lunch (FRL) participation has been used as a proxy for socioeconomic status (SES) within districts. FRL is based on verified family income or categorical eligibility based on household participation in other federal assistance programs including the Food Stamp Program and Temporary Assistance for Needy Families (TANF).[150] The SES groupings were computed as tertiles as follows:: low SES (>47% FRL participation), medium SES (>28% to 47% FRL participation), and high SES (0 to 28% FRL participation).

n Only SES variations that were different in analyses controlling for other district-level factors (e.g., race/ethnicity, total instruction dollars per pupil, region and locale) have been highlighted in this section.

FIGURE 7.7 Policy Review and Revision by District Socioeconomic Status (SES)



Data reflect policies in place by the first day of the 2007–08 school year.

Due to rounding, some bars may not sum to exactly 100. Exact numbers are available at *www.bridgingthegapresearch.org.*

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Summary

Most districts established a policy that included plans for implementing the new provisions. The implementation strategies required or suggested by the districts varied greatly, and most strategies did not specify any source of funding to facilitate policy implementation. The lack of funding has been cited by prior studies as a chief barrier to implementing wellness policy provisions. Data that examine the extent to which states or school districts actually allocated funds for wellness policy implementation are still needed, regardless of whether the policy describes how the implementation efforts would be funded. Additionally, setting requirements for an ongoing advisory committee was the most common strategy districts used to monitor implementation efforts, while setting requirements for ongoing policy review and revision was the least common strategy (outside of funding).

As Congress considers reauthorization of the Child Nutrition and WIC programs, it is likely that wellness policy implementation and evaluation provisions will be prominently considered. Some districts have identified specific implementation strategies that can serve as models to help school district officials better understand how the wellness policies are working, and the extent to which the policies may facilitate ongoing student-level improvements in the areas of diet and nutrition, physical activity, and overall wellness attitudes and behaviors.

Appendix

The following discussion briefly summarizes the sample design and weighting, policy collection process, coding methodology, and analytic approaches and methods employed for this study.

Sample Design and Weighting

Bridging the Gap researchers, in collaboration with the Survey Research Operations department at the Institute for Social Research at the University of Michigan, developed the sample design and weighting methodology. The overall sampling goal was to develop three separate but connected samples, each of which would be nationally representative:

1. *A sample of public, K–12 school districts.*
2. *A sample of elementary schools (with grade 3) from within those districts.*
3. *A sample of secondary schools (with grade 8, 10 or 12) from within those districts.*

The district-level sample was used for this study. The related elementary- and secondary-school samples were used in two related studies that will be presented in forthcoming Bridging the Gap reports. The sampling strategy used a multistage probability proportional to size design, with districts selected at the first stage and schools selected at the second stage. The ultimate goal of this study is to link and examine policies and practices of schools located in districts with the various wellness and related policy measures.

The sampling frame was developed using the National Center for Educational Statistics (NCES) Common Core of Data (CCD). Because of the CCD release schedule, the 2004–05 CCD was used to develop the sample frame for the 2006–07 district sample, and the 2006–07 CCD was used to develop the sample frame for the 2007–08 district sample. Because the district sample was inherently linked with the school samples drawn for the related studies mentioned above, the district sample for the second study year was reliant upon the school sample chosen for that year. Nonresponding schools from the first year were replaced with new schools, and when possible, replacements were selected from the same districts. In some cases, new districts were added and districts with nonresponding schools and no replacements were dropped. Ultimately, districts located in 47 of the 48 contiguous states[o] were included in the sample for both study years. After accounting for two districts that merged during the first study year, the final study population included a nationally representative sample of 579 and 641 districts for school years 2006–07 and 2007–08, respectively, which were the first two years of the wellness policy requirement. Table A.1 illustrates the district inclusion rates across the two study years for the overall sample and by grade level (elementary school, middle school and high school).

Nonresponse-adjusted student-level weights also were computed for each grade level of interest. For weighting and analytic purposes, we used grade 3 as the proxy for the elementary-school level, grade 8 as the proxy for the middle-school level, and grade 10 as the proxy for the high-school level. These weights provide inference to the number of students within school districts in the United States.

[o] No school districts in the state of Wyoming were randomly selected in the sample for either study year.

TABLE A.1 District Sample Size by School Year and Grade Level

Inclusion Status	2006–2007 no.	2006–2007 %	2007–2008 no.	2007–2008 %
Overall Sample				
% of districts included for only one school year	43	7%	105	16%
% of districts included for both school years	536	93%	536	84%
total number of districts included in the full sample	**579**	**100%**	**641**	**100%**
Elementary-School Level				
% of districts included for only one school year	41	8%	100	16%
% of districts included for both school years	507	92%	507	83%
total number of districts with an elementary school	**548**	**100%**	**607**	**100%**
Middle-School Level				
% of districts included for only one school year	38	7%	100	17%
% of districts included for both school years	505	93%	505	83%
total number of districts in a sample with a middle school	**543**	**100%**	**605**	**100%**
High-School Level				
% of districts included for only one school year	28	6%	83	15%
% of districts included for both school years	470	94%	470	85%
total number of districts in a sample with a high school	**498**	**100%**	**553**	**100%**

The nonresponse-adjusted student-level weights were used as the basis for all estimates presented in this report and on the Bridging the Gap Web site (*www.bridgingthegapresearch.org*). Data are presented on the percentage of students nationwide to provide readers with a sense of the relative reach of the policies. Ultimately, findings presented in this report are based on analyses of wellness policy data representing approximately 41.7 million students for the 2006–07 school year, and approximately 45.3 million students for the 2007–08 school year.

Additionally, throughout this report and on our Web site (*www.bridgingthegapresearch.org*), data are presented by grade level using the following assumptions: elementary school (grades 1 to 5), middle school (grades 6 to 8) and high school (grades 9 to 12).

Wellness Policy Collection Process

A mixed-methods approach, involving Internet research with telephone, e-mail and regular-mail follow-up, was employed to collect wellness policies from the sampled school districts. At the outset of each study year, Internet research was conducted to determine if each of the sampled districts had a Web site and, if so, whether a copy of its wellness policy and associated regulations, procedures and/or guidelines were readily accessible from the site. Given prior research that documented discrepancies in district policies obtained via Internet versus telephone/mail requests,[151] all policies obtained from the Internet searches were then verified through telephone calls, typically to the

superintendent or food service director. These calls also were used to verify that the policies retrieved from the district's Web site were current at the beginning of school years 2006–07 and 2007–08, respectively. Wellness policies that had been revised, but not updated on the Web site, were requested from the district.

When we were unable to retrieve a district's wellness policy via Internet research, we called the district superintendent's office or, in some instances, the food service director, school nurse or district business office to determine if the district:

1. *had officially adopted a wellness policy that had been approved by the school board;*
2. *had a wellness policy, but one that had not been adopted by the school board (i.e., draft); or*
3. *did not currently have a wellness policy.*

Copies of officially adopted wellness policies, administrative procedures, and any other district-level policies that had been incorporated into a district's wellness policy were requested via fax, e-mail or postal mail.

A persistent follow-up methodology was employed such that all non-responders were contacted on a bi-weekly or monthly basis to attempt to confirm the existence of a policy and to obtain a copy of the district's policy and related documents. The final follow-up involved mailing a formal hard copy letter along with a letter of endorsement from the American Association of School Administrators (AASA) to approximately 40 non-responding districts (across both study years) requesting one of the following:

1. *Notification that no wellness policy existed for their school district.*
2. *A copy of the district wellness policy and any related or cross-referenced regulations, procedures or other policy documents.*
3. *Notification that the existence and location of the district wellness policy was in fact online and available to us.*

All of the written policies were collected between April 2007 and June 2008, with a 94 percent response rate achieved for both study years. Table A.2 details the policy-collection status by school year. A district was considered to have responded if:

1. *copies of the wellness policy and any related documents were obtained ; or*
2. *if the district confirmed that they did not have a policy in place.*

TABLE A.2 Policy-Collection Status by School Year

	2006–2007		2007–2008	
Policy-Collection Status	**no.**	**%**	**no.**	**%**
policy obtained	517	89%	574	90%
no policy verified	26	5%	28	4%
missing (non-respondent)	36	6%	39	6%
total	**579**	**100%**	**641**	**100%**

Upon receipt of a district's wellness policy, we subsequently examined it for reference to the following:

1. *Any district-level policies incorporated into the district wellness policy (e.g., related district policies on competitive foods, food services, physical education, curriculum development, etc.).*
2. *State regulations, laws or statutes, or state standards, frameworks or guidelines (e.g., health and nutrition education standards, physical education standards).*
3. *Any model policies developed by their state association of school boards or other organization (e.g., National Alliance for Nutrition and Activity, state Action for Healthy Kids organization).*

Follow-up calls were conducted and/or e-mail messages were sent to retrieve any other district-level policies and/or administrative regulations or procedures that may have been referenced in the wellness policy (e.g., related district policies on competitive foods, food services, physical education, curriculum development, etc.) but were not posted on the district Web site or provided as part of our initial request. We also contacted the district to determine dates of adoption and revision of the wellness policy if such information was not identified on said policies.

Additionally, because many of the district policies referenced existing state laws and regulations, copies of all potentially relevant state laws and regulations were retrieved from Lexis-Nexis using primary legal research techniques[152] that involved Boolean and natural-language searches of the state-level statutory and administrative law (i.e., regulatory) databases for each state for the time periods of interest. The statutory and administrative law tables of contents and indices also were reviewed as an additional cross-check to determine if any potentially relevant state laws or regulations were overlooked during the database searches. Additionally, all state laws were compared against several secondary sources of state laws and regulations, including: the National Association of School Boards of Education (NASBE) Healthy Schools database,[153] The Trust for America's Health: *F as in Fat* annual compilations,[154–156] the *Balance* report prepared by the Albermarle State Policy Center,[157] and reports from the National Conference of State Legislatures.[158,159] Additionally, many district policies referenced state curriculum frameworks, standards and/or guidelines (particularly for health and nutrition education and physical education-related provisions). Copies of all such state standards, frameworks and /or guidelines were retrieved from the respective state Department of Education Web sites.

Definition of Policy

For purposes of this study, "wellness policy" was defined to include:

1. *the actual district wellness policy;*
2. *the associated administrative policies, including implementation regulations, rules, procedures or administrative guidelines; and*
3. *any district, state or model policies that were referenced within the wellness policy or administrative documents.*

Additionally, in many instances, districts indicated that they followed existing state laws; state regulations or rules; and/or state curriculum frameworks, benchmarks or standards (e.g., health education curriculum framework, physical education benchmarks). In such cases, districts were given credit for the state laws, regulations or rules, and/or frameworks, benchmarks or standards as part of the evaluation of the given district's policy. Likewise, a number of districts followed model wellness policies created by their state association of school boards or other organizations such as the National Alliance for Nutrition and Activity or followed voluntary national standards for physical education that were created by the National Association for Sport & Physical Education. In all such instances, districts were given full credit in the analysis of their policy for the associated model policy embedded into their policy.[p]

p For example, the wellness policy or administrative procedure for a given district may indicate that the district follows the district's food services policy regarding the sale of competitive foods without repeating the language of the food services' policy in the wellness policy or administrative procedure document. In such cases, the wellness policy, administrative procedure and the cross-referenced food services' policy were all coded as reflective of the given district's "wellness policy."

Annual Policy Reference Date

The day after Labor Day each year was used as the annual reference date for the study. This date was chosen because the federal legislation required that the wellness policies be adopted by the first day of school year 2006–07. Thus, September 5, 2006, was used as a proxy for the first day of the 2006–07 school year, and September 4, 2007, was used as a proxy for the first day of the 2007–08 school year.

Coding Methodology

All district policies, model policies and state laws were analyzed using an adaptation of a valid and reliable ordinal coding scheme developed by Schwartz et al.[160] Each policy provision was double-coded by two independent reviewers as follows: 0 (no policy/no provision); 1 (weak policy provision); or 2 (strong policy provision). We defined *strong* policy provisions as those that were definitely required and specified an implementation plan or strategy. Strong policy provisions included language such as *shall, must, will, require, comply* and *enforce*. We defined *weak* policy provisions as those that included vague terms, suggestions or recommendations, as well as those that required action, but noted exceptions for certain grade levels or certain times of day. Weak policy provisions included language such as *should, might, encourage, some, make an effort to, partial* and *try*. The detailed coding scheme that explains the coding for each study item and coding level is available at *www.bridgingthegapresearch.org*.

The items chosen for inclusion in this report were intended to highlight the range of policy content across the required wellness policy elements (as well as a few supplemental areas) and to illustrate the variability in policy strength. Aggregate data for all of the topics analyzed for this study (including the report items) are provided for interested readers at *www.bridgingthegapresearch.org*.

Analysis Methodology

All data were analyzed with the survey command in STATA version 10.0 using the nonresponse-adjusted student-level weights for each grade level of interest (as described above). Most of the report and the data on the Bridging the Gap Web site (*www.bridgingthegapresearch.org*) include basic frequency distributions.

In certain chapters, data also were presented on the proportion of students in districts with policies based on the racial/ethnic composition or the socioeconomic status (SES) of the districts. Following the approach used by O'Malley et al. in their analysis of school characteristics associated with secondary (i.e., middle and high school) student obesity rates,[161] data on the proportion of students who were white, black or Latino were computed to identify whether the student population was: majority white (>66% white), majority black (>50% black) or majority Latino (>50% Latino). Districts with diverse student populations represented the remaining districts.

Additionally, throughout this report, free and reduced-price lunch (FRL) participation has been used as a proxy for SES within districts. FRL is based on verified family income or categorical eligibility based on household participation in other federal assistance programs, including the Supplemental Nutrition Assistance Program and Temporary Assistance for Needy Families.[162] The groupings were computed as tertiles as follows: low SES (>47% FRL participation), medium SES (>28% to 47% FRL participation) and high SES (0 to 28% FRL participation).

This report highlights only SES and racial and ethnic variations that were different in bivariate analyses and multivariate, generalized ordered logit models after controlling for other district-level factors that were readily available from NCES (i.e., race/ethnicity, SES, total instruction dollars per pupil, region and locale). Aggregate data for all of the topics analyzed for this study (including the report items) by SES and district racial and ethnic variations are provided for interested readers at *www.bridgingthegapresearch.org*.

Computation of Strength Scores for the Executive Summary

An overall policy strength score was computed for inclusion in the executive summary. Following the method described in Schwartz et al.,[163] a strength score was computed for each policy category included in this report (i.e., nutrition education, school meals, competitive foods and beverages, physical activity, physical education, and implementation) by counting the number of items coded as 2 (strong) within each category and dividing by the number of policy items included in the given category within the report.[q] The following items that were presented in the report were excluded from the categorical and overall strength score computations because they fell somewhat outside of the realm of the category being measured:

1. *Nutrition information, availability of free drinking water, and marketing in the competitive food and beverage category score.*
2. *Body mass index screening in the implementation category score.*

The overall policy strength score was computed by summing the six category strength scores (i.e., nutrition education, school meals, competitive foods and beverages, physical activity, physical education, and implementation), dividing the total score by six categories and multiplying by 100.

[q] With the exception noted herein, the strength score presented in this report is based solely on the items included in the report and does not include the other items presented on the Bridging the Gap Web site (*www.bridgingthegapresearch.org*) that were not highlighted in the report.

References

1. Ogden C, Flegal K, Carroll M, et al. "Prevalence and Trends in Overweight among U.S. Children and Adolescents, 1999–2000." *JAMA: The Journal of the American Medical Association,* 288(14): 1728-1732, October 2002.
2. Ogden C, Carroll M and Flegal K. "High Body Mass Index for Age among U.S. Children and Adolescents, 2003–2006." *JAMA: The Journal of the American Medical Association,* 299(20): 2401–2405, May 2008.
3. Ibid.
4. *Overweight and Obesity, Health Consequences.* Centers for Disease Control and Prevention, 2009. Available at *www.cdc.gov/obesity/causes/health.html* (accessed June 2009).
5. Geier A, Foster G, Womble L, et al. "The Relationship Between Relative Weight and School Attendance Among Elementary Schoolchildren." *Obesity,* 15(8): 2157-2161, August 2007.
6. Story M, Kaphingst K and French S. "The Role of Schools in Obesity Prevention." *The Future of Children,* 16(1): 109-142, 2006.
7. Ibid.
8. Institute of Medicine. *Progress in Preventing Childhood Obesity.* Washington, DC: National Academies Press, 2007.
9. Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance.* Washington, DC: National Academies Press, 2005.
10. *Moving into the Future: National Standards for Physical Education, 2nd Edition.* Reston, VA: National Association for Sport & Physical Education, 2004.
11. Schwartz M, Lund A, Grow H, et al. "A Comprehensive Coding System to Measure the Quality of School Wellness Policies." *Journal of the American Dietetic Association,* 109(7): 1256-1262, July 2009.
12. *Health United States,* 2008. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, 2009.
13. Ogden C, Flegal K, Carroll M, et al. "Prevalence and Trends in Overweight among U.S. Children and Adolescents, 1999–2000." *JAMA: The Journal of the American Medical Association,* 288(14): 1728-1732, October 2002.
14. Ogden C, Carroll M and Flegal K. "High Body Mass Index for Age among U.S. Children and Adolescents, 2003–2006." *JAMA: The Journal of the American Medical Association,* 299(20): 2401–2405, May 2008.
15. Ibid.
16. Krebs N, Jacobson M and American Academy of Pediatrics Committee on Nutrition. "Prevention of Pediatric Overweight and Obesity." *Pediatrics,* 112(2): 424-430, August 2003.
17. Guo S and Chumlea W. "Tracking of Body Mass Index in Children in Relation to Overweight in Adulthood." American Journal of Clinical Nutrition, 70(1): 145S-148S, July 1999.
18. *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity.* Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General, 2001.
19. *Preventing Obesity and Chronic Diseases through Good Nutrition and Physical Activity.* Centers for Disease Control and Prevention, 2008. Available at *www.cdc.gov/nccdphp/publications/factsheets/prevention/obesity.htm* (accessed June 2009).
20. Geier A, Foster G, Womble L, et al. "The Relationship between Relative Weight and School Attendance among Elementary Schoolchildren." *Obesity,* 15(8): 2157-2161, August 2007.
21. Story M, Kaphingst K and French S. "The Role of Schools in Obesity Prevention." *The Future of Children,* 16(1): 109-142, 2006.
22. Ibid.
23. Institute of Medicine. *Progress in Preventing Childhood Obesity.* Washington, DC: National Academies Press, 2007.
24. Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance.* Washington, DC: National Academies Press, 2005.
25. Schwartz M, Lund A, Grow H, et al. "A Comprehensive Coding System to Measure the Quality of School Wellness Policies." *Journal of the American Dietetic Association,* 109(7): 1256-1262, July 2009.
26. O'Malley P, Johnston L, Delva J, et al. "Variation in Obesity among American Secondary School Students by School and School Characteristics." *American Journal of Preventive Medicine,* 33(4, Supplement 1): S187-S194, October 2007.
27. *Eligibility Manual for School Meals.* Washington, DC: Child Nutrition Programs, Food and Nutrition Service, U.S. Department of Agriculture, 2008.
28. *Coordinated School Health Program.* Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 2008. Available at *www.cdc.gov/healthyYouth/CSHP/* (accessed May 2009).
29. *Promoting Good Nutrition: School-Based Programs Promoting Nutrition and Physical Activity.* Task Force on Community Preventive Services, 2009. Available at *www.thecommunityguide.org/nutrition/schoolprograms.html* (accessed June 2009).
30. Kann L, Telljohann S and Wooley S. "Health Education: Results from the School Health Policies and Programs Study 2006." *Journal of School Health,* 77(8): 408-434, October 2007.
31. Connell D and Turner R. "School Health Education Evaluation. The Impact of Instructional Experience and the Effects of Cumulative Instruction." *Journal of School Health,* 55(8): 324-331, October 1985.
32. Bauer K, Patel A, Prokop L, et al. "Swimming Upstream: Faculty and Staff Members From Urban Middle Schools in Low-Income Communities Describe Their Experience Implementing Nutrition and Physical Activity Initiatives." *Preventing Chronic Disease,* 3(2): A37- April 2006.
33. Cho H and Nadow M. "Understanding Barriers to Implementing Quality Lunch and Nutrition Education." *Journal of Community Health,* 29(5): 421-435, October 2004.
34. Kann L, Telljohann S and Wooley S. "Health Education: Results from the School Health Policies and Programs Study 2006." *Journal of School Health,* 77(8): 408-434, October 2007.

35. Belansky E, Romaniello C, Morin C, et al. "Adapting and Implementing a Long-Term Nutrition and Physical Activity Curriculum to a Rural, Low-Income, Biethnic Community." *Journal of Nutrition Education and Behavior,* 38(2): 106-113, March 2006.
36. Ibid.
37. Spiegel S and Foulk D. "Reducing Overweight Through a Multidisciplinary School-Based Intervention." *Obesity,* 14(1): 88-96, January 2006.
38. Belansky E, Romaniello C, Morin C, et al. "Adapting and Implementing a Long-Term Nutrition and Physical Activity Curriculum to a Rural, Low-Income, Biethnic Community." *Journal of Nutrition Education and Behavior,* 38(2): 106-113, March 2006.
39. Coleman K, Tiller C, Sanchez J, et al. "Prevention of the Epidemic Increase in Child Risk of Overweight in Low-Income Schools: the El Paso Coordinated Approach to Child Health." *Archives of Pediatrics Adolescent Medicine,* 159(3): 217-224, March 2005.
40. Foster G, Sherman S, Borradaile K, et al. "A Policy-Based School Intervention to Prevent Overweight and Obesity." *Pediatrics,* 121(4): e794-e802, April 2008.
41. Spiegel S and Foulk D. "Reducing Overweight Through a Multidisciplinary School-Based Intervention." *Obesity,* 14(1): 88-96, January 2006.
42. Belansky E, Romaniello C, Morin C, et al. "Adapting and Implementing a Long-Term Nutrition and Physical Activity Curriculum to a Rural, Low-Income, Biethnic Community." *Journal of Nutrition Education and Behavior,* 38(2): 106-113, March 2006.
43. Robinson-O'Brien R, Story M and Heim S. "Impact of Garden-Based Youth Nutrition Intervention Programs: a Review." *Journal of the American Dietetic Association,* 109(2): 273-280, February 2009.
44. Abood D, Black D and Coster D. "Evaluation of a School-Based Teen Obesity Prevention Minimal Intervention." *Journal of Nutrition Education and Behavior,* 40(3): 168-174, May 2008.
45. Unpublished data. U.S. Department of Agriculture, Food and Nutrition Service, 2009.
46. *Nutrition and Your Health: Dietary Guidelines for Americans,* 1995. Washington, DC: U.S. Department of Agriculture and U.S. Department of Health and Human Services, 1995.
47. *National School Lunch Program Fact Sheet.* Washington, DC: U.S. Department of Agriculture, 2008.
48. *National School Breakfast Program Fact Sheet.* Washington, DC: U.S. Department of Agriculture, 2008.
49. Crepinsek M, Gordon A, McKinney P, et al. "Meals Offered and Served in U.S. Public Schools: Do They Meet Nutrient Standards?" *Journal of the American Dietetic Association,* 109(2, Supplement 1): S31-S43, February 2009.
50. Condon E, Crepinsek M and Fox M. "School Meals: Types of Foods Offered to and Consumed by Children at Lunch and Breakfast." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S67-S78, February 2009.
51. Crepinsek M, Gordon A, McKinney P, et al. "Meals Offered and Served in U.S. Public Schools: Do They Meet Nutrient Standards?" *Journal of the American Dietetic Association,* 109(2, Supplement 1): S31-S43, February 2009.
52. Gordon A, Crepinsek M, Nogales R, et al. *School Nutrition Dietary Assessment Study-III: Vol. I: School Foodservice, School Food Environment, and Meals Offered and Served.* Princeton, NJ: Mathematica Policy Research, Inc., 2007.
53. Condon E, Crepinsek M and Fox M. "School Meals: Types of Foods Offered to and Consumed by Children at Lunch and Breakfast." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S67-S78, February 2009.
54. Committee on Nutrition Standards for National School Lunch and Breakfast Programs. *Nutrition Standards and Meal Requirements for National School Lunch and Breakfast Programs: Phase I. Proposed Approach for Recommending Revisions.* Stallings V and Taylor C (eds). Washington, DC: National Academies Press, 2008.
55. Ralston K, Buzby J, Guthrie J, et al. *A Healthy School Meal Environment.* Washington, DC: U.S. Department of Agriculture, Economic Research Service, 2003.
56. *Changing the Scene: Improving the School Nutrition Environment—A Guide to Local Action.* Washington, DC: U.S. Department of Agriculture, Food and Nutrition Service, 2000.
57. Ibid.
58. Finkelstein D, Hill E and Whitaker R. "School Food Environments and Policies in U.S. Public Schools." *Pediatrics,* 122(1): e251-e259, July 2008.
59. Vaisman N, Voet H, Akivis A, et al. "Effect of Breakfast Timing on the Cognitive Functions of Elementary School Students." *Archives of Pediatrics Adolescent Medicine,* 150(10): 1089-1092, October 1996.
60. Murphy J, Pagano M, Nachmani J, et al. "The Relationship of School Breakfast to Psychosocial and Academic Functioning: Cross-Sectional and Longitudinal Observations in an Inner-City School Sample." *Archives of Pediatrics Adolescent Medicine,* 152(9): 899-907, September 1998.
61. Powell C, Walker S, Chang S, et al. "Nutrition and Education: a Randomized Trial of the Effects of Breakfast in Rural Primary School Children." *American Journal of Clinical Nutrition,* 68(4): 873-879, October 1998.
62. Gleason P and Dodd A. "School Breakfast Program but Not School Lunch Program Participation Is Associated with Lower Body Mass Index." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S118-S128, February 2009.
63. Crepinsek M, Gordon A, McKinney P, et al. "Meals Offered and Served in U.S. Public Schools: Do They Meet Nutrient Standards?" *Journal of the American Dietetic Association,* 109(2, Supplement 1): S31-S43, February 2009.
64. Committee on Nutrition Standards for National School Lunch and Breakfast Programs. *Nutrition Standards and Meal Requirements for National School Lunch and Breakfast Programs: Phase I. Proposed Approach for Recommending Revisions.* Stallings V and Taylor C (eds). Washington, DC: National Academies Press, 2008.

65. *National School Lunch Program: Foods Sold in Competition With the USDA School Meal Programs. A Report to Congress,* 2001. Washington, DC: U.S. Department of Agriculture, Food and Nutrition Service, 2001.
66. *School Meal Programs: Competitive Foods Are Widely Available and Generate Substantial Revenues for Schools.* Washington, DC: U.S. Government Accountability Office, 2005.
67. Fox M, Gordon A, Nogales R, et al. "Availability and Consumption of Competitive Foods in U.S. Public Schools." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S57-S66, February 2009.
68. O'Toole T, Anderson S, Miller C, et al. "Nutrition Services and Foods and Beverages Available at School: Results from the School Health Policies and Programs Study 2006." *Journal of School Health,* 77(8): 500-521, October 2007.
69. Fox M, Gordon A, Nogales R, et al. "Availability and Consumption of Competitive Foods in U.S. Public Schools." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S57-S66, February 2009.
70. O'Toole T, Anderson S, Miller C, et al. "Nutrition Services and Foods and Beverages Available at School: Results from the School Health Policies and Programs Study 2006." *Journal of School Health,* 77(8): 500-521, October 2007.
71. Fox M, Gordon A, Nogales R, et al. "Availability and Consumption of Competitive Foods in U.S. Public Schools." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S57-S66, February 2009.
72. Cullen K and Watson K. "The Impact of the Texas Public School Nutrition Policy on Student Food Selection and Sales in Texas." *American Journal of Public Health,* 99(4): 706-712, April 2009.
73. Cullen K and Zakeri I. "Fruits, Vegetables, Milk, and Sweetened Beverages Consumption and Access to À La Carte/Snack Bar Meals at School." *American Journal of Public Health,* 94(3): 463-467, March 2004.
74. Johnston L, Delva J and O'Malley P. "Soft Drink Availability, Contracts, and Revenues in American Secondary Schools." *American Journal of Preventive Medicine,* 33(4, Supplement 1): S209-S225, October 2007.
75. Institute of Medicine, Committee on Nutrition Standards for Foods in Schools. *Nutrition Standards for Food in Schools: Leading the Way toward Healthier Youth.* Stallings V and Yaktine A (eds.). Washington, DC: The National Academies Press, 2007.
76. Longley C and Sneed J. "Effects of Federal Legislation on Wellness Policy Formation in School Districts in the United States." *Journal of the American Dietetic Association,* 109(1): 95-101, January 2009.
77. *F as in FAT: How Obesity Policies Are Failing America,* 2009. Washington, DC: Trust for America's Health, 2009.
78. Appendix B to Part 210—Categories of Foods of Minimal Nutritional Value. 7 C.F.R. 210, Appendix B, 2009.
79. Fox M, Gordon A, Nogales R, et al. "Availability and Consumption of Competitive Foods in U.S. Public Schools." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S57-S66, February 2009.
80. O'Toole T, Anderson S, Miller C, et al. "Nutrition Services and Foods and Beverages Available at School: Results from the School Health Policies and Programs Study 2006." *Journal of School Health,* 77(8): 500-521, October 2007.
81. Briefel R, Crepinsek M, Cabili C, et al. "School Food Environments and Practices Affect Dietary Behaviors of U.S. Public School Children." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S91-S107, February 2009.
82. Fox M, Gordon A, Nogales R, et al. "Availability and Consumption of Competitive Foods in U.S. Public Schools." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S57-S66, February 2009.
83. Malik V, Schulze M and Hu F. "Intake of Sugar-Sweetened Beverages and Weight Gain: a Systematic Review." *American Journal of Clinical Nutrition,* 84(2): 274-288, August 2006.
84. Pereira M. "The Possible Role of Sugar-Sweetened Beverages in Obesity Etiology: a Review of the Evidence." *International Journal of Obesity,* 30(S3): S28-S36, 2006.
85. Vartanian L, Schwartz M and Brownell K. "Effects of Soft Drink Consumption on Nutrition and Health: a Systematic Review and Meta-Analysis." *American Journal of Public Health,* 97(4): 667-675, April 2007.
86. Briefel R, Wilson A and Gleason P. "Consumption of Low-Nutrient, Energy-Dense Foods and Beverages at School, Home, and Other Locations among School Lunch Participants and Nonparticipants." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S79-S90, February 2009.
87. Briefel R, Crepinsek M, Cabili C, et al. "School Food Environments and Practices Affect Dietary Behaviors of U.S. Public School Children." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S91-S107, February 2009.
88. Wang Y, Bleich S and Gortmaker S. "Increasing Caloric Contribution From Sugar-Sweetened Beverages and 100% Fruit Juices Among U.S. Children and Adolescents, 1988–2004." *Pediatrics,* 121(6): e1604-e1614, June 2008.
89. Ibid.
90. Fox M, Gordon A, Nogales R, et al. "Availability and Consumption of Competitive Foods in U.S. Public Schools." *Journal of the American Dietetic Association,* 109(2, Supplement 1): S57-S66, February 2009.
91. Muckelbauer R, Libuda L, Clausen K, et al. "Promotion and Provision of Drinking Water in Schools for Overweight Prevention: Randomized, Controlled Cluster Trial." *Pediatrics,* 123(4): e661-e667, April 2009.
92. Story M and French S. "Food Advertising and Marketing Directed at Children and Adolescents in the U.S." *International Journal of Behavioral Nutrition and Physical Activity,* 1(1): 3- February 2004.
93. Ibid.
94. Committee on Food Marketing and the Diets of Children and Youth. *Food Marketing to Children and Youth: Threat or Opportunity?* McGinnis J, Gootman J and Kraak V (eds). Washington, DC: National Academy Press, 2006.
95. Ibid.
96. Committee on Food Marketing and the Diets of Children and Youth. *Food Marketing to Children and Youth: Threat or Opportunity? Executive Summary.* McGinnis J, Gootman J and Kraak V (eds) Washington, DC: National Academy Press, 2006.

97. *Eligibility Manual for School Meals.* Washington, DC: Child Nutrition Programs, Food and Nutrition Service, U.S. Department of Agriculture, 2008.
98. Troiano R, Berrigan D, Dodd K, et al. "Physical Activity in the United States Measured by Accelerometer." *Medicine & Science in Sports & Exercise,* 40(1): 181-188, January 2008.
99. Ibid.
100. Gordon-Larsen P, Nelson M and Popkin B. "Longitudinal Physical Activity and Sedentary Behavior Trends: Adolescence to Adulthood." *American Journal of Preventive Medicine,* 27(4): 277-283, November 2004.
101. Nader P, Bradley R, Houts R, et al. "Moderate-to-Vigorous Physical Activity from Ages 9 to 15 Years." *JAMA: The Journal of the American Medical Association,* 300(3): 295-305, July 2008.
102. *Physical Activity Guidelines for Americans.* Washington, DC: U.S. Department of Health and Human Services, 2009.
103. *Physical Activity for Children: A Statement of Guidelines for Children Ages 5–12.* Reston, VA: National Association for Sport & Physical Education, 2004.
104. *School-Based Programs to Control Overweight or Obesity.* Task Force on Community Preventive Services, 2009. Available at *www.thecommunityguide.org/obesity/schoolbased.html* (accessed June 2009).
105. *Behavioral and Social Approaches to Increase Physical Activity: Enhanced School-Based Physical Education.* Task Force on Community Preventive Services, 2009. Available at *www.thecommunityguide.org/pa/behavioral-social/schoolbased-pe.html* (accessed June 2009).
106. Trudeau F and Shephard R. "Physical Education, School Physical Activity, School Sports and Academic Performance." *International Journal of Behavioral Nutrition and Physical Activity*, 5 10- February 2008.
107. Mahar M, Murphy S, Rowe D, et al. "Effects of a Classroom-Based Program on Physical Activity and On-Task Behavior." *Medicine & Science in Sports & Exercise*, 38(12): 2086-2094, December 2006.
108. *Active Education: Physical Education, Physical Activity and Academic Performance*. San Diego, CA: Active Living Research Program, 2007.
109. Centers for Disease Control and Prevention. "Guidelines for School and Community Programs to Promote Lifelong Physical Activity among Young People." *MMWR Morbidity and Mortality Weekly Report*, 46(RR-6): 1-35, March 2007.
110. Lee S, Burgeson C, Fulton J, et al. "Physical Education and Physical Activity: Results from the School Health Policies and Programs Study 2006." *Journal of School Health*, 77(8): 435-463, October 2007.
111. Centers for Disease Control and Prevention. "Guidelines for School and Community Programs to Promote Lifelong Physical Activity among Young People." *MMWR Morbidity and Mortality Weekly Report*, 46(RR-6): 1-35, March 2007.
112. Lee S, Burgeson C, Fulton J, et al. "Physical Education and Physical Activity: Results From the School Health Policies and Programs Study 2006." *Journal of School Health*, 77(8): 435-463, October 2007.
113. *Recess for Elementary School Students [Position Paper]*. Reston, VA: National Association for Sport & Physical Education, 2006.
114. Lee S, Burgeson C, Fulton J, et al. "Physical Education and Physical Activity: Results from the School Health Policies and Programs Study 2006." *Journal of School Health*, 77(8): 435-463, October 2007.
115. *Comprehensive School Physical Activity Programs*. Reston, VA: National Association for Sport & Physical Education, 2008.
116. *Moving into the Future: National Standards for Physical Education, 2nd Edition*. Reston, VA: National Association for Sport & Physical Education, 2004.
117. Ibid.
118. Lee S, Burgeson C, Fulton J, et al. "Physical Education and Physical Activity: Results From the School Health Policies and Programs Study 2006." *Journal of School Health*, 77(8): 435-463, October 2007.
119. Ibid.
120. Centers for Disease Control and Prevention. "Guidelines for School and Community Programs to Promote Lifelong Physical Activity among Young People." *MMWR Morbidity and Mortality Weekly Report*, 46(RR-6): 1-35, March 2007.
121. *Moving into the Future: National Standards for Physical Education, 2nd Edition*. Reston, VA: National Association for Sport & Physical Education, 2004.
122. Ibid.
123. U.S. Department of Health and Human Services. *Healthy People 2010: Understanding and Improving Health.* Washington, DC: Government Printing Office, 2000.
124. Nader P. "Frequency and Intensity of Activity of Third-Grade Children in Physical Education." *Archives of Pediatrics Adolescent Medicine*, 157(2): 185-190, February 2003.
125. McKenzie T, Catellier D, Conway T, et al. "Girls' Activity Levels and Lesson Contexts in Middle School PE: TAAG Baseline." *Medicine & Science in Sports & Exercise*, 38(7): 1229-1235, July 2006.
126. Wittmeier K, Mollard R and Kriellaars D. "Objective Assessment of Childhood Adherence to Canadian Physical Activity Guidelines in Relation to Body Composition." *Applied Physiology, Nutrition, and Metabolism*, 32(2): 217-224, April 2007.
127. Mâsse L, Chriqui J, Igoe J, et al. "Development of a Physical Education-Related State Policy Classification System (PERSPCS)." *American Journal of Preventive Medicine*, 33(4, Supplement 1): S264-S276, October 2007.
128. *F as in FAT: How Obesity Policies Are Failing America, 2009*. Washington, DC: Trust for America's Health, 2009.
129. Lee S, Burgeson C, Fulton J, et al. "Physical Education and Physical Activity: Results From the School Health Policies and Programs Study 2006." *Journal of School Health*, 77(8): 435-463, October 2007.
130. *Eligibility Manual for School Meals*. Washington, DC: Child Nutrition Programs, Food and Nutrition Service, U.S. Department of Agriculture, 2008.

131. *School Wellness Policy Report*. Hartford, CT: Connecticut State Department of Education and Rudd Center for Food Policy & Obesity at Yale University, 2008. Available at *www.sde.ct.gov/sde/cwp/view.asp?a=2626&q=322168* (accessed May 2009)
132. Belansky E, Cutforth N, Delong E, et al. "Early Impact of the Federally Mandated Local Wellness Policy on Physical Activity in Rural, Low-Income Elementary Schools in Colorado." *Journal of Public Health Policy*, 30(Suppl 1): S141-S160, March 2009.
133. Longley C and Sneed J. "Effects of Federal Legislation on Wellness Policy Formation in School Districts in the United States." *Journal of the American Dietetic Association*, 109(1): 95-101, January 2009.
134. *Local School Wellness Policies: A Survey of the Progress and Policies Being Developed by Local School Districts*. Alexandria, VA: School Nutrition Association, 2006.
135. *Local Wellness Policies One Year Later: Showing Improvements in School Nutrition and Physical Activity*. Skokie, IL: Action for Healthy Kids, 2007.
136. Krebs N, Jacobson M and American Academy of Pediatrics Committee on Nutrition. "Prevention of Pediatric Overweight and Obesity." *Pediatrics*, 112(2): 424-430, August 2003.
137. Institute of Medicine. *Preventing Childhood Obesity: Health in the Balance*. Washington, DC: National Academies Press, 2005.
138. Ikeda J, Crawford P and Woodward-Lopez G. "BMI Screening in Schools: Helpful or Harmful." *Health Education Research*, 21(6): 761-769, December 2006.
139. Nihiser A, Lee S, Wechsler H, et al. "Body Mass Index Measurement in Schools." *Journal of School Health*, 77(10): 651-671, December 2007.
140. *Year Five Evaluation: Arkansas Act 1220 of 2003 to Combat Childhood Obesity*. Little Rock, AR: University of Arkansas for Medical Sciences, Fay W. Boozman College of Public Health, 2008.
141. Ikeda J, Crawford P and Woodward-Lopez G. "BMI Screening in Schools: Helpful or Harmful." *Health Education Research*, 21(6): 761-769, December 2006.
142. Nihiser A, Lee S, Wechsler H, et al. "Body Mass Index Measurement in Schools." *Journal of School Health*, 77(10): 651-671, December 2007.
143. Ibid.
144. *F As in FAT: How Obesity Policies Are Failing America, 2009*. Washington, DC: Trust for America's Health, 2009.
145. Albermarle State Policy Center. *2008 Mid-Year Balance Report: A Report on State Action to Promote Nutrition, Increase Physical Activity and Prevent Obesity*. Princeton, NJ: Robert Wood Johnson Foundation, 2009.
146. Longley C and Sneed J. "Effects of Federal Legislation on Wellness Policy Formation in School Districts in the United States." *Journal of the American Dietetic Association*, 109(1): 95-101, January 2009.
147. *From Cupcakes to Carrots: Local Wellness Policies One Year Later*. Alexandria, VA: School Nutrition Association, 2007.
148. *Local Wellness Policies One Year Later: Showing Improvements in School Nutrition and Physical Activity*. Skokie, IL: Action for Healthy Kids, 2007.
149. Ibid.
150. *Eligibility Manual for School Meals*. Washington, DC: Child Nutrition Programs, Food and Nutrition Service, U.S. Department of Agriculture, 2008.
151. Chriqui J, Tynan M, Agurs-Collins T, et al. "Will Web-Based Research Suffice When Collecting U.S. School District Policies? The Case of Physical Education and School-Based Nutrition Policies." *International Journal of Behavioral Nutrition and Physical Activity*, 5 64- 2008.
152. Mersky R and Dunn D. *Fundamentals of Legal Research*. New York, NY: Foundation Press, 2002.
153. *State School Healthy Policy Database*. National Association for State Boards of Education, 2009. Available at *www.nasbe.org/healthy_schools/hs/index.php* (accessed June 2009).
154. *F As in FAT: How Obesity Policies Are Failing America, 2006*. Washington, DC: Trust for America's Health, 2006.
155. *F As in FAT: How Obesity Policies Are Failing America, 2007*. Washington, DC: Trust for America's Health, 2007.
156. *F As in FAT: How Obesity Policies Are Failing America, 2008*. Washington, DC: Trust for America's Health, 2008.
157. Albermarle State Policy Center. *2008 Mid-Year Balance Report: A Report on State Action to Promote Nutrition, Increase Physical Activity and Prevent Obesity*. Princeton, NJ: Robert Wood Johnson Foundation, 2009.
158. *Childhood Obesity – 2006 Update and Overview of Policy Options*. National Conference of State Legislatures, 2007. Available at *www.ncsl.org/Default.aspx?TabId=14397* (accessed September 2007).
159. *Childhood Obesity - 2007 Update and Overview of Policy Options*. National Conference of State Legislatures, 2007. Available at *www.ncsl.org/Default.aspx?TabId=14398* (accessed January 2008).
160. Schwartz M, Lund A, Grow H, et al. "A Comprehensive Coding System to Measure the Quality of School Wellness Policies." *Journal of the American Dietetic Association*, 109(7): 1256-1262, July 2009.
161. O'Malley P, Johnston L, Delva J, et al. "Variation in Obesity Among American Secondary School Students by School and School Characteristics." *American Journal of Preventive Medicine*, 33(4, Supplement 1): S187-S194, October 2007.
162. *Eligibility Manual for School Meals*. Washington, DC: Child Nutrition Programs, Food and Nutrition Service, U.S. Department of Agriculture, 2008.
163. Schwartz M, Lund A, Grow H, et al. "A Comprehensive Coding System to Measure the Quality of School Wellness Policies." *Journal of the American Dietetic Association*, 109(7): 1256-1262, July 2009.

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