The Impact of the Safe Schools/Healthy Students Initiative in California Schools: A Matched Comparison Group Analysis

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August 2012

Final Draft

Health and Human Development Program, WestEd

WestEd

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Acknowledgments

This report was prepared for the Center for Mental Health Services (CMHS), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services (HHS). The report was developed by MANILA Consulting Group, Inc., under contract number 280-10-0348 with support from WestEd.

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This report was prepared under contract by MANILA Consulting Group, Inc., for SAMHSA. The content of this publication does not necessarily reflect the views or policies of SAMHSA or HHS.

Recommended Citation

Substance Abuse and Mental Health Services Administration. (2012). *The impact of the Safe Schools/Healthy Students Initiative in California schools: A matched comparison group analysis*. Rockville, MD: Center for Mental Health Services.

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Abstract

The Safe Schools/Healthy Students (SS/HS) Initiative has provided more than 365 school districts and their local partners with over $2 billion in funding to implement comprehensive and coordinated sets of activities, curricula, programs, and services that focus on creating safe school environments; promoting healthy childhood development; and preventing youth violence and alcohol, tobacco, and other drug (ATOD) use. The initiative provides funding to school districts to develop partnerships with local mental health law enforcement and juvenile justice agencies to develop and implement comprehensive services to improve school climate and promote healthy child development. The logic underlying the SS/HS Initiative is that by comprehensively addressing children's developmental needs, mental health, and risk behaviors through coordinated efforts among schools, social service agencies, and juvenile justice programs in local communities, schools and communities are better able to foster healthy child development and student learning.

This study relies on outcome data collected for both SS/HS schools and non-SS/HS schools using standard instruments utilized in California to examine the extent to which student well-being, school climate, and community supports change in SS/HS schools compared to similar schools that did not receive SS/HS funding. We examine outcomes in 18 school districts in California that implemented the comprehensive service strategies as part of the SS/HS Initiative and compared them to matched sites that carried out business-as-usual activities during the same time.

The results suggest that student well-being, school climate, and environmental supports improved more in SS/HS grantee sites than in similar sites that did not receive SS/HS funding. After controlling for school type, these findings hold for elementary schools and to some extent for middle schools. In elementary schools, statistically significant, beneficial impacts of SS/HS participation were detected for 10 of the 11 student-reported measures examined (violence perpetration, violence victimization, perceived safety, substance use, empathy, school connectedness, English academic performance, math academic performance, school supports, and home supports); and 2 of the 4 teacher-reported measures (organizational and student supports). Less consistent although similarly positive impacts on student-reported outcomes were detected for the middle school sample.

High schools in SS/HS districts and comparison sites exhibited similar changes in student-reported outcomes, although safety perceptions and school connectedness actually declined more markedly in SS/HS sites. High school teachers' reports of school climate and student well-being declined more in SS/HS sites than comparison sites in all measures examined except student supports. To the extent that SS/HS produced any impacts in high schools, those impacts appear to be detrimental for perceptions of school climate and student well-being.

Although limited to California schools, the current study provides an important contribution to the evidence related to the impact of the SS/HS Initiative. A comparison group for the overall cohort of

SS/HS grantee sites was not a part of the national evaluation approach owing to the cost of data collection among comparison sites and because the diverse nature of the SS/HS approach in each grantee community made a matched cohort design impractical on a national scale. California has standardized data collection activities that include measures of student safety and well-being across all school districts in the state and has a significant number of SS/HS grantees. This analysis capitalizes on the unique situation in California to identify matched comparison sites and provides an opportunity to further explore the overall findings from the national evaluation.

Introduction

The Safe Schools/Healthy Students (SS/HS) Initiative is a discretionary grant program funded by the U.S. departments of Education, Health and Human Services, and Justice. Since 1999, it has provided more than 365 school districts and their local partners with over $2 billion in funding to implement a comprehensive and coordinated set of activities, curricula, programs, and services that focus on creating safe school environments, promoting healthy childhood development, and preventing youth violence and alcohol, tobacco, and other drug (ATOD) use. The SS/HS Initiative provides funding to school districts to develop partnerships with local mental health, law enforcement, and juvenile justice agencies to develop and implement comprehensive services to improve school climate and promote healthy child development.

This ambitious initiative requires that each grantee integrate new and/or existing services that address the following core elements: (1) safe school environments and violence prevention activities; (2) alcohol, tobacco, and other drug (ATOD) prevention activities; (3) student behavioral, social, and emotional supports; (4) connecting families, schools, and communities; and (5) early childhood social and emotional learning programs. The logic underlying the SS/HS Initiative is that by comprehensively addressing children's developmental needs, mental health, and risk behaviors through coordinated efforts among schools, social service agencies, and juvenile justice programs in local communities, schools and communities are better able to foster healthy child development and student learning. Funded activities target different age groups (early childhood, adolescence), geographic locations (urban, rural), and outcome domains (ATOD use, mental health, violence).

The national cross-site evaluation team investigated the effectiveness of SS/HS for two cohorts of grantees by examining the extent to which grantee sites experienced reductions in violent incidents in schools, reduced rates of student self-reported ATOD use, and greater access to mental health services among youth (Derzon et al., 2012). The results suggested the initiative had beneficial impacts in three areas: access to school-based mental health services, access to community-based mental health services, and reductions in experienced violence. No initiative-wide impacts were detected for substance use or perceived violence. Moreover, the results across outcomes varied tremendously within grantee sites, with outcomes tending to improve for some themes while worsening for others within a particular site.

Evaluating the effectiveness of such an ambitious, complex, multifaceted initiative is a daunting challenge (Rollison et al., 2012). Although each grantee is required to address each of the core elements, the grantees respond to the elements in unique ways according to local conditions and prioritized different sets of outcomes based on their particular needs. Moreover, there are limited incentives to encourage grantees to participate in data collection. To reduce the burden, grantees report outcome data to Federal agencies and the national evaluation team using existing data collection systems in their localities. The instruments used to obtain outcome measures vary across grantee sites. The absence of an experimental or quasi-experimental control group further limits inferences regarding the effectiveness of the initiative.

Because of these challenges, there is limited evidence regarding the effectiveness of the initiative in improving students' access to school and community social resources, reducing students' ATOD use

and violence, and increasing student academic performance. With one exception (see below), the effectiveness of the SS/HS Initiative has not been rigorously evaluated using a randomized controlled trial or a quasi-experimental design using a well-matched comparison group.

To address these challenges, the current study relied on outcome data collected from both SS/HS schools and non-SS/HS schools using standard instruments utilized in California to examine the extent to which student well-being, school climate, and community supports change in SS/HS schools compared to similar schools that did not receive SS/HS funding. The study examined the outcomes in school districts that implemented the comprehensive service strategies as part of the SS/HS Initiative compared to matched school districts that carried out business as usual during the same time. Using data collected from local administration of the California Healthy Kids Survey (CHKS), the California School Climate Survey (CSCS) for staff, and publicly available, school-level demographic and achievement data maintained by the California Department of Education (CDE), two general research questions were examined:

1. What is the impact of the SS/HS Initiative on student reports of violence, school safety, substance use, mental health, school engagement, and academic performance?
2. What is the impact of the SS/HS Initiative on school and community supports available for students?

This analysis makes a significant contribution to the national evaluation of the effects of the SS/HS Initiative because of the large number of California grants and common data sources for both SS/HS and comparison sites with baseline and postimplementation data. The study is a followup to Hanson, Cason, and Gopal's (2008) analyses investigating the impact of SS/HS funding on student health-related behavior, protective factors, and academic performance. In that study, the local evaluators from eleven 2002 SS/HS grantee sites in California (known as the California Consortium) collaborated on a cross-site evaluation. Using a matched-comparison group quasi-experimental design and CHKS data, the California Consortium found that student health-related behavior, protective factors, and academic performance improved more in SS/HS grantee schools than in similar schools that did not receive SS/HS funding among 5th graders and 7th graders (Hanson et al., 2008; Hanson, Griffiths, & Furlong, 2011). Among 9th graders and 11th graders, SS/HS funding status was not consistently related to changes in student well-being. The analysis reported herein examined impacts among more recent grantees and utilized data collected from both students on the CHKS and school staff from the CSCS.

California Grantees

In 2006, 2007, and 2008, eighteen SS/HS partnerships involving local educational agencies (LEAs) and other entities were funded in California, representing about 223,000 students in 255 schools (Tables 1 and 2). The funded initiatives and the populations served vary considerably across sites. As shown in Table 1, the grants are spread across urban, suburban, and rural sites—with some sites serving schools that span multiple geographical area classifications (e.g., suburban and rural). Most (14) sites serve high proportions of non-White students, and 8 grantee sites serve a student

population that is more than 90% non-White. Four sites have a student population that is 35% or less non-White.

Table 1. SS/HS Grantees in California, 2006–2008

	Population Area	Site Enrollment	Percent Non-White	Elementary School	Middle School	High School
2006 Cohort						
Site 1	Suburban	2,739	97.3	3	1	0
Site 2	Suburban/Town	4,087	96.8	5	1	1
Site 3	Suburban/Rural	50,386	32.3	35	12	6
Site 4	Suburban/Rural	10,475	66.6	12	2	2
Site 5	Urban	20,441	93.8	24	0	0
2007 Cohort						
Site 1	Suburban/Rural	4,110	15.0	4	1	1
Site 2	Suburban/Rural	1,941	59.7	4	0	0
Site 3	Suburban	5,832	99.6	5	1	0
Site 4	Urban	4,449	91.5	1	5	0
Site 5	Suburban/Rural	2,420	74.4	3	1	1
Site 6	Suburban	10,819	51.5	0	0	5
2008 Cohort						
Site 1	Suburban/Rural	4,628	32.0	6	2	0
Site 2	Urban/Suburban	12,511	99.0[A]	12	2	1
Site 3	Urban/Suburban	17,882	95.9	13	0	3
Site 4	Urban/Suburban/Rural	25,294	81.2	20	7	3
Site 5	Urban/Suburban	31,585	97.9	17	6	3
Site 6	Urban/Suburban	4,840	34.5	9	2	0
Site 7	Suburban	8,816	83.2	10	3	0

[A] Information for one school was not included because data were not available.

Table 2. Number of Grantee Schools Served and Schools With Data

	Grantees	Elementary Schools	Middle School	High Schools	Total
Total Served	**18**	**192[A]**	**74[B]**	**26**	**255**
2006 Cohort	5	79	19	9	104
2007 Cohort	6	18	14	7	32
2008 Cohort	7	95	41	10	119
With CHKS, CSCS, STAR* Data	**17**	**123[C]**	**49[D]**	**22**	**178**
2006 Cohort	5	50	11	6	67
2007 Cohort	5	13	8	7	28
2008 Cohort	7	60	30	9	83

[A] Includes 9 middle schools with 5th graders
[B] Includes 22 elementary schools with 7th graders and 6 high schools with 7th graders
[C] Includes 5 middle schools with 5th graders
[D] Includes 11 elementary schools with 7th graders; * STAR = Standardized Testing and Reporting program

Research Design

Overview

We used a repeated-measures, quasi-experimental design with SS/HS-funded schools and matched-comparison schools to examine the extent to which student well-being and school and community supports changed in SS/HS schools compared to similar schools that did not receive SS/HS funding. This involved comparisons between SS/HS schools and comparison schools in *changes* in staff and student reports of school climate and student outcomes, and changes in school-level indices of student academic performance. We used propensity-score matching techniques to identify schools similar to SS/HS schools. Random-intercept regression techniques were used to estimate SS/HS school/comparison-school differences in changes in school climate, student well-being, and school and community social resources. To assess student outcomes, school and community supports, and school climate, the analysis relied on the data collected from the CHKS and the CSCS, standard instruments that have been administered across all the California sites. For the examination of student academic performance, we relied on existing, publicly available, school-level achievement data maintained by the CDE.

Data Sources

The California Healthy Kids Survey. The CHKS is a repeated cross-sectional, self-report survey of 5th, 7th, 9th, and 11th grade students in California. It assesses all major areas of health-related risk behavior, with a focus on those occurring in the school and those that research has shown to be most associated with variations in academic outcomes (i.e., putative barriers to learning) (Hanson, Austin, & Lee-Bayha, 2004). The survey was designed to meet the local needs of school districts in assessing and monitoring progress in ameliorating student violence; ATOD use; and other behaviors harmful to health. Biennial administration of the CHKS was required in all districts that received Title IV funds until the 2010–2011 academic year. Prior to the 2011–2012 academic year, the CHKS was administered in approximately 90 percent of the state's school districts. Only a relatively few (all small) districts that did not accept Title IV funds did not administer the survey. In the 30 largest districts in California—representing 29 percent of state enrollment—the CHKS was administered in a sample of schools in each district. Between 2004 and 2011, approximately 600,000 students per year took the CHKS. The analysis used survey data collected during and between the 2003–2004 and 2010–2011 academic years.

The California School Climate Survey (CSCS) for Staff. The CSCS for staff is a repeated cross-sectional, self-report survey of all staff in schools that administer the CHKS. Biennial administration of the staff survey was required in California between 2004 and 2011, with annual administration required for grantees beginning in 2009. The survey is typically administered online via the Internet. The survey assesses a variety of school climate domains, including student supports, parental involvement, clarity and equity of discipline practices, and perceptions of learning-related student behaviors. As with the CHKS data, the analysis relies on data collected from 2003–2004 to 2010–2011.

District- and School-Level Data. All school-level achievement and demographic data are publicly available from the CDE Web site. Achievement data come from the 2003–2004 through 2010–2011 Standardized Testing and Reporting (STAR) program's research files released by the CDE. These files contain school-level average scores on standardized tests for each grade level and subject area. Demographic data come from the 2003–2011 Academic Performance Index (API) and California Basic Education Data System (CBEDS) research files. School-level measures of the educational level of parents come from the API research files, while percentages of students in racial/ethnic categories enrolled in the school, the percentage of students receiving subsidized meals, and the percentage of English language learners come from CBEDS data files.

Measures

Tables 3, 4, and 5 describe the outcome measures based on the student and staff surveys, the individual items that make up each scale (where applicable), the range of the items, reliability estimates for each of the scales (if applicable), and sample size for each measure. Tables 3 and 4 describe the outcome measures based on student surveys in elementary schools and secondary schools, respectively, and Table 5 shows the outcomes based on the staff survey. To facilitate interpretation of the results, all outcome measures are coded such that high values correspond to higher levels of student well-being.

Table 3. Measures, Items, Score Ranges, and Reliability Coefficients for Student Survey and Academic Performance Measures, Elementary School Sample

Measures	Items	Range	α	Valid *N*	Percent Missing
Violence/Harassment/Safety					
	Violence Perpetration – *happened on school property (12 months)*		0.49		
	Hit/pushed other kids – *hit or pushed other kids*	1–4	—	31,227	1.2%
	Spread rumors – *spread mean rumors or lies about other kids*	1–4	—	31,189	1.3%
	Weapon to school – *brought a gun or knife to school*	0–1	—	31,206	1.3%
	Saw weapon at school – *saw another kid with a gun or knife*	0–1	—	31,054	1.8%
	Violence Victimization – happened on school property (12 months)		0.62		
	Been hit/pushed – *been hit or pushed you at school*	1–4	—	31,306	1.0%
	Had rumors spread – *had mean rumors/lies spread about you*	1–4	—	31,219	1.2%
	Safety				
	Perceived safety at school – *do you feel safe at school?*	1–4	—	31,260	1.1%
Substance Use			**0.64**		
	Substance Use				
	Lifetime cigarettes – *ever smoked a cigarette*	0–1	—	30,863	2.4%
	Lifetime alcohol – ever *drunk beer, wine, or other alcohol*	0–1	—	30,566	3.3%
	Lifetime marijuana – *ever smoked any marijuana*	0–1	—	30,977	2.0%
	Lifetime smokeless tobacco – *ever chewed tobacco or snuff*	0–1	—	30,245	4.3%
	Lifetime inhalant use – *sniffed something through nose to get "high"*	0–1	—	30,673	3.0%
	Lifetime drug use before/at school – *ever used alcohol or an illegal drug before or at school?*	0–1	—	30,795	2.6%
	30-day alcohol – *drank beer, wine, or other alcohol in the past month*	0–1	—	31,150	1.5%
	30-day cigarette – *smoked a cigarette in the past month*	0–1	—	30,848	2.4%
Psychological Outcome					
	Empathy		0.62		
	– *Do you try to understand how other people feel?*	1–4	—	31,040	1.8%
	– *Do you feel bad when someone else gets their feelings hurt?*	1–4	—	31,016	1.9%

Measures	Items	Range	α	Valid *N*	Percent Missing
School Engagement					
	School Performance – *How well do you do in your school work?*	1–4	—	31,144	1.5%
	School Connectedness		0.63		
	– *I feel close to people at this school*	1–4	—	31,144	1.5%
	– *I am happy to be at this school*	1–4	—	31,335	0.9%
	– *I feel like I am a part of this school*	1–4	—	31,325	0.9%
	– *The teachers at this school treat students fairly*	1–4	—	31,263	1.1%
Academic Performance					
	California Standards Test, English Language Arts	292–430	—	31,612	0.0%
	California Standards Test, Mathematics	280–500	—	31,612	0.0%
School Environmental Assets					
	School Support – *Do the teachers and other grown-ups at school—*		0.70		
	– *Care about you*	1–4	—	31,082	1.7%
	– *Tell you when you do a good job*	1–4	—	31,343	0.9%
	– *Listen when you have something to say*	1–4	—	31,355	0.8%
	– *Believe that you can do a good job*	1–4	—	31,297	1.0%
Home Environmental Assets					
	Home Support – *Does a parent or some other grown-up at home—*		0.70		
	– *Care about your school work*	1–4	—	30,869	2.4%
	– *Believe that you can do a good job*	1–4	—	30,830	2.5%
	– *Want you to do your best*	1–4	—	30,743	2.8%
	– *Listen when you have something to say*	1–4	—	30,526	3.4%

Data Sources: CHKS and STAR research files

Note: Categorical and dichotomized items are coded such that high values correspond to higher levels of student well-being.

Table 4. Measures, Items, Score Ranges, and Reliability Coefficients for Student Survey and Academic Performance Measures, Secondary School Sample

Measures	Items	Range	Middle School Sample			High School Sample		
			α	Valid *N*	Percent Missing	α	Valid *N*	Percent Missing
Violence/Harassment/Safety								
Violence Perpetration – *happened on school property (12 months)*			0.76			0.73		
Fights at school – *been in a physical fight?*	1–4	—	34,507	6.5%	—	66,452	5.8%
Offered drugs at school – *been offered, sold, given illegal drugs*	1–4	—	34,421	6.7%	—	66,194	6.2%
Committed vandalism – *damaged school property on purpose*	1–4	—	34,335	6.9%	—	66,265	6.1%
Gun to school – *carried a gun*	0–1	—	34,319	7.0%	—	66,204	6.2%
Other weapon to school – *carried any other weapon*	0–1	—	34,257	7.2%	—	66,186	6.2%
Threatened with weapon – *been threatened/injured with weapon*	0–1	—	34,127	7.5%	—	66,133	6.3%
Saw weapon at school – *saw someone carrying gun, knife, etc.*	1–4	—	34,125	7.5%	—	66,184	6.2%
Violence Victimization – *happened on school property (12 months)*			0.83			0.82		
Been hit/pushed – *been pushed, shoved, slapped, hit, or kicked by someone who wasn't just kidding around?*	1–4	—	34,386	6.8%	—	66,659	5.5%
Afraid of being hit – *been afraid of being beaten up?*	1–4	—	34,790	5.7%	—	66,676	5.5%
Had rumors spread – *had mean rumors/lies spread about you*	1–4	—	34,597	6.2%	—	66,391	5.9%
Sexual harassment – *had sexual jokes, comments, gestures made*	1–4	—	34,503	6.5%	—	66,357	6.0%
Made fun of because of looks – *made fun of because of looks*	1–4	—	34,494	6.5%	—	66,360	6.0%
Victim of vandalism – *had property stolen/deliberately damaged*	1–4	—	34,440	6.7%	—	66,290	6.1%
Ethnic/racial harassment – *harassed/bullied because of race*	1–4	—	33,972	7.9%	—	65,940	6.5%
Religious harassment – *harassed/bullied because of religion*	1–4	—	33,896	8.1%	—	65,812	6.7%
Gender harassment – *harassed/bullied because of gender*	1–4	—	33,811	8.4%	—	65,673	6.9%
Gay/lesbian harassment – *harassed/bullied because of gay/lesbian*	1–4	—	33,726	8.6%	—	65,686	6.9%
Disabled harassment – *harassed/bullied because of disability*	1–4	—	33,685	8.7%	—	65,577	7.1%
Safety								
Perceived safety at school			0.64			0.65		
– *I feel safe in my school*	1–5	—	36,317	1.6%	—	69,609	1.3%
– *how safe do you feel when you are at school*	1–5	—	33,749	8.5%	—	65,874	6.6%

Measures	Items	Range	Middle School Sample			High School Sample		
			α	Valid *N*	Percent Missing	α	Valid *N*	Percent Missing
Substance Use			**0.82**			**0.79**		
	Substance Use							
	30-day cigarettes – *smoked cigarette past 30 days*	0–1	—	35,847	2.9%	—	67,758	4.0%
	30-day alcohol – *at least one drink of alcohol past 30 days*	1–6	—	35,652	3.4%	—	68,024	3.6%
	30-day binge drinking – *five or more drinks of alcohol past 30 days*	1–6	—	35,659	3.4%	—	68,157	3.4%
	30-day marijuana – *used marijuana past 30 days*	1–6	—	35,633	3.4%	—	68,230	3.3%
	30-day smokeless tobacco – *used smokeless tobacco past 30 days*	0–1	—	35,747	3.1%	—	68,320	3.2%
	30-day inhalants – *used inhalants past 30 days*	0–1	—	35,592	3.5%	—	68,393	3.1%
	30-day cocaine – *used cocaine past 30 days*	0–1	—	—	—	—	68,385	3.1%
	30-day methamphetamine – *used methamphetamine past 30 days*	0–1	—	—	—	—	68,368	3.1%
	30-day cigarettes at school – *smoked cigarette past 30 days at school*	0–1	—	35,686	3.3%	—	68,675	2.7%
	30-day alcohol at school – *one drink of alcohol past 30 days at school*	0–1	—	35,471	3.9%	—	68,663	2.7%
	30-day marijuana at school – *used marijuana past 30 days at school*	0–1	—	35,524	3.7%	—	68,658	2.7%
Psychological Outcomes								
	Depression – *in past 12 months, did you ever feel so sad or hopeless almost every day for 2 weeks or more that you stopped doing some usual activities*	0–1	—	32,272	12.5%	—	62,541	11.4%
School Engagement								
	Grades – *in past 12 months, how would you describe the grades you mostly received (mostly As to mostly Fs)*	0–4	—	32,852	11.0%	—	63,040	10.7%
	Truancy – *in past 12 months, how many times did you skip school/cut classes*	0–1	—	32,964	10.7%	—	63,533	10.0%
	School Connectedness		0.74			0.78		
	– *I feel close to people at this school*	1–5	—	36,198	1.9%	—	69,438	1.6%
	– *I am happy to be at this school*	1–5	—	36,347	1.5%	—	69,618	1.3%
	– *I feel like I am a part of this school*	1–5	—	36,305	1.6%	—	69,608	1.4%
	– *The teachers at this school treat students fairly*	1–5	—	36,235	1.8%	—	69,583	1.4%

Measures	Items	Range	Middle School Sample			High School Sample		
			α	Valid *N*	Percent Missing	α	Valid *N*	Percent Missing
School Performance								
	California Standards Test, English Language Arts	301.8–419.1	—	36,897	0.0%	—	70,558	0.0%
	California Standards Test, Mathematics	297.0–446.6	—	36,897	0.0%	—	—	—
School Environmental Assets								
	School Support – *At school, there is a teacher or some other adult who—*		0.85			0.89		
	– *really cares about me*	1–4	—	35,459	3.9%	—	68,322	3.2%
	– *tells me when I do a good job*	1–4	—	35,509	3.8%	—	68,605	2.8%
	– *notices when I am not there*	1–4	—	35,482	3.8%	—	68,570	2.8%
	– *always wants me to do my best*	1–4	—	35,237	4.5%	—	68,382	3.1%
	– *listens to me when I have something to say*	1–4	—	35,527	3.7%	—	68,547	2.9%
	– *believes that I will be a success*	1–4	—	35,325	4.3%	—	68,488	2.9%
	School Meaningful Participation—*At school:*		0.68			0.76		
	– *I do interesting activities*	1–4	—	35,946	2.6%	—	68,881	2.4%
	– *I help decide things like class activities or rules*	1–4	—	35,973	2.5%	—	69,162	2.0%
	– *I do things that make a difference*	1–4	—	35,929	2.6%	—	69,044	2.2%
Community Environmental Assets								
	Community Support – *Outside of my home and school, there is an adult—*		0.92			0.94		
	– *who really cares about me*	1–4	—	35,512	3.8%	—	68,565	2.8%
	– *who tells me when I do a good job*	1–4	—	35,636	3.4%	—	68,732	2.6%
	– *who notices when I am upset about something*	1–4	—	35,557	3.6%	—	68,717	2.6%
	– *who believes that I will be a success*	1–4	—	33,383	9.5%	—	68,618	2.8%
	– *who always wants me to do my best*	1–4	—	35,541	3.7%	—	68,548	2.9%
	– *whom I trust*	1–4	—	35,547	3.7%	—	68,580	2.8%
	Community Meaningful Participation—*Outside of my home and school—*		0.70			0.76		
	– *I am part of clubs, sports teams, church/temple, or other group activities*	1–4	—	35,907	2.7%	—	68,845	2.4%
	– *I am involved in music, art, literature, sports, or a hobby*	1–4	—	35,831	2.9%	—	68,706	2.6%

Data Sources: CHKS and STAR research files

Note: Categorical and dichotomized items are coded such that high values correspond to higher levels of student well-being.

Table 5. Measures, Items, Score Ranges, and Reliability Coefficients for Staff Survey Measures

Measures	Items	Range	Elementary School Sample			Middle School Sample			High School Sample		
			α	Valid *N*	% Missing	α	Valid *N*	Percent Missing	α	Valid *N*	Percent Missing
Organizational Supports – *This school—*			**0.88**			**0.92**			**0.89**		
	– is a supportive and inviting place for students to learn	1–4	—	9,061	0.6%	—	5,545	0.9%	—	4,984	0.5%
	– sets high standards for academic performance	1–4	—	9,016	1.1%	—	5,529	1.2%	—	4,966	0.8%
	– promotes academic success for all students	1–4	—	9,022	1.0%	—	5,517	1.4%	—	4,933	1.5%
	– provides adequate counseling and support services	1–4	—	8,915	2.2%	—	5,490	1.9%	—	4,925	1.6%
	– is a supportive and inviting place for staff to work	1–4	—	8,997	1.3%	—	5,499	1.7%	—	4,948	1.2%
	– encourages opportunities for students to decide things	1–4	—	8,549	6.2%	—	5,260	6.0%	—	4,659	7.0%
	– fosters an appreciation of student diversity/respect	1–4	—	8,915	2.2%	—	5,468	2.3%	—	4,913	1.9%
	– is a safe place for students	1–4	—	9,030	0.9%	—	5,524	1.3%	—	4,965	0.8%
	– is a safe place for staff	1–4	—	9,029	0.9%	—	5,529	1.2%	—	4,963	0.9%
Student Supports – *How many adults at this school—*			**0.94**			**0.95**			**0.93**		
	– really care about every student	1–5	—	9,056	0.7%	—	5,544	0.9%	—	4,982	0.5%
	– acknowledge/pay attention to students	1–5	—	9,048	0.7%	—	5,536	1.0%	—	4,967	0.8%
	– want every student to do their best	1–5	—	9,037	0.9%	—	5,525	1.2%	—	4,960	0.9%
	– listen to what students have to say	1–5	—	9,033	0.9%	—	5,528	1.2%	—	4,964	0.9%
	– believe that every student can be a success	1–5	—	9,028	1.0%	—	5,528	1.2%	—	4,967	0.8%
	– treat all students fairly	1–5	—	9,037	0.9%	—	5,521	1.3%	—	4,967	0.8%
Learning Facilitative Behavior – *How many students at this school—*			**0.82**			**0.85**			**0.80**		
	– are healthy and physically fit	1–5	—	9,003	1.2%	—	5,530	1.1%	—	4,948	1.2%
	– arrive at school alert and rested	1–5	—	8,980	1.5%	—	5,508	1.5%	—	4,946	1.2%
	– are motivated to learn	1–5	—	8,987	1.4%	—	5,513	1.5%	—	4,943	1.3%
	– are well behaved	1–5	—	8,985	1.4%	—	5,517	1.4%	—	4,947	1.2%

Measures	Items	Range	Elementary School Sample			Middle School Sample			High School Sample		
			α	Valid *N*	% Missing	α	Valid *N*	Percent Missing	α	Valid *N*	Percent Missing
Student Risk Behavior – *How much of a problem at this school is—*			**0.80**			**0.83**			**0.84**		
	– student tobacco use	1–4	—	8,918	2.2%	—	5,440	2.8%	—	4,929	1.6%
	– harassment or bullying among students	1–4	—	8,995	1.3%	—	5,513	1.5%	—	4,935	1.4%
	– physical fighting between students	1–4	—	8,991	1.4%	—	5,516	1.4%	—	4,942	1.3%
	– disruptive student behavior	1–4	—	8,990	1.4%	—	5,516	1.4%	—	4,951	1.1%
	– racial/ethnic conflict among students	1–4	—	8,932	2.0%	—	5,498	1.7%	—	4,931	1.5%
	– student depression or other mental health problems	1–4	—	8,914	2.2%	—	5,480	2.0%	—	4,924	1.7%

Data Sources: CSCS for staff

Note: Categorical and dichotomized items are coded such that high values correspond to higher levels of student well-being.

Developing Measurement Scales

To ascertain the measurement structure of the CHKS and CSCS items, a series of exploratory and confirmatory factor analysis models were estimated. Exploratory factor analysis (EFA) models were estimated to determine roughly the number of dimensions underlying the data and the measurement structure of the latent factors. A combination of criteria were used to determine the number of factors to retain in the EFAs, including fit indices, the number of eigenvalues greater than 1, conceptual clarity, and simplicity. Models with the smallest number of possible factors and models in which each item loaded on only one latent factor (no cross-loadings) were favored over more complex models. The results of the exploratory factor analysis models were used as a starting point for a series of nested confirmatory factor analysis (CFA) models. Measures of model fit, correlations among the latent constructs (factors), and factor-loading patterns were used to make decisions about models. To derive estimates for the EFA and CFA models, Muthén and Muthén's (2010) Mplus statistical modeling program was used to obtain estimates. Because all the items used to measure school climate were dichotomous or ordinal, Muthén's (1984) approach to exploratory and confirmatory factor analysis with dichotomous and/or ordinal indicators was used.

The results of the EFA and CFA analyses suggested that the student survey items analyzed represent 11 distinct factors: (1) violence perpetration, (2) violence victimization, (3) perceived safety at school (secondary only), (4) substance use, (5) empathy (elementary only), (6) school connectedness, (7) school support (caring relationships and high expectations), (8) opportunities for meaningful participation at school (secondary only), (9) community support (secondary only), (10) opportunities for meaningful participation in the community (secondary only), and (11) home support (elementary only). The analysis of the staff survey data revealed four additional underlying factors captured by the survey items: (12) organizational supports (perceptions of the supports provided by the school), (13) student supports (interpersonal supports provided by staff), (14) perceived learning facilitative student behavior (e.g., students are motivated to learn), and (15) perceived student risk behavior.

Numeric values for these identified dimensions of student well-being and school climate were obtained by estimating factor scores. Factor scores are estimates of the relative standing of respondents on the 15 underlying factors. These scores were obtained with Mplus using an iterative Bayesian estimation procedure based on the estimated measurement model and participant responses. In addition to factor score estimates of constructs composed of multiple items, single-item measures were used for perceived school safety (elementary), depression (secondary), grades in school (secondary), truancy (secondary), and standardized academic achievement test scores in English language arts and mathematics.

Outcome and Matching Measures, Student Survey

Violence Perpetration, Victimization, and Perceived School Safety. We used factor score estimates to assess violence perpetration and victimization. For elementary students, we used items for hitting or pushing other kids (0 to 3 or more times), spreading mean rumors or lies about other kids (0 to 3 or more times), bringing a weapon to school (no or yes), and seeing a weapon at school (no or yes) to assess violence perpetration. Violence victimization was assessed by being hit

or pushed by other kids (1 = no, never; 4 = yes, all of the time), and being the victim of mean rumors or lies (1 = no, never; 4 = yes, all of the time). In addition, safety at school for elementary students was assessed by a single item asking students if they feel safe when they are at school (1 = no, never; 4 = yes, all of the time).

For secondary students, we assessed violence perpetration and victimization using items asking about the incidence of events on school property during the past 12 months (1 or more times vs. 0 times). Based on the factor analysis results, violence perpetration was assessed with the following items: (1) been in a physical fight; (2) been offered drugs at school; (3) damaged school property on purpose; (4) carried a gun; (5) brought any other weapon to school; (6) been threatened or injured with a weapon; and (7) saw someone carrying a weapon. Violence victimization was assessed with (1) been pushed, shoved, slapped, or kicked; (2) been afraid of being hit; (3) had mean rumors or lies spread; (4) had sexual jokes, comments, or gestures made; (5) been made fun of because of looks; (6) had property stolen or deliberately damaged; (7) been harassed/bullied because of race/ethnicity; (8) been harassed/bullied because of religion; (9) been harassed/bullied because of gender; (10) been harassed/bullied because of being gay or lesbian, or because someone thought you were; (11) been harassed/bullied because of a disability. Safety at school for secondary students was assessed by two items that ask how safe students feel at school. Violence perpetration and victimization were recoded such that high values correspond to low levels of violence.

Substance Use. Substance use was assessed by a series of dichotomous items indicating the incidence of substance use (any vs. none). For elementary students, six items asking about lifetime substance use and two items asking about 30-day substance use were used. For secondary students, the substance use factor score was based on 11 items asking about 30-day substance use—including 3 items that ask about substance use at school. Substance use was coded so that higher levels indicate lower substance use prevalence.

Psychological Outcomes. For elementary students, we included one 2-item measure of empathy. For secondary students, psychological well-being was assessed with a single depression item that asks students if, over the past 12 months, they had *felt so sad and hopeless almost every day for 2 weeks or more that they stopped doing some usual activities* (yes/no).

School Engagement. We included several single-item measures to assess school engagement, including student self-reports of grades in school (0 = "mostly Fs" and 4 = "mostly As," secondary only), perceived school performance (1 = "I don't do as well as most others" and 4 = "I'm one of the best students," elementary only), and truancy in the past 12 months (0/1, secondary). We also assessed school connectedness, or sense of bonding and belonging to one's school, using the 5-item school connectedness scale derived from the National Survey of Adolescent Health (Resnick et al., 1997).

School Environmental Assets. We examined one global type of school environmental asset, school support, for both elementary and secondary students; and one specific school environmental asset for secondary students—meaningful participation. School support consists of questions about caring relationships with adults in the school *and* exposure to supportive high expectations in the school setting. The school support measure is based on 4 items for elementary students and 6 items

for secondary students (*Do the teachers and other grown-ups at this school care about your school work?)*. Meaningful participation represents the involvement of the student in relevant activities with opportunities for contribution (three items; e.g., *At school I help decide things like class activities or rules*).[1] High expectations, caring relations, and meaningful participation at school are the environmental assets that research has most consistently linked to resilience and positive academic, social, and behavioral outcomes (Benard, 2004; Hanson et al., 2004).

Community Environmental Assets. For secondary students, we assessed students' perceptions of availability of environmental assets in the community with analogous items used to assess school environmental assets. Community support (caring relations with and supportive high expectations from adults in the community, 6 items) and participation in meaningful activities in the community (2 items) were assessed.

Home Environmental Assets. For elementary students only, we measured home support based on four items that ask about students' perceptions of caring relationships and high expectations in the home environment (e.g., *Does a parent or some other grown-up at home want you to do your best*).

Outcome and Matching Measures, Archival Test Scores

Academic Performance. We assessed school-level academic performance by California Standards Test (CST) scores in English language arts (ELA) and mathematics from the STAR program data. The CST is criterion-referenced to state-adopted academic content standards. Students in grades 2–11 are tested in ELA, while students in grades 2–7 are administered similar grade-specific mathematics tests. We used grade 5 CST data to assess academic performance among elementary students, and grades 7, 9, and 11 data to assess ELA performance among secondary students. In high school, the particular mathematics test students take is dependent on the course the student was enrolled in during the academic year. For example, students who took algebra in 9th grade take the algebra CST. Because the mathematics CST administered to 9th and 11th graders may vary across students within the same grade, depending on their course enrollment, we examined mathematics test scores only for 5th graders and 7th graders. Note also that academic performance is based on test score data aggregated at the school level. The school therefore serves as the unit of analysis in the examination of this outcome. The other outcome measures used in the analysis were based on CHKS student-level or CSCS staff-level data.

Outcome and Matching Measures, Staff Survey

Organizational Supports. Staff perceptions of organizational supports were assessed with 9 items asking about the extent to which the school provides supports to students and staff, including a positive student learning environment (e.g., *This school is a supportive and inviting place for students to learn*), staff collegiality (e.g., *This school is a supportive and inviting place for staff to work*), student opportunities for meaningful participation (e.g., *This school encourages opportunities for students to decide things*), and perceived school safety (e.g., *This school is a safe place for students*. Note that, as with all the multi-item constructs analyzed in the study, the measurement structure of the organizational supports construct was determined empirically by the results from the

[1] See Hanson and Kim (2007) for a more detailed description of the measurement properties of these scales.

measurement models discussed above. Items intended to measure distinct constructs, such as staff collegiality and opportunities for meaningful participation, were too strongly correlated with each other to discriminate among constructs.

Student Supports. Staff perceptions of student supports were measured by 6 items asking about the extent to which all staff at the school exhibit caring relationships with students *and* provide supportive high expectations (e.g., *How many adults at this school listen to what students have to say*). The measure parallels the student survey measure of school support but is based on staff survey responses.

Learning Facilitative Behavior. The extent to which students exhibit learning facilitative behavior was measured by 4 items asking about students' readiness to learn (e.g., *How many students are motivated to learn*).

Student Risk Behavior. Staff perceptions of student risk behavior was measured by 6 items asking about student substance abuse, violence, conflict, and mental health (e.g., *How much of a problem at this school is harassment and bullying among students*).

Control Variables

To accurately assess the relationship between SS/HS grant status and changes in student well-being, school climate, and community supports, we controlled for the racial/ethnic, demographic, and socioeconomic composition of the school, as described in the Assessment of Grant Impacts section below. The following variables were used as controls when analyzing student survey outcome data: student gender, student grade (high school only), student race/ethnicity (White, Asian, African American, Hispanic, other), school racial/ethnic composition, school enrollment, school English language arts and mathematics test scores, percentage of students eligible for free/reduced-price meals, and percentage of students classified as English language learners. We also controlled for school-level indices measuring the outcomes described above (violence perpetration, violence victimization, safety at school, substance use, empathy, school engagement, school and community support, school and community meaningful participation, home support, organizational supports, staff-reported student supports, learning facilitative behavior, and student risk behavior). Table 6 lists the school-level control variables separately for the elementary and secondary school models. The same measures were used as controls when analyzing staff survey outcomes, except instead of student gender and student race/ethnicity, staff role (teacher, administrator, other), staff race/ethnicity, and staff employment tenure (employed at school less than 3 years vs. 3 years or more) were used as controls.

Table 6. Characteristics Used for Matching SS/HS Schools to Comparison Schools

Matching Measure	Elementary School Measures	Secondary School Measures
Violence Perpetration	Past year, how many times— ▪ hit or pushed other kids ▪ spread mean rumors Past year— ▪ brought gun/knife to school ▪ saw gun/knife at school	During the past 12 months, how many times on school property have you— ▪ been in a physical fight ▪ been offered/sold/given an illegal drug ▪ damaged school property on purpose ▪ carried a gun ▪ carried any other weapon ▪ been threatened/injured with a weapon ▪ seen someone carrying a weapon
Violence Victimization	Past year— ▪ been hit/pushed ▪ had mean rumors spread about you	During the past 12 months, how many times on school property have you— ▪ been pushed, shoved, slapped ▪ been afraid of being hit ▪ had mean rumors spread about you ▪ had sexual jokes, comments, or gestures made to you ▪ been made fun of because of your looks or the way you talk ▪ had your property stolen or deliberately damaged During the past 12 months, how many times on school property were you harassed or bullied because of/because (of)— ▪ your race, ethnicity ▪ your religion ▪ your gender ▪ you are gay or lesbian or someone thought you were ▪ a physical or mental disability
Perceived Safety at School		I feel safe in school ▪ How safe do you feel when you are at school

Matching Measure	Elementary School Measures	Secondary School Measures
Substance Use	Lifetime— ▪ use of cigarettes ▪ use of chewed tobacco or snuff ▪ use of alcohol ▪ use of inhalants ▪ use of marijuana ▪ use of alcohol or illegal drug before school or at school 30-day— ▪ use of alcohol ▪ use of cigarettes	30-day— ▪ use of cigarettes ▪ use of smokeless tobacco/snuff ▪ use of alcohol ▪ use of five or more drinks of alcohol in a row ▪ use of marijuana ▪ use of inhalants ▪ use of cocaine (9th and 11th grade) ▪ use of methamphetamine (9th and 11th grade) ▪ use of cigarettes at school ▪ use of alcohol at school ▪ use of marijuana at school
Empathy	Do you try to understand how other people feel? Do you feel bad when someone else gets their feelings hurt	
School Connectedness	At this school— ▪ I feel close to the people ▪ I am happy to be at this school ▪ I am part of this school ▪ The teachers here treat students fairly	Same as elementary
School Support	Teachers and other grown-ups at school— ▪ care about you ▪ listen when you have something to say ▪ tell you when you do a good job ▪ believe that you can do a good job	At my school, there is a teacher or some other adult who— ▪ really cares about me ▪ tells me when I do a good job ▪ notices when I'm not there ▪ wants me to do my best ▪ listens to me when I have something to say ▪ believes I will be a success
School Meaningful Participation		I do interesting activities at school I help decide things like class activities or rules I do things at school that make a difference
Community Support		Outside of my home and school, there is an adult— ▪ who really cares about me ▪ who tells me when I do a good job ▪ who notices when I am upset about something ▪ who believes that I will be a success ▪ who always wants me to do my best ▪ whom I trust

Matching Measure	Elementary School Measures	Secondary School Measures
Community Meaningful Participation		Outside of my home and school— ▪ I am part of clubs/sports teams, church/temple, or other group activities ▪ I am involved in music, art, literature, sports, or a hobby
Home Support	At home, a parent or other adult— ▪ is interested in your school work ▪ believes that you can do a good job ▪ wants you to do your best ▪ listens when you have something to say	
Organizational Supports (Staff Measure)	This school— ▪ is a supportive and inviting place for students to learn ▪ sets high standards for academic performance for all students ▪ promotes academic success for all students ▪ provides adequate counseling and support services for students ▪ is a supportive and inviting place for staff to work ▪ encourages opportunities for students to decide things ▪ fosters an appreciation of student diversity and respect for each other ▪ is a safe place for students ▪ is a safe place for staff	Same as elementary
Student Supports (Staff Measure)	How many adults at this school— ▪ really care about every student ▪ acknowledge/pay attention to students ▪ want every student to do their best ▪ listen to what students have to say ▪ believe that every student can be a success ▪ treat all students fairly	Same as elementary
Learning Facilitative Behavior (Staff Measure)	How many students at this school— ▪ are healthy and physically fit ▪ arrive at school alert and rested ▪ are motivated to learn ▪ are well behaved	Same as elementary

Matching Measure	Elementary School Measures	Secondary School Measures
Student Risk Behavior (Staff Measure)	How much of a problem is— ▪ student tobacco use ▪ harassment or bullying among students ▪ physical fighting between students ▪ disruptive student behavior ▪ racial/ethnic conflict among students ▪ student depression or other mental health problems	Same as elementary
California Standards Tests (CST) Scores	Mean CST scaled score in— ▪ English language arts ▪ mathematics	Mean CST scaled score in— ▪ English language arts ▪ mathematics (7th grade)
Enrollment	School enrollment	Same as elementary
African American (%)	Percent African American in school	Same as elementary
Asian (%)	Percent Asian in school	Same as elementary
Hispanic (%)	Percent Hispanic in school	Same as elementary
White (%)	Percent White in school	Same as elementary
English language learner (%)	Percent English learner in school	Same as elementary
Free or reduced-price meal program (%)	Percentage of students in school eligible for the free or reduced-price meal program	Same as elementary

Identification of Treatment and Comparison Sites

SS/HS Sites

SS/HS sites consist of the 18 sites that were awarded grants in 2006, 2007, and 2008 in California. These sites served 255 schools in California (see Table 2). Of these 255 schools, 192 served grade 5 students, 74 served grade 7 students, and 26 served grade 9 and grade 11 students. Although the grantees served 255 schools, only 178 SS/HS schools (123 serving elementary students and 71 serving secondary students) were included in the analytic sample. Figure 1 displays the inclusionary criteria used to define the analytic sample. To be included in the analysis, schools in SS/HS grant sites must have administered the CHKS at least once prior to the grant award and at least once *after* grant implementation. They also must have administered the CSCS for staff during the first year of grant implementation (or earlier) and at least once subsequently. CSCS staff data collected during the first implementation year were treated as baseline data because too few grantees collected staff surveys before then. Restricting the analytic sample to grantees who had collected staff survey data prior to the grant award would have reduced the sample size considerably.

Although we would have preferred to have been able to use measures collected prior to the award year, treating CSCS staff data collected during the year of the grant award as baseline data is warranted because grantees generally used the first 9 months after the grant award date for planning only. Accordingly, analyses showed that 18 percent of California grantees did not implement any SS/HS programs or activities in school during the first year of the grant. Any activities that were implemented in the first year likely occurred after some planning at the startup of the grant. Therefore, the impact of those activities on student- and staff-level outcomes were not likely to be realized until survey administrations in subsequent years.

Because the impact analyses rely on data collected up through the 2010–2011 academic year, up to 5 years of postaward data could potentially be available for the 2006 cohort (2006–2007 through 2010–2011), 4 years for the 2007 cohort, and 3 years for the 2008 cohort. As described above, biennial administration of the CHKS and CSCS was required in California until 2010–2011. As a result, SS/HS schools (and comparison schools) tended to have survey data available every other year.

Comparison Sites

All schools in SS/HS grant sites were matched with one comparison school (with replacement) based on aggregated school-level baseline scores on student- and staff-reported outcomes, standardized achievement scores, and school demographic characteristics (Table 6). We matched on baseline school-level measures of substance use, violence, and school climate factors because these areas represent critical elements of the SS/HS Initiative. Both because grantees may be expected to have a greater need for resources than other districts to address student ATOD use, violence, and mental health problems prior to proposal submission, and they are expected to make progress in reducing student problems in these areas, it is appropriate to match SS/HS grantee schools with comparison schools on these factors. We also required exact matching on year of

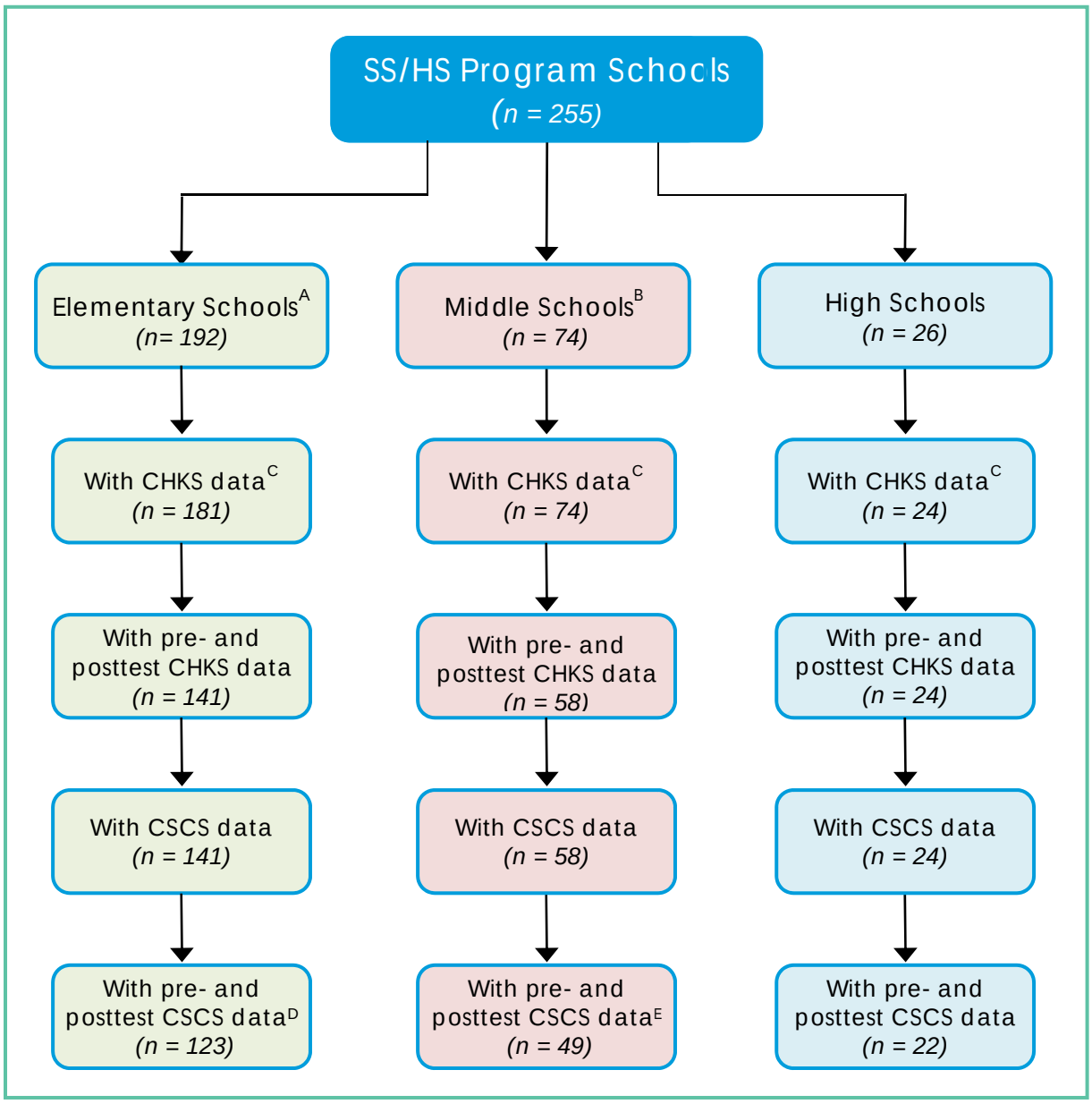
baseline CHKS and CSCS administration. As shown in Table 6, the indices used to measure substance use, violence, and mental health were in some ways different for elementary schools and secondary schools.

We identified similarly situated comparison schools using propensity score matching techniques. With propensity score matching, the predicted probability of being an SS/HS project school was calculated based on the results of a logistic regression model. For each group of schools with data collected at the same baseline and postimplementation year as SS/HS project schools, project status was modeled as a function of the factors listed in Table 6. Within each of these groups, nonproject schools with predicted probabilities closest to program schools were selected as matches. The resulting matched comparison schools had data collected at the same baseline and postimplementation time points as their corresponding project schools.

Because SS/HS grants are awarded to school districts rather than schools, and the unit of intervention is the district, we then grouped the comparison schools into clusters or "pseudo-districts" that corresponded with each of their matched SS/HS districts. Thus, each comparison pseudo-district included the same number of schools as the corresponding SS/HS district. Note that even though comparison schools in pseudo-districts came from different districts, they were treated as if they were from the same district in the analysis.

Although grouping the comparison schools into pseudo-districts to correspond to SS/HS grantee districts ensures the unit of aggregation in the impact analysis models corresponds to the unit of intervention (i.e., the school district), this procedure is not without its shortcomings. Grouping comparison schools into pseudo-districts creates artificial within-district nesting patterns that are likely to be different from the nesting patterns in SS/HS districts. There are likely to be common historical, political, and fiscal factors shared among all schools in SS/HS school districts that do not come into play in artificially created pseudo-districts. Matching at the district level, however, would have likely resulted in less optimally matched comparison sites because of differences in the number of schools served by districts and heterogeneity of schools within districts.

Figure 1. SS/HS School Sample Selection Schematic



Notes:
[A] Includes 9 middle schools with 5th graders
[B] Includes 22 elementary schools with 7th graders and 6 high schools with 7th graders
[C] Schools with at least 10 responses within a survey administration year
[D] Includes 5 middle schools with 5th graders
[E] Includes 11 elementary schools with 7th graders

Assessment of Grant Impacts

After identifying comparison schools and defining pseudo-districts, random-intercept regression techniques were used to examine grant/comparison site differences in *changes* in student well-being, school climate, and community supports across time—with district SS/HS participation (0/1) and time as the major independent variables, and postimplementation outcomes serving as the levels of the repeated measures factor (i.e., dependent variable). A "grant by time interaction" implies that posttest changes between grant and comparison sites vary significantly as a function of time. As an illustrative example, consider the following model to assess grant impacts:

$$Violence_{ijk} = \alpha_0 + \beta_1 SS/HS_k + \beta_2 time_k + \beta_3 \ \ (SS/HS \times time)_k + \sum \beta_I I_{ijk} + \sum \beta_S S_{jk} + \varepsilon_{ijk} + \mu_k \quad [1]$$

where subscripts *i*, *j*, and *k* denote student, school, and district, respectively; *violence* represents an outcome variable; *SS/HS* is a dichotomous variable indicating the district is an SS/HS district; *time* represents time of assessment (-1 = year before grant, 0 = year of grant award, 1 = 1 year after grant award; 2 = 2 years after grant award; etc.); *SS/HS X time* represents the interactive effects of grant status and time; *I* represents a set of student-level control variables (i.e., gender, race/ethnicity); and *S* represents a set of school-level control variables (enrollment, ATOD index, violence index, school racial/ethnic composition, etc.). Lastly, ε_{ijk} and μ_k are error terms (random effects) for students and districts, respectively. In this model, the intervention effect is represented by β_3. The β_3 coefficient captures SS/HS-comparison site differences in changes in student-reported violence across time.

In the main body of the report, we present results based on the model [1]. To test the robustness of the results, we also estimated models analogous to [1] but included random effects for school (ω_{jk}). These results, which are presented in Tables C1–C6 in Appendix C, were very similar to those estimated from model [1].

To provide a common metric across outcome variables and to determine the magnitude of differences in changes in student well-being, school climate, and community supports across SS/HS sites and comparison sites, we calculated effect sizes for all impact estimates (see Cohen, 1988). In the present study, we represented the effect size as the grant/comparison site difference in change over a 3-year period in baseline standard deviation units. Specifically, we calculate the effect size by

$$d = \frac{(\beta_3 \times 3)}{\sigma^2} \quad [2]$$

where *d* represents the effect size (Cohen's *d*), β_3 is the impact estimated from equation [2], and σ^2 is the standard deviation of the outcome variable at baseline. Calculated this way, the effect size estimates represent the magnitude of expected impacts 3 years after the baseline assessment.

School Matching Outcomes

Elementary Schools

To examine how well the matching procedures worked in identifying schools that were similar to SS/HS schools, we examined differences between SS/HS schools and matched comparison schools on the characteristics we used as matching criteria. Table 7 shows mean baseline differences between SS/HS schools and comparison schools identified using propensity score matching. In no case were the characteristics examined found to differ in a statistically significant manner across SS/HS elementary schools and comparison schools. Differences ranged from -0.02 standard deviations to 0.10 standard deviations on the student- and staff-reported measures. Differences in achievement test scores were extremely small (d = -0.003 to 0.024). SS/HS elementary schools had slightly larger school enrollments (d = 0.13), served proportionately more Asian and White students (d = 0.11), and served proportionately fewer Hispanic and English language learner students (d = -0.14). In no case were these differences found to be significantly or substantively significant.

Table 7. SS/HS Comparison Elementary School Differences in Characteristics Used for Matching

	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
Student Measures					
Low violence perpetration	-0.104	-0.112	0.009	0.059	0.65
Low violence victimization	-0.115	-0.126	0.011	0.067	0.60
Low substance use	-0.110	-0.123	0.013	0.090	0.48
Empathy	0.012	0.013	-0.001	-0.012	0.92
School connectedness	-0.011	-0.020	0.009	0.086	0.50
School support	-0.017	-0.035	0.018	0.103	0.42
Home support	-0.063	-0.070	0.007	0.057	0.66
Staff Measures					
Organizational supports	0.106	0.130	-0.025	-0.056	0.66
Student supports	0.084	0.112	-0.029	-0.072	0.57
Learning facilitative behavior	0.028	0.008	0.021	0.053	0.68
Low student risk behavior	0.121	0.127	-0.006	-0.018	0.89
School-Level Characteristics					
CST, English language arts	335.492	334.947	0.545	0.024	0.85
CST, mathematics	344.569	344.655	-0.085	-0.003	0.98
School enrollment	697.211	663.293	33.919	0.130	0.31
African American (%)	1.469	1.531	-0.062	-0.044	0.73
Asian (%)	8.416	6.910	1.506	0.111	0.38
Hispanic (%)	62.560	67.032	-4.472	-0.142	0.27
White (%)	24.294	21.309	2.985	0.112	0.38
English language learner (%)	38.545	41.976	-3.431	-0.139	0.28
Free/reduced-price meal program (%)	65.919	65.821	0.098	0.004	0.98

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

Middle Schools

Table 8 shows analogous results for middle schools. Again, no estimated differences between SS/HS middle schools and comparisons approached statistical significance. The general pattern of results indicated that SS/HS schools exhibited lower student-reported community support and meaningful participation (d = -0.13 and -0.15), lower staff-reported learning facilitative behavior (d = -0.13), lower English language arts and mathematics standardized achievement scores (d = -0.12 and -0.21), and slightly higher proportions of African Americans (d = 0.14), English language learners (d = 0.12), and students participating in the free/reduced-price lunch program (d = 0.10). With the possible exception of mathematics achievement scores, in no case were these differences substantively significant.

Table 8. SS/HS Comparison Middle School Differences in Characteristics Used for Matching

	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
Student Measures					
Low violence perpetration	-0.102	-0.102	0.001	0.004	0.98
Low violence victimization	-0.052	-0.046	-0.005	-0.046	0.82
Perceived safety at school	-0.087	-0.082	-0.005	-0.028	0.89
Low substance use	-0.150	-0.150	-0.000	-0.001	1.00
School connectedness	-0.066	-0.062	-0.004	-0.033	0.87
School support	-0.066	-0.052	-0.014	-0.097	0.63
School meaningful participation	-0.035	-0.025	-0.009	-0.078	0.70
Community support	-0.144	-0.121	-0.023	-0.134	0.51
Community meaningful participation	-0.121	-0.096	-0.025	-0.150	0.46
Staff Measures					
Organizational supports	-0.189	-0.155	-0.034	-0.061	0.76
Student supports	-0.170	-0.147	-0.024	-0.050	0.81
Learning facilitative behavior	-0.152	-0.098	-0.055	-0.132	0.52
Low student risk behavior	-0.175	-0.182	0.006	0.018	0.93
School-Level Characteristics					
CST, English language arts	343.710	346.843	-3.133	-0.124	0.54
CST, mathematics	335.912	341.955	-6.043	-0.209	0.30
School enrollment	947.531	984.000	-36.469	-0.083	0.68
African American (%)	3.000	2.287	0.713	0.141	0.49
Asian (%)	17.882	17.222	0.660	0.028	0.89
Hispanic (%)	52.494	53.856	-1.361	-0.043	0.83
White (%)	23.187	23.832	-0.646	-0.024	0.91
English language learner (%)	27.102	25.143	1.959	0.122	0.55
Free/reduced-price lunch program (%)	60.163	57.408	2.755	0.100	0.62

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

High Schools

Table 9 shows baseline SS/HS comparison differences for high schools. Although no differences were statistically significant, several substantively significant differences are evident. SS/HS schools exhibited higher levels of well-being in the areas of student-reported violence perpetration (d = 0.23), substance use (d = 0.39), and community meaningful participation (d = 0.26). Staff reports of school climate, learning facilitative behavior, and risk behavior (d = 0.19 to 0.32) were also more elevated in SS/HS schools. SS/HS schools also had higher average English language arts test scores than comparison schools (d = 0.17), had higher enrollments (d = 0.45), and served proportionately fewer Hispanic students (d = -0.17). Overall, the results suggest SS/HS schools were slightly more advantaged at baseline than comparison schools with regard to student well-being, school climate, and academic achievement. However, with only 22 schools in each group, these baseline estimates are likely to be unreliable. To account for baseline differences in school characteristics, the impact analysis models controlled for all the matching characteristics.

Table 9. SS/HS Comparison High School Differences in Characteristics Used for Matching

	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
Student Measures					
Low violence perpetration	-0.162	-0.182	0.020	0.232	0.45
Low violence victimization	-0.114	-0.112	-0.002	-0.026	0.93
Perceived safety at school	-0.182	-0.205	0.023	0.168	0.58
Low substance use	-0.149	-0.182	0.033	0.392	0.20
School connectedness	-0.124	-0.130	0.006	0.068	0.82
School support	-0.120	-0.113	-0.007	-0.068	0.82
School meaningful participation	-0.072	-0.071	-0.001	-0.009	0.98
Community support	-0.159	-0.159	-0.000	-0.001	1.00
Community meaningful participation	-0.116	-0.151	0.035	0.260	0.40
Staff Measures					
Organizational supports	-0.413	-0.531	0.118	0.324	0.29
Student supports	-0.439	-0.509	0.070	0.258	0.40
Learning facilitative behavior	-0.315	-0.391	0.075	0.277	0.36
Low student risk behavior	-0.341	0.394	0.053	0.194	0.53
School-Level Characteristics					
CST, English language arts	337.429	334.545	2.884	0.168	0.58
School enrollment	2354.773	1963.909	390.864	0.453	0.13
African American (%)	2.961	3.095	-0.134	-0.021	0.95
Asian (%)	12.153	11.027	1.125	0.063	0.84
Hispanic (%)	46.896	52.313	-5.416	-0.173	0.57
White (%)	34.275	30.414	3.861	0.123	0.69
English language learner (%)	19.227	18.909	0.318	0.027	0.93
Free/reduced-price lunch program (%)	45.409	47.227	-1.818	-0.071	0.82

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

SS/HS Grant Impacts

We next describe SS/HS grant comparison site differences in *changes* in student well-being and school and community supports. These results are based on the regression models described above. Overall, the results suggest that student well-being and school and community supports improved more in SS/HS grantee sites than in similar sites that did not receive SS/HS funding among 5th graders and 7th graders only—although the magnitude of the differences are relatively small. The results are generally not statistically significant for 9th and 11th graders.

Elementary Schools

Table 10 shows regression-adjusted SS/HS and comparison site means for elementary schools, differences in means, and *p*-values for grant impacts based on model [1] described above. The results are also displayed graphically in Figure 2. The results show that students in grade 5 in SS/HS sites exhibited greater increases in student well-being than their counterparts in comparison sites in all the areas assessed except self-reported school performance. They also exhibited greater increases in reported school and home supports. Grade 5 impacts averaged 0.12 standard deviation units across all student-reported outcomes (Figure 2).

Table 10. Impacts on Student Measures and California Standards Tests, Elementary School Sample

	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
Violence and Safety					
Low violence perpetration	0.034	-0.063	0.097**	0.169	0.00
Low violence victimization	0.021	-0.022	0.043**	0.071	0.04
Perceived safety at school	3.325	3.243	0.082**	0.085	0.01
Substance Use					
Low substance use	0.013	-0.109	0.122**	0.192	0.00
Mental Health					
Empathy	0.034	-0.017	0.051**	0.100	0.00
School Engagement					
School performance	2.577	2.526	0.051	0.056	0.10
School connectedness	0.036	-0.004	0.040**	0.111	0.00
Academic Performance					
CST, English language arts[A]	356.215	352.901	3.314**	0.141	0.04
CST, mathematics[A]	387.674	379.108	8.567**	0.235	0.02
School and Home Environment					
School support	0.048	-0.013	0.061**	0.094	0.01
Home support	-0.007	-0.062	0.055**	0.096	0.00

Note: Data are regression-adjusted using multilevel regression models to account for differences in baseline characteristics and study design characteristics.

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

[A] Analyses for CST scores based on school-level STAR data for 246 elementary schools.

* Significantly different from zero at the .10 level, two-tailed test ($0.05 < p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Figure 2. SS/HS Impacts on Student Measures and California Standards Tests, Elementary Schools

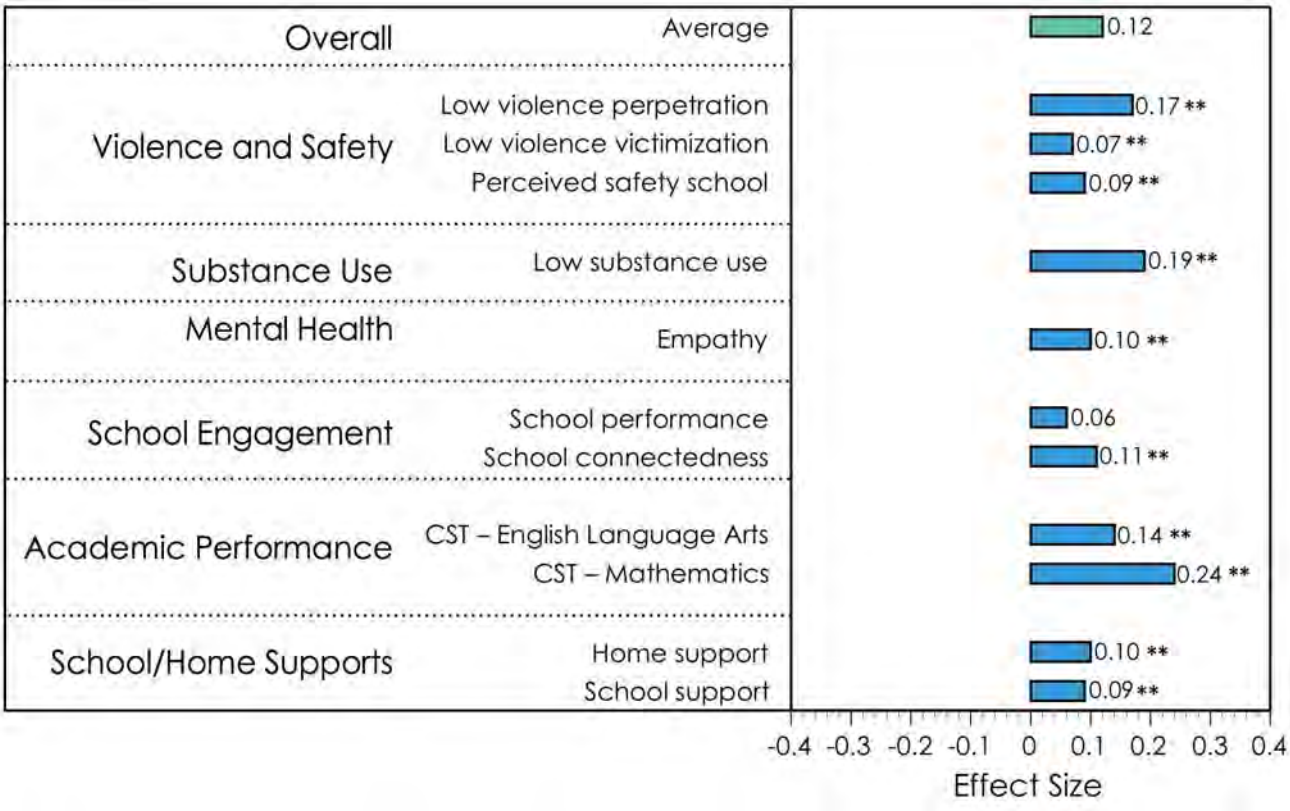


Table 11 shows impacts on the outcome measures based on staff reports in elementary schools. We present estimates for all staff, teachers, and administrators. For all staff, reports of organizational supports increased more in SS/HS districts than in comparison sites. Among teachers, both organizational supports and student supports increased at a greater rate in SS/HS sites than in comparison sites. Impacts based on the teacher-reported outcomes are presented in Figure 3. For teacher-reported outcomes, impacts averaged 0.16 standard deviations across all four outcomes. No statistically significant impacts were found for administrator reports of school climate and student well-being.

Table 11. SS/HS Impacts on Staff-Reported Measures, Elementary School Sample

	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
All Staff					
Organizational supports	0.069	-0.081	0.150**	0.205	0.00
Student supports	0.099	0.020	0.079	0.107	0.12
Learning facilitative behavior	0.014	-0.049	0.062	0.104	0.12
Low student risk behavior	0.120	0.078	0.042	0.084	0.21
Teachers					
Organizational supports	0.041	-0.149	0.191**	0.261	0.00
Student supports	0.117	0.003	0.115**	0.156	<0.05
Learning facilitative behavior	-0.048	-0.119	0.071	0.120	0.12
Low student risk behavior	0.086	0.036	0.050	0.100	0.19
Administrators					
Organizational supports	0.393	0.436	-0.043	-0.073	0.80
Student supports	0.246	0.145	0.101	0.173	0.58
Learning facilitative behavior	0.450	0.333	0.117	0.221	0.37
Low student risk behavior	0.328	0.214	0.113	0.259	0.32

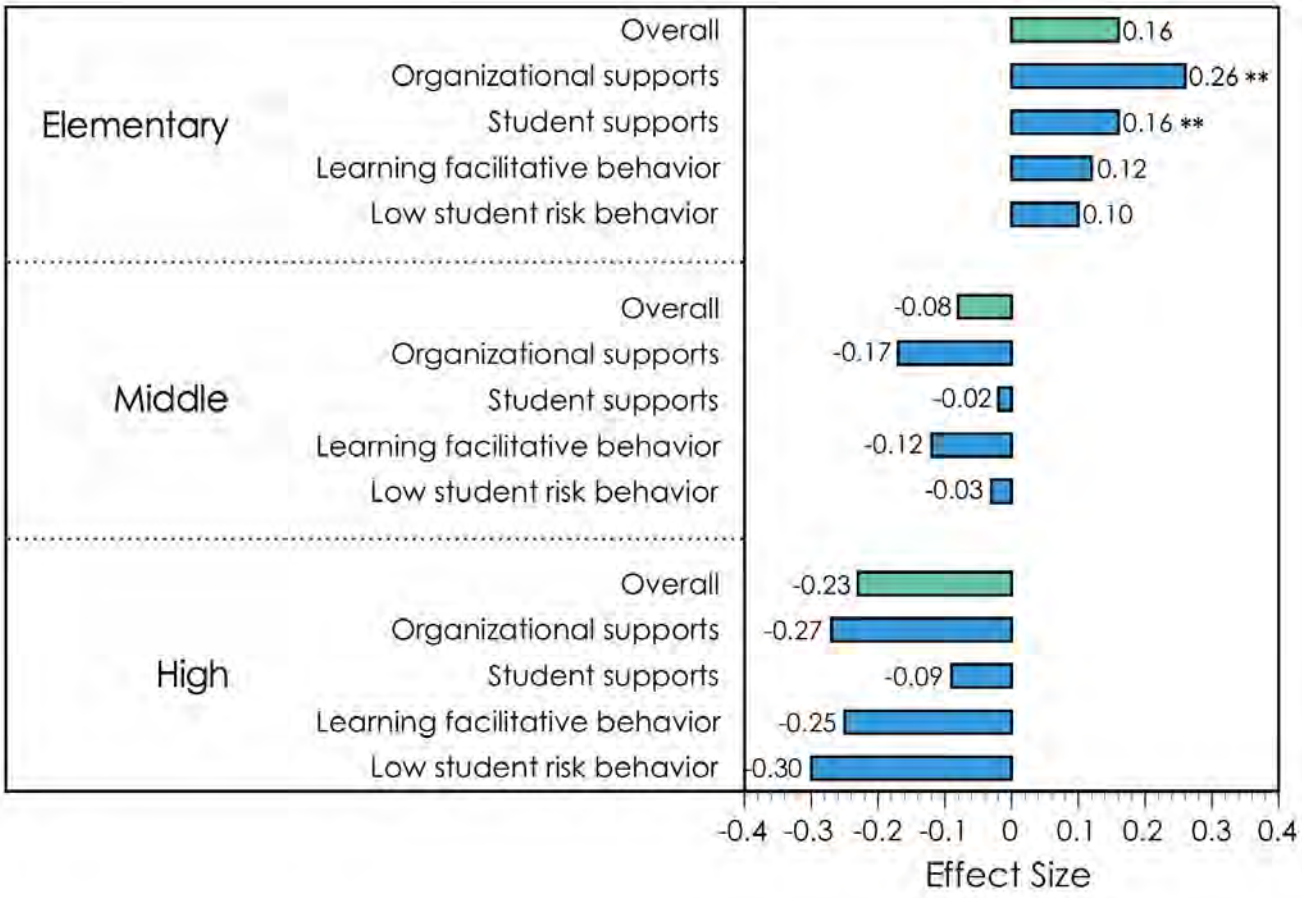
Note: Data are regression-adjusted using multilevel regression models to account for differences in baseline characteristics and study design characteristics.

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Figure 3. SS/HS Impacts on Teacher-Reported Measures by School Type



Middle Schools

Table 12 shows estimated SS/HS impacts for middle schools. For grade 7 students, well-being improved more in SS/HS sites than comparison sites in the areas of violence perpetration and perceived school safety, substance use, truancy, school connectedness, and mathematics achievement. Across all student-reported outcomes, the average effect size was 0.09 standard deviations. As shown in Table 13 and Figure 3, no statistically significant impacts were detected on the staff measures of school climate and student well-being. The point-estimates for the staff-reported measures were mostly negative in direction.

Table 12. Impacts on Student Measures and California Standards Tests, Middle School Sample

	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
Violence and Safety					
Low violence perpetration	-0.027	-0.082	0.055**	0.096	0.01
Low violence victimization	0.032	-0.004	0.037*	0.063	0.07
Perceived safety at school	0.059	-0.006	0.065**	0.095	0.01
Substance Use					
Low substance use	-0.091	-0.160	0.069**	0.106	0.00
Mental Health					
Low depression	0.709	0.718	-0.009	-0.021	0.58
School Engagement					
Grades	3.071	3.066	0.005	0.006	0.88
Low truancy	0.824	0.779	0.045**	0.111	0.00
School connectedness	0.044	-0.013	0.057**	0.121	0.00
Academic Performance					
CST, English language arts[A]	364.010	362.028	1.982	0.082	0.31
CST, mathematics[A]	370.010	358.454	11.556**	0.417	0.00
School and Community Supports					
School support	0.023	-0.006	0.029	0.044	0.21
School meaningful participation	0.023	-0.015	0.037*	0.063	0.07
Community support	-0.109	-0.133	0.024	0.032	0.36
Community meaningful participation	-0.059	-0.097	0.038*	0.062	0.07

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

[A] Analysis for CST scores based on school-level STAR data for 98 middle schools

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$).

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$).

Figure 4. SS/HS Impacts on Student Measures and California Standards Tests, Middle Schools

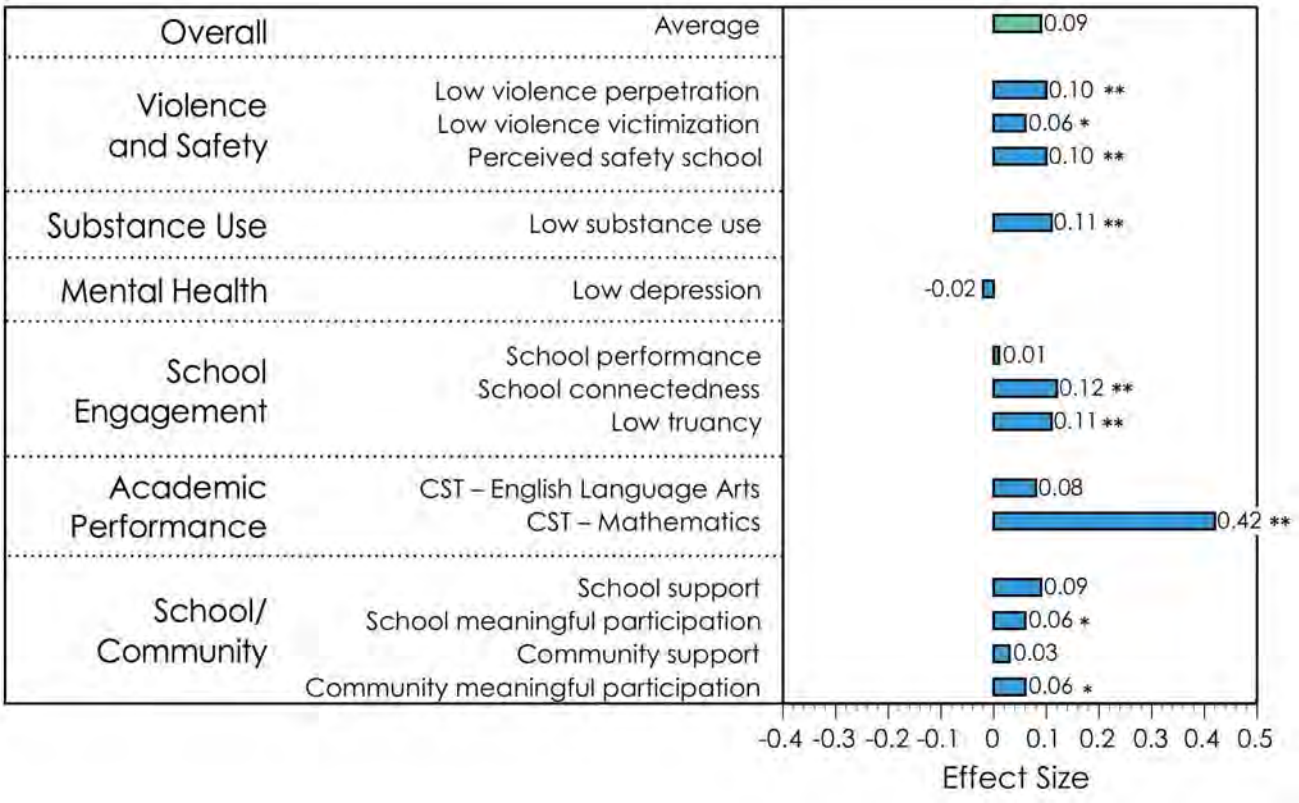


Table 13. SS/HS Impacts on Staff-Reported Measures, Middle School Sample

Label?	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
All Staff					
Organizational supports	-0.107	-0.019	-0.088	-0.107	0.27
Student supports	-0.065	-0.171	0.105	0.134	0.21
Learning facilitative behavior	-0.078	-0.040	-0.038	-0.061	0.54
Low student risk behavior	-0.142	-0.075	-0.067	0.123	0.19
Teachers					
Organizational supports	-0.138	0.000	-0.138	-0.168	0.11
Student supports	-0.081	-0.065	-0.016	-0.021	0.85
Learning facilitative behavior	-0.164	-0.094	-0.070	-0.116	0.29
Low student risk behavior	-0.160	-0.142	-0.018	-0.033	0.76
Administrators					
Organizational supports	0.145	0.491	-0.345	-0.503	0.26
Student supports	-0.054	0.142	-0.196	-0.278	0.56
Learning facilitative behavior	0.101	0.536	-0.435*	-0.824	0.08
Low student risk behavior	0.049	0.261	-0.212	-0.459	0.23

Note: Data are regression-adjusted using multilevel regression models to account for differences in baseline characteristics and study design characteristics.

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

High Schools

The estimates in Table 14 and Figure 5 reveal a different pattern than that for elementary and middle schools. No beneficial impacts on student survey and archival test score measures for high schools were detected. On the contrary, school safety perceptions and school connectedness in high schools declined more in SS/HS sites than in comparison sites. Self-reported grades increased more in SS/HS sites, but the impact was not statistically significant at conventional levels ($p < .10$). For staff-reported measures (Table 15), organizational supports in high schools declined more in SS/HS sites, while student risk behavior increased more. For teacher-reported outcomes, detrimental impacts were obtained for three of the four outcomes: organizational supports, learning facilitative behavior, and student risk behavior (see also Figure 3). No statistically significant impacts were detected for administrator-reported outcomes. Overall, the results generally indicated that high schools in SS/HS districts and comparison sites exhibited similar changes in student-reported outcomes, although safety perceptions and school connectedness declined more markedly in SS/HS sites. Teachers' reports of school climate and student well-being declined more in SS/HS sites than comparison sites in all areas examined except student supports. These results for high schools suggest that to the extent SS/HS produced any impacts in high schools, those impacts appear to have been detrimental for school climate and student well-being.

Figure 5. SS/HS Impacts on Student Measures and California Standards Tests, High Schools

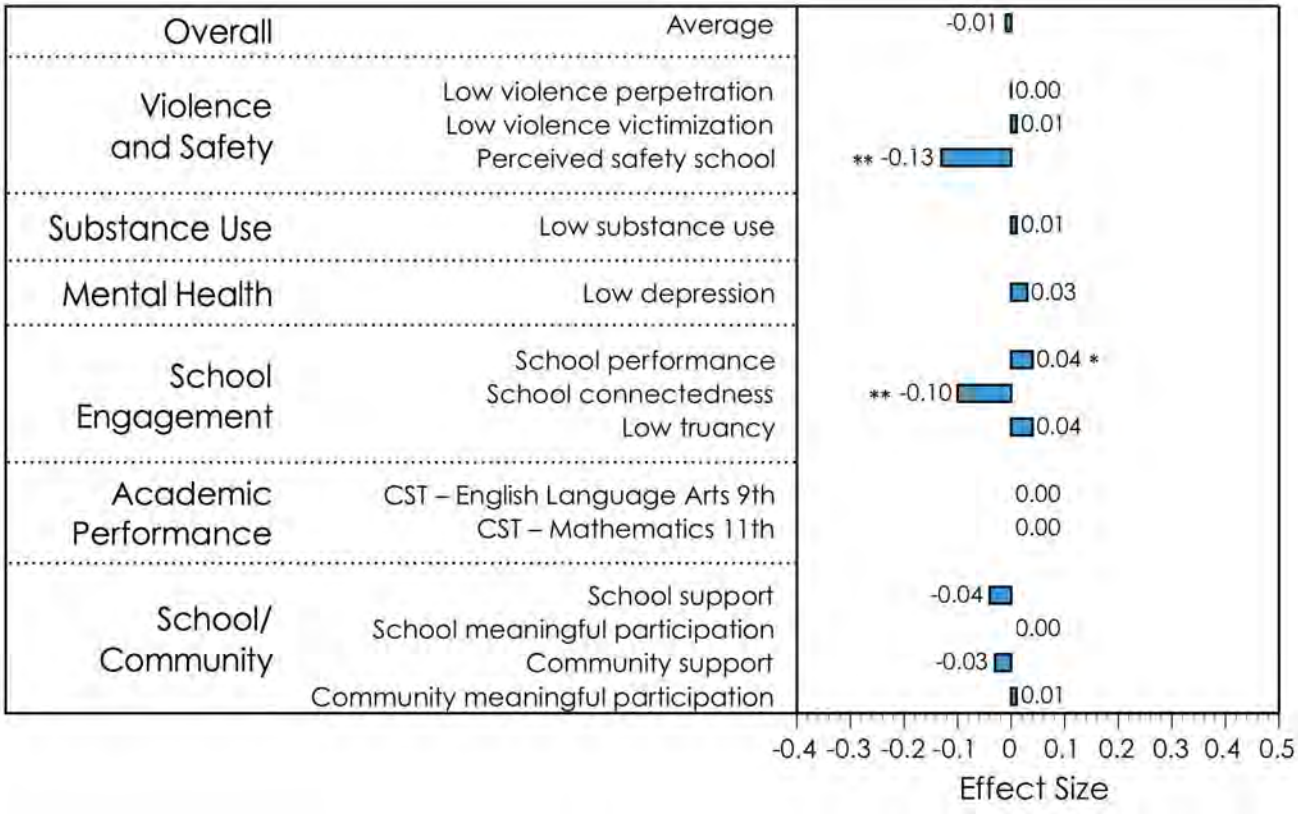


Table 14. SS/HS Impacts on Student Measures and California Standards Tests, High School Sample

Label?	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
Violence and Safety					
Low violence perpetration	-0.091	-0.093	0.002	0.003	0.91
Low violence victimization	-0.035	-0.038	0.004	0.006	0.81
Low perceived safety at school	-0.083	0.005	-0.088**	-0.125	0.00
Substance Use					
Substance use	-0.133	-0.140	0.007	0.011	0.65
Mental Health					
Depression	0.704	0.688	0.015	0.033	0.19
School Engagement					
Grades	2.919	2.875	0.044*	0.043	0.07
Truancy	0.618	0.598	0.020	0.040	0.10
School connectedness	-0.028	0.027	-0.055**	-0.095	0.00
Academic Performance					
9th grade CST, English language arts[A]	357.158	357.103	0.056	0.003	0.97
11th grade CST, English language arts[A]	340.582	340.556	0.026	0.001	0.99
School and Community Supports					
School support	-0.023	0.005	-0.028	-0.038	0.11
School meaningful participation	0.006	0.008	-0.003	-0.004	0.87
Community support	-0.104	-0.078	-0.026	-0.034	0.15
Community meaningful participation	-0.065	-0.069	0.003	0.005	0.84

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

[A] Analysis for CST scores based on school-level STAR data for 44 high schools

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Table 15. SS/HS Impacts on Staff-Reported Measures, High School Sample

Label?	SS/HS	Comparison	Difference	*SD* Difference	*p*-value
All Staff					
Organizational supports	-0.495	-0.352	-0.144*	-0.202	0.05
Student supports	-0.365	-0.311	-0.054	-0.074	0.45
Learning facilitative behavior	-0.333	-0.245	-0.088	-0.151	0.12
Low student risk behavior	-0.347	-0.240	-0.107**	-0.206	0.04
Teachers					
Organizational supports	-0.557	-0.361	-0.196**	-0.269	0.02
Student supports	-0.387	-0.325	-0.063	-0.086	0.44
Learning facilitative behavior	-0.416	-0.275	-0.141**	-0.248	0.03
Low student risk behavior	-0.390	-0.233	-0.157**	-0.302	0.01
Administrators					
Organizational supports	0.277	0.170	0.107	0.167	0.69
Student supports	-0.130	-0.324	0.194	0.289	0.47
Learning facilitative behavior	0.182	0.167	0.015	0.037	0.94
Low student risk behavior	0.029	-0.128	0.157	0.378	0.37

Note: Data are regression-adjusted using multilevel regression models to account for differences in baseline characteristics and study design characteristics.

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Summary

The SS/HS Initiative provides funding to school districts to develop partnerships with local mental health, law enforcement, and juvenile justice agencies to develop and implement comprehensive services to improve school climate and promote healthy child development. This ambitious initiative requires that each grantee integrate new and/or existing services that address the following core elements: (1) safe school environments and violence prevention activities; (2) ATOD prevention activities; (3) student behavioral, social, and emotional supports; (4) connecting families, schools, and communities; and (5) early childhood social and emotional learning programs. The logic underlying the SS/HS Initiative is that by comprehensively addressing children's developmental needs, mental health, and risk behaviors through coordinated efforts among schools, law enforcement, mental health, and juvenile justice agencies in local communities, schools and communities are better able to foster healthy child development and student learning. Within each SS/HS site, funded activities targeted different age groups (early childhood, adolescence), geographic locations (urban, rural), and outcome domains (ATOD use, mental health, violence).

Evaluating the effectiveness of such an ambitious, complex, multifaceted initiative has been a challenge (Rollison et al., 2012). The absence of an experimental or quasi-experimental comparison group limits inferences regarding estimates of the effectiveness of the initiative nationally.

Moreover, grantees responded to the core elements in unique ways based on local conditions, which meant grantees prioritized different activities and different sets of outcomes according to their particular needs. Finally, to reduce grantee burden, grantees provided student-level outcome data to the national evaluation team using existing data collection systems in their localities. The instruments used to obtain outcome measures varied across grantees.

The national cross-site evaluation team investigated the effectiveness of SS/HS for two cohorts of grantees by examining the extent to which outcomes improved over time in grantee sites (Derzon et al., 2012). The results suggested the initiative had beneficial impacts in three areas: access to school-based mental health services, access to community-based mental health services, and reductions in experienced violence. No initiative-wide impacts were detected for substance use or perceived violence. The results across outcomes varied tremendously within grantee sites, with outcomes tending to improve for some themes while worsening for others within a particular site. However, without a well-matched comparison group, it is unclear whether the beneficial changes detected would have occurred in similar districts that did not receive SS/HS funding.

The current study relied on outcome data collected with standard instruments[2] utilized in California to examine the extent to which student well-being, school climate, and community supports change in SS/HS schools compared to similar schools that did not receive SS/HS services. The study examined the outcomes in school districts that implemented the comprehensive service strategies associated with the SS/HS Initiative compared to similar school districts that carried out business-as-usual practices during the same time. Using data collected from local administration of the CHKS; the CSCS for staff; and publicly available, school-level demographic and achievement data maintained by the CDE, two general research questions were examined:

1. What is the impact of the SS/HS Initiative on student reports of violence, school safety, substance use, mental health, school engagement, and academic performance?
2. What is the impact of the SS/HS Initiative on school and community supports available for students?

Does SS/HS have beneficial impacts on student well-being? The answer appears to be yes for students in elementary schools, partially yes for students in middle schools, and no for high school students. Fifth graders in SS/HS districts exhibited greater declines in violence and substance use, and greater increases in safety perceptions, empathy, school connectedness, and performance on standardized achievement tests than 5th graders in comparison sites. Changes in teacher reports of student well-being—learning facilitative behavior and low student risk behavior—were not significantly related to SS/HS grant status.

For grade 7 students, student well-being improved more in SS/HS sites than comparison sites in the areas of violence perpetration and perceived school safety, substance use, truancy, school connectedness, and mathematics achievement. Teacher-reported student well-being did not improve more in SS/HS districts than in comparison sites.

[2] The outcome measures in the current study were selected to measure key SS/HS constructs of student safety and well-being but do not exactly match the measures used in the SS/HS national evaluation and reported in the Derzon et al. (2012) study.

The results were less promising for 9th and 11th graders. Most of the high school student-reported outcomes were not associated with SS/HS grant status. School safety perceptions and school connectedness in high schools actually declined more in SS/HS sites than in comparison sites. Self-reported grades increased more in SS/HS sites. Detrimental impacts were obtained for teacher reports of student learning facilitative behavior and student risk behavior. The results suggest that to the extent SS/HS produced any impacts on student well-being in high schools, those impacts appear to be detrimental, with the exception of self-reported academic measures, which improved more in SS/HS sites.

Does SS/HS have beneficial impacts on school climate? Again, the results vary by school type. Students in elementary schools in SS/HS districts exhibited greater increases in reported school and home supports. Elementary teachers also reported greater increases in school organizational supports and student supports. No statistically significant impacts were detected on the middle school students' and teachers' reports of school climate. For high schools, no statistically significant impacts were detected for student reports of school climate, but high school teachers in SS/HS districts reported greater declines in organizational supports than was the case for their counterparts in comparison sites.

This analysis makes a significant contribution to the national evaluation of the effects of the SS/HS Initiative because of the large number of California grantees and common data sources for both SS/HS and comparison schools with baseline and postimplementation data. The results are consistent with Hanson et al. (2008) analyses investigating the impact of SS/HS funding on student health-related behavior, protective factors, and academic performance. Like this study, the Hanson et al. (2008) study found student health-related behavior, protective factors, and academic performance improved more in SS/HS grantee schools than in similar schools that did not receive SS/HS funding among 5th graders and 7th graders (Hanson et al., 2008; Hanson et al., 2011). Among 9th graders and 11th graders, SS/HS funding status was not consistently related to changes in student well-being.

It is not clear why elementary and middle school students exhibited stronger and more consistent SS/HS-related improvements in student well-being and school climate, while high school students exhibited greater declines. The analyses relied on comparisons between schools in districts that received SS/HS funding with similarly situated schools in districts that did not receive such funding to make inferences about potential effects of the initiative. Information about implementation within SS/HS and differences in practices across SS/HS and comparison sites was not available and therefore not incorporated into the analyses. It is not ascertainable with these data whether SS/HS-related improvements in student well-being and school climate among elementary and middle school students are the result of specific grant programs and activities targeting younger students, younger students being more malleable than their counterparts in high schools, or greater barriers to effective grant implementation in high schools. Further research is needed to examine the extent to which SS/HS programs and activities may have been targeted differently to elementary and middle school students compared to high school students.

One methodological explanation is that the matching procedure used to identify comparison schools did not work well for the high school sample. With only 22 grantee high schools, school-to-school idiosyncrasies may have affected the precision of the estimated impacts. As described, SS/HS

high schools tended to exhibit more elevated baseline scores than comparison high schools on the measures examined, which could have resulted in comparison sites having more room to grow, and thus experience more pronounced postimplementation gains than SS/HS sites.

Another potential explanation for the school-level differences in outcomes is the implementation of SS/HS activities and similar activities in comparison sites. Although the comparison schools did not receive SS/HS funding, they may have still implemented activities that were also designed to promote student safety and well-being. As noted above, 18 percent of grantee schools did not implement any school-level SS/HS programs or activities in the first year of the grant, including 20 percent of middle schools and 28 percent of high schools. It is possible this late start to implementation—particularly in the high schools—could have had an impact on the outcomes observed. Implementation activities may have occurred later in high schools, and outcomes among high schools may be realized later than other school types as a result, and not been captured in the current analyses. The current analyses rely on measures collected in Years 1, 2, and 3 of the grant period, while some grantees continue activities through Years 4 and 5 after the initial grant award. Future study may focus on the timing, type, dosage, and target population of the school-level implementation activities in both SS/HS sites and comparison schools to further explain SS/HS observed impacts on student- and staff-level measures.

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Appendix A. Sample Description

Table A1. Number of Observations and Number of Schools in SS/HS Analytic Samples

Label?	Number of Schools			Number of Observations Benchmark Models		
	Total	Treatment	Comparison	Total	Treatment	Comparison
Student Measures						
Elementary school sample	246	123	123	31,612	16,391	15,221
Middle school sample	98	49	49	36,897	20,102	16,795
High school sample	44	22	22	70,558	39,677	30,881
Staff Measures						
Elementary school sample	246	123	123	9,115	5,676	3,439
Middle school sample	98	49	49	5,594	3,893	1,701
High school sample	44	22	22	5,007	3,345	1,662

Appendix B. Propensity Score Models

Table B1. Point Estimates and p-Values From Propensity Score Estimation Models, Elementary Schools

Elementary Schools	2006 Cohort		2007 Cohort		2008 Cohort	
	Estimate	*p*-value	Estimate	*p*-value	Estimate	*p*-value
CST ELA scaled score	0.009	0.66	0.096**	0.02	-0.052**	0.01
CST mathematics scaled score	-0.024**	0.02	-0.039*	0.06	0.003	0.79
School enrollment	0.003**	0.00	0.002	0.14	0.002**	0.00
Percent Asian	-0.052	0.26	-0.529	0.11	0.107**	0.01
Percent Filipino	-0.102	0.26	-0.555	0.33	0.118*	0.05
Percent Hispanic	-0.054	0.20	-0.039	0.66	0.087**	0.04
Percent African American	-0.429**	0.00	-0.205	0.32	-0.478**	0.00
Percent White	-0.046	0.29	0.066	0.46	0.078*	0.08
Percent English language learner	0.044**	0.00	0.094**	0.01	-0.096**	0.00
Free or reduced-price meal eligibility	-0.018	0.22	0.077**	0.01	0.035**	0.00
School connectedness	-7.634	0.42	1.233	0.94	1.214	0.88
School support	8.280	0.11	4.204	0.68	-4.614	0.32
Low substance use	-11.676**	0.01	-1.486	0.87	8.470*	0.07
Low violence victimization	-11.258*	0.06	-2.595	0.83	10.082*	0.07
Low violence perpetration	20.786**	0.03	5.705	0.76	-14.076	0.12
Home support	-2.137	0.47	-11.134*	0.05	-3.875	0.20
Empathy	-4.990	0.22	-2.616	0.76	9.833**	0.01
Organizational supports	1.501**	0.02	-1.019	0.48	0.835	0.16
Student supports	-1.088*	0.08	2.078	0.15	0.174	0.77
Learning facilitative behavior	0.086	0.91	1.089	0.54	-0.784	0.32
Student risk behavior	-0.503	0.54	-0.710	0.70	0.254	0.75
Constant	4.704	0.44	-33.068**	0.01	5.921	0.39
Number of SS/HS schools	**50**		**13**		**60**	
Number of non-SS/HS schools	**2275**		**2140**		**1842**	

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS
Notes: The unit of analysis is the school, with all covariates constructed by aggregating observations at the school level.
* $0.05 \leq p < 0.10$
** $p < 0.05$

Table B2. Point Estimates and p-Values From Propensity Score Estimation Models, Middle Schools

Middle Schools	2006 Cohort		2007 Cohort		2008 Cohort	
	Estimate	*p*-value	Estimate	*p*-value	Estimate	*p*-value
CST ELA scaled score	-0.031	0.55	0.063	0.24	0.015	0.60
CST mathematics scaled score	-0.008	0.85	-0.040	0.37	-0.044**	0.02
School enrollment	0.003**	0.02	0.001	0.27	0.001**	0.02
Percent Asian	-0.213*	0.06	-0.066	0.38	0.087	0.13
Percent Filipino	-0.057	0.75	-0.059	0.66	-0.143	0.37
Percent Hispanic	-0.170*	0.08	-0.139**	0.02	0.040	0.47
Percent African American	-1.018**	0.01	-0.062	0.42	-0.208**	0.03
Percent White	-0.125	0.16	-0.071	0.32	0.018	0.77
Percent English language learner	0.075	0.16	0.096*	0.08	-0.061**	0.02
Free or reduced-price meal eligibility	-0.056*	0.07	0.026	0.57	0.032	0.10
School connectedness	12.705	0.41	55.168**	0.04	-7.596	0.41
School support	-6.662	0.28	-13.575	0.17	3.090	0.46
School meaningful participation	-8.224	0.26	1.664	0.87	-1.757	0.70
Perceived safety at school	-2.857	0.82	-29.750*	0.09	2.294	0.71
Low substance use	-4.500	0.72	1.631	0.94	5.548	0.39
Low violence victimization	1.449	0.86	-1.460	0.90	-3.730	0.44
Low violence perpetration	8.826	0.60	9.333	0.73	-1.666	0.86
Community support	0.161	0.98	8.891	0.23	1.810	0.54
Community meaningful participation	0.523	0.94	-17.788*	0.05	-4.506	0.24
Organizational supports	1.986	0.28	-2.926	0.16	0.175	0.82
Student supports	1.933	0.36	0.337	0.84	1.108	0.25
Learning facilitative behavior	-0.362	0.88	-0.606	0.75	-0.869	0.53
Student risk behavior	-3.767	0.13	1.501	0.54	0.783	0.56
Constant	23.443	0.12	-9.137	0.59	2.255	0.84
Number of SS/HS schools	**11**		**8**		**30**	
Number of non-SS/HS schools	**845**		**797**		**801**	

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

Notes: The unit of analysis is the school, with all covariates constructed by aggregating observations at the school level.

* $0.05 \leq p < 0.10$

** $p < 0.05$

Table B3. Point Estimates and p-Values From Propensity Score Estimation Models, High Schools

High Schools	2006 Cohort		2007 Cohort		2008 Cohort	
	Estimate	*p*-value	Estimate	*p*-value	Estimate	*p*-value
CST ELA scaled score	0.064	0.44	0.073	0.19	0.034	0.67
School enrollment	0.002	0.10	0.001	0.41	0.005**	0.01
Percent Asian	-0.171	0.41	-0.590*	0.07	—	—
Percent Filipino	0.079	0.84	-0.065	0.69	—	—
Percent Hispanic	0.020	0.90	-0.147	0.15	-0.079	0.11
Percent African American	-0.931	0.13	-0.183	0.16	-3.014**	0.04
Percent White	-0.026	0.87	-0.024	0.78	-0.057	0.29
Percent English language learner	0.031	0.73	0.083	0.45	-0.238*	0.05
Free or reduced-price meal eligibility	0.054	0.43	-0.066	0.17	0.170*	0.09
School connectedness	5.376	0.81	39.130*	0.07	—	—
School support	-8.915	0.53	-10.010	0.46	—	—
School meaningful participation	-32.440*	0.06	42.003*	0.05	—	—
Perceived safety at school	0.344	0.99	-61.727**	0.01	—	—
Low substance use	15.080	0.54	-12.732	0.43	—	—
Low violence victimization	16.435	0.59	-25.977	0.19	—	—
Low violence perpetration	-14.939	0.71	51.896*	0.07	—	—
Community support	4.858	0.73	-4.485	0.72	—	—
Community meaningful participation	24.149	0.16	-18.995	0.25	—	—
Organizational supports	-6.124*	0.07	4.516	0.29	-0.612	0.88
Student supports	7.267*	0.09	-0.892	0.76	4.500	0.51
Learning facilitative behavior	8.303	0.14	-3.440	0.51	11.527*	0.09
Student risk behavior	-12.972*	0.05	-5.169	0.25	-9.270	0.23
Means of standardized scores [A]	—	—	—	—	-6.362**	0.04
Constant	-29.609	0.30	-27.038	0.23	-20.763	0.54
Number of SS/HS schools	**6**		**7**		**9**	
Number of non-SS/HS schools	**569**		**555**		**558**	

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

Notes: The unit of analysis is the school, with all covariates constructed by aggregating observations at the school level.

[A] Means of standardized scores on school connectedness, school support, school meaningful participation, perceived safety at school, low substance use, low violence victimization, low violence perpetration, community support, and community meaningful participation.

* $0.05 \leq p < 0.10$

** $p < 0.05$

Appendix C. Sensitivity Tests

Table C1. Impact Analysis on Student Measures and California Standards Tests Scores for Elementary School Sample (Benchmark and Three-Level Models)

Label?	Benchmark Model			Three-Level Model		
	Impact	Effect Size	*p*-value	Impact	Effect Size	*p*-value
Violence and Safety						
Low violence perpetration	0.097**	0.169	0.00	0.097**	0.169	0.00
Low violence victimization	0.043**	0.071	0.04	0.046**	0.077	0.03
Perceived safety at school	0.082**	0.085	0.01	0.084**	0.088	0.01
Substance Use						
Low substance use	0.122**	0.192	0.00	0.116**	0.182	0.00
Mental Health						
Empathy	0.051**	0.100	0.00	0.052**	0.103	0.00
School Engagement						
School performance	0.051	0.056	0.10	0.050	0.054	0.12
School connectedness	0.040**	0.111	0.00	0.043**	0.120	0.00
Academic Performance						
CST, English language arts[A]	3.314**	0.141	0.04	3.477**	0.148	0.01
CST, mathematics[A]	8.567**	0.235	0.02	8.595**	0.236	0.00
School and Home Environment						
School support	0.061**	0.094	0.01	0.068**	0.105	0.00
Home support	0.055**	0.096	0.00	0.057**	0.099	0.00

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

[A] Analysis for CST scores based on school-level STAR data for 246 elementary schools

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Table C2. Impact Analysis on Staff Measures for Elementary School Sample (Benchmark and Three-Level Models)

Label?	Benchmark Model			Three-Level Model		
	Impact	Effect Size	*p*-value	Impact	Effect Size	*p*-value
All Staff						
Organizational supports	0.150**	0.205	0.00	0.077	0.106	0.14
Student supports	0.079	0.107	0.12	0.045	0.061	0.38
Learning facilitative behavior	0.062	0.104	0.12	0.050	0.083	0.22
Low student risk behavior	0.042	0.084	0.21	0.009	0.019	0.79
Teachers						
Organizational supports	0.191**	0.261	0.00	0.114*	0.156	0.05
Student supports	0.115**	0.156	<0.05	0.074	0.101	0.21
Learning facilitative behavior	0.071	0.120	0.12	0.055	0.094	0.23
Low student risk behavior	0.050	0.100	0.19	0.018	0.037	0.64
Administrators						
Organizational supports	-0.043	-0.073	0.80	-0.122	-0.207	0.47
Student supports	0.101	0.173	0.58	0.016	0.028	0.93
Learning facilitative behavior	0.117	0.221	0.37	0.100	0.189	0.45
Low student risk behavior	0.113	0.259	0.32	0.082	0.188	0.49

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Table C3. Impact Analysis on Student Measures and California Standards Tests Scores for Middle School Sample (Benchmark and Three-Level Models)

Label?	Benchmark Model			Three-Level Model		
	Impact	Effect Size	*p*-value	Impact	Effect Size	*p*-value
Violence and Safety						
Low violence perpetration	0.055**	0.096	0.01	0.047**	0.083	0.02
Low violence victimization	0.037*	0.063	0.07	0.030	0.051	0.15
Perceived safety at school	0.065**	0.095	0.01	0.060**	0.089	0.01
Substance Use						
Substance use	0.069**	0.106	0.00	0.060**	0.094	0.01
Mental Health						
Low depression	-0.009	-0.021	0.58	-0.011	-0.025	0.50
School Engagement						
Grades	0.005	0.006	0.88	-0.000	-0.000	0.99
Low truancy	0.045**	0.111	0.00	0.045**	0.110	0.00
School connectedness	0.057**	0.121	0.00	0.054**	0.115	0.00
Academic Performance						
CST, English language arts[A]	1.982	0.082	0.31	2.063	0.085	0.28
CST, mathematics[A]	11.556**	0.417	0.00	11.545**	0.416	0.00
School and Community Supports						
School support	0.029	0.044	0.21	0.025	0.039	0.27
School meaningful participation	0.037*	0.063	0.07	0.035*	0.060	0.08
Community support	0.024	0.032	0.36	0.023	0.031	0.37
Community meaningful participation.	0.038*	0.062	0.07	0.037*	0.060	0.08

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

[A] Analysis for CST scores based on school-level STAR data for 98 middle schools

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Table C4. Impact Analysis on Staff Measures for Middle School Sample (Benchmark and Three-Level Models)

Label?	Benchmark Model			Three-Level Model		
	Impact	Effect Size	*p*-value	Impact	Effect Size	*p*-value
All Staff						
Organizational supports	-0.088	-0.107	0.27	-0.102	-0.124	0.21
Student supports	0.105	0.134	0.21	0.067	0.087	0.43
Learning facilitative behavior	-0.038	-0.061	0.54	-0.026	-0.043	0.68
Low student risk behavior	-0.067	0.123	0.19	-0.083*	-0.153	<0.10
Teachers						
Organizational supports	-0.138	-0.168	0.11	-0.132	-0.161	0.13
Student supports	-0.016	-0.021	0.85	-0.044	-0.058	0.62
Learning facilitative behavior	-0.070	-0.116	0.29	-0.065	-0.108	0.33
Low student risk behavior	-0.018	-0.033	0.76	-0.031	-0.059	0.59
Administrators						
Organizational supports	-0.345	-0.503	0.26	-0.125	-0.182	0.72
Student supports	-0.196	-0.278	0.56	0.050	0.070	0.90
Learning facilitative behavior	-0.435*	-0.824	0.08	-0.293	-0.554	0.30
Low student risk behavior	-0.212	-0.459	0.23	-0.129	-0.278	0.51

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Table C5. Impact Analysis on Student Measures and California Standards Tests Scores for High School Sample (Benchmark and Three-Level Models)

Label?	Benchmark Model			Three-Level Model		
	Impact	Effect Size	*p*-value	Impact	Effect Size	*p*-value
Violence and Safety						
Low violence perpetration	0.002	0.003	0.91	0.004	0.007	0.79
Low violence victimization	0.004	0.006	0.81	0.005	0.009	0.70
Perceived safety at school	-0.088**	-0.125	0.00	-0.086**	-0.122	0.00
Substance Use						
Substance use	0.007	0.011	0.65	0.009	0.015	0.55
Mental Health						
Low depression	0.015	0.033	0.19	0.015	0.032	0.19
School Engagement						
Grades	0.044*	0.043	0.07	0.043*	0.042	0.07
Low truancy	0.020	0.040	0.10	0.020	0.039	0.11
School connectedness	-0.055**	-0.095	0.00	-0.053**	-0.091	0.00
Academic Performance						
CST, English language arts[A]	0.056	0.003	0.97	-0.448	-0.025	0.81
CST, mathematics[A]	0.026	0.001	0.99	0.015	0.001	1.00
School and Community Supports						
School support	-0.028	-0.038	0.11	-0.027	-0.036	0.13
School meaningful participation	-0.003	-0.004	0.87	-0.003	-0.004	0.87
Community support	-0.026	-0.034	0.15	-0.025	-0.032	0.17
Community meaningful participation	0.003	0.005	0.84	0.004	0.006	0.80

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

[A] Analysis for CST scores based on school-level STAR data for 44 high schools

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)

Table C6. Impact Analysis on Staff Measures for High School Sample (Benchmark and Three-Level Models)

Label?	Benchmark Model			Three-Level Model		
	Impact	Effect Size	*p*-value	Impact	Effect Size	*p*-value
All Staff						
Organizational supports	-0.144*	-0.202	0.05	-0.051	-0.073	0.49
Student supports	-0.054	-0.074	0.45	0.023	0.032	0.77
Learning facilitative behavior	-0.088	-0.151	0.12	-0.057	-0.099	0.33
Low student risk behavior	-0.107**	-0.206	0.04	-0.090*	-0.172	0.09
Teachers						
Organizational supports	-0.196**	-0.269	0.02	-0.117	-0.161	0.17
Student supports	-0.063	-0.086	0.44	0.016	0.022	0.86
Learning facilitative behavior	-0.141**	-0.248	0.03	-0.119*	-0.209	0.08
Low student risk behavior	-0.157**	-0.302	0.01	-0.151**	-0.290	0.01
Administrators						
Organizational supports	0.107	0.167	0.69	0.132	0.208	0.65
Student supports	0.194	0.289	0.47	0.194	0.289	0.51
Learning facilitative behavior	0.015	0.037	0.94	0.092	0.225	0.69
Low student risk behavior	0.157	0.378	0.37	0.234	0.565	0.21

Data Sources: CHKS, CSCS for staff, STAR research files, and CBEDS

* Significantly different from zero at the .10 level, two-tailed test ($0.05 \leq p < 0.10$)

** Significantly different from zero at the .05 level, two-tailed test ($p < 0.05$)