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Teen Mental Health and School-Based Services in California

Technical Appendix

CONTENTS

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Appendix A. California Healthy Kids Survey

The California Healthy Kids Survey (CHKS) is an anonymous, voluntary survey of school climate, safety, and overall student wellness. Although not all schools are required to administer this survey, the number of participating schools has been increasing with schools using the survey data to inform their Local Control and Accountability Plans (LCAPs). Schools that receive funds from certain grants like Tobacco Use Prevention and Education Program are required to administer this survey biennially. Parental consent is required before a student can take the survey. For grade 7 and above, LEAs have the option of using either passive or active consent from parents. The secondary school survey includes a mandatory core module and five optional supplementary modules. The core module includes indicators of student engagement, academic success, safety, positive development, health, and overall well-being. Schools can also opt to include supplementary modules that delve deeper into specific topic areas like mental health, substance use, safety/violence etc. (Austin and Duerr 2004). The survey is typically administered in class. During periods of school closures in the pandemic, it was administered virtually.

For this work, we use CHKS data from WestEd for the school years 2017-18 to 2023-24. The data is anonymous and collected at the student level. It captures responses to all questions in the core CHKS module, along with any supplementary modules the student may have completed. For this study, we use the two mental health questions described in the report in addition to demographic characteristics from the core module. Our analysis limited to teens in 7th, 9th and 11th grades who responded to the two key mental health questions in the survey.

We are able to identify districts and schools in the CHKS, so we incorporate two key school characteristics from other sources: (2) the California Department of Education, which releases data on the percentage of students at each school who are eligible for free- or reduced-price lunch, the means-tested school meals program (FRPM), which we use as a proxy for poverty; and (3) the US Department of Education, which provides information on the urbanicity of the nation's schools.[1]

To conduct analyses on how school-based supports like School-Based Health Centers/Wellness Centers and community schools may be associated with the CHKS mental health outcomes, we incorporate (4) data from the California School-Based Health Alliance, a membership organization that tracks the presence of school-based health centers and wellness centers on K-12 campuses in the state [2]; and (5) data from the California Department of Education on which districts received community schools grants (CCSPP).

We also use responses from students who completed the behavioral health module to gain further insight into help-seeking behavior of teens. This module has two forms, Form A and Form B (students are randomly administered one of the two survey forms), we use responses from Form B of this module that assesses mental health supports and access to mental health service in addition to other student well-being factors and protective factors (CalSCHLS surveys n.d.). This is an optional module in general but starting

[1] In terms of school poverty and urbanicity, schools in the survey are comparable to the state averages, with the schools in CHKS having slightly lower mean for percentage eligible for FRPM than the state average, and it has slightly higher percentage of rural schools (Table A3, Technical Appendix A) .
[2] This data reflects only the centers that the California School-Based Health Alliance is aware of and may not capture all existing wellness centers on K-12 campuses.

2023-24, it is a required module for schools that receive grants from Project Cal-Well, which provides funds to LEAs to support school-based mental health services.

TABLE A1

CHKS response rates by school for the year 2023-24

	25th percentile	50th percentile	75th percentile
Grade 7	31.2	37.9	43.8
Grade 9	23.7	32.4	38.8
Grade 11	21.9	30.4	37.4

TABLE A2

School and student count comparison of CHKS sample and statewide, year 2023-24

	CHKS	All California public schools	Percentage
Number of schools with secondary grades	1850	2981	62.1%
Grade 7	158419	440688	35.9%
Grade 9	154068	466915	33.0%
Grade 11	141672	470608	30.1%

TABLE A3

School demographics comparison: Schools in CHKS data and all public schools in California

School demographics	CHKS	% of California Schools
Average % students eligible for FRPM	0.599	0.632
Urban	0.29	0.338
Suburban	0.362	0.317
Town	0.077	0.067
Rural	0.146	0.108

Note: Percentages across locale categories do not sum to 100 due to missing locale classifications for some schools in the NCES locale data.

TABLE A4

CHKS Summary statistics

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24

Sex	1.504 (0.500)	1.504 (0.500)	1.501 (0.500)	1.516 (0.500)	1.496 (0.500)	1.489 (0.500)	1.495 (0.500)
White	0.243 (0.429)	0.204 (0.403)	0.225 (0.418)	0.233 (0.422)	0.249 (0.433)	0.203 (0.403)	0.198 (0.398)
Black or African American	0.0344 (0.182)	0.0301 (0.171)	0.0324 (0.177)	0.0336 (0.180)	0.0349 (0.183)	0.0353 (0.185)	0.0361 (0.187)
American Indian or Alaska Native	0.00751 (0.0864)	0.00962 (0.0976)	0.0110 (0.104)	0.00899 (0.0944)	0.00786 (0.0883)	0.00873 (0.0930)	0.00868 (0.0928)
Asian or Asian American	0.125 (0.330)	0.107 (0.309)	0.139 (0.345)	0.131 (0.337)	0.155 (0.362)	0.143 (0.350)	0.164 (0.370)
Native Hawaiian or Pacific Islander	0.0146 (0.120)	0.0109 (0.104)	0.0121 (0.109)	0.00509 (0.0712)	0.00593 (0.0768)	0.00499 (0.0705)	0.00493 (0.0701)
Multiple Races	0.0910 (0.288)	0.0982 (0.298)	0.105 (0.307)	0.103 (0.304)	0.117 (0.322)	0.109 (0.311)	0.116 (0.320)
Latino	0.485 (0.500)	0.540 (0.498)	0.476 (0.499)	0.486 (0.500)	0.430 (0.495)	0.496 (0.500)	0.473 (0.499)
Observations	307597	363818	344649	258983	305685	329520	410969

NOTES: Data after removing missing values in variables for gender, race/ethnicity, feelings of sadness and suicidal thoughts. Includes only grade 7, 9 and 11

TABLE A5

Comparison of summary statistics – ACS 2022, CHKS Core module and CHKS Behavioral Health module 2023-24

	ACS	Core Module	Behavioral Health Module
grade_7	0.00218	0.360	0.344
	(0.0467)	(0.480)	(0.475)
grade_9	0.296	0.340	0.344
	(0.457)	(0.474)	(0.475)
grade_11	0.702	0.300	0.311
	(0.458)	(0.458)	(0.463)
White	0.232	0.185	0.182
	(0.422)	(0.388)	(0.386)
African American	0.0348	0.0366	0.0356
	(0.183)	(0.188)	(0.185)
American Indian or Alaska Native	0.00689	0.00856	0.00739
	(0.0827)	(0.0921)	(0.0856)
Asian or Asian American	0.133	0.152	0.176
	(0.34)	(0.359)	(0.381)
Native Hawaiian or Pacific Islander	0.00453	0.00486	0.00452
	(0.0672)	(0.0695)	(0.0671)
Multiple Races	0.00521	0.110	0.116

	(0.072)	(0.313)	(0.320)
Other	0.0717	0.0430	0.0387
	(0.258)	(0.203)	(0.193)
Latino	0.512	0.461	0.440
	(0.5)	(0.498)	(0.496)
male	0.512	0.511	0.505
	(0.5)	(0.500)	(0.500)
N	5954	485790	96493
Number of Schools		1850	681

TABLE A6:
Time trend – sad or hopeless, suicidal thoughts

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Feelings of sadness	0.335 (0.001)	0.328 (0.001)	0.332 (0.001)	0.393 (0.001)	0.346 (0.001)	0.318 (0.001)	0.283 (0.001)
Suicidal thoughts	0.173 (0.001)	0.158 (0.001)	0.153 (0.001)	0.134 (0.001)	0.153 (0.001)	0.133 (0.001)	0.113 (0.000)
N (unique individuals)	307597	363818	344649	258983	305685	329520	410969

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

Notes: Data after removing missing values in variables for gender, race/ethnicity, feelings of sadness and suicidal thoughts. Includes only grade 7, 9 and 11.

Descriptive analysis tables for two most recent years of California Healthy Kids Survey, 2022-24

TABLE A7
Gender

	Male	Female
Feelings of sadness	0.213 (0.001)	0.386 (0.001)
Suicidal thoughts	0.089 (0.000)	0.157 (0.001)
N (unique individuals)	375936	364553

Source: California Healthy Kids Survey, school years: 2022-23 and 2023-24

Notes: Two most recent years of data pooled – 2022-23 and 2023-24, data after removing missing values in variables for gender, race/ethnicity, feelings of sadness and suicidal thoughts. Includes only grade 7, 9 and 11.

TABLE A8
Grade

	Grade 7	Grade 9	Grade 11

Feelings of sadness	0.284 (0.001)	0.290 (0.001)	0.324 (0.001)
Suicidal thoughts	0.128 (0.001)	0.119 (0.001)	0.119 (0.001)
N (unique individuals)	262549	255242	222698

Source California Healthy Kids Survey, school years: 2022-23 and 2023-24

TABLE A9

Grade and Gender

	Grade 7		Grade 9		Grade 11	
	Male	Female	Male	Female	Male	Female
Feelings of sadness	0.198 (0.001)	0.373 (0.001)	0.205 (0.001)	0.379 (0.001)	0.242 (0.001)	0.409 (0.001)
Suicidal thoughts	0.083 (0.001)	0.175 (0.001)	0.087 (0.001)	0.152 (0.001)	0.098 (0.001)	0.141 (0.001)
N (unique individuals)	132696	129853	130405	124837	112835	109863

Source: California Healthy Kids Survey, school years: 2022-23 and 2023-24

TABLE A10

Race/ethnicity

	White	Black or African American	American Indian or Alaska Native	Asian or Asian American	Native Hawaiian or Pacific Islander	Multiple Races	Latino
Feelings of sadness	0.271 (0.001)	0.293 (0.003)	0.262 (0.005)	0.258 (0.001)	0.315 (0.008)	0.341 (0.002)	0.314 (0.001)
Suicidal thoughts	0.115 (0.001)	0.134 (0.002)	0.115 (0.004)	0.119 (0.001)	0.144 (0.006)	0.166 (0.001)	0.115 (0.001)
N (unique individuals)	148382	26487	6444	114492	3672	83416	357596

Source: California Healthy Kids Survey, school years: 2022-23 and 2023-24

TABLE A11

Race/ethnicity and Gender

	Male			Female		
Race/Ethnicity	Feelings of sadness	Suicidal thoughts	Male - N	Feelings of sadness	Suicidal thoughts	Female - N
White	0.202 (0.001)	0.091 (0.001)	77987	0.348 (0.002)	0.142 (0.001)	70395
Black or African American	0.218 (0.003)	0.097 (0.002)	14519	0.384 (0.004)	0.178 (0.003)	11968

American Indian or Alaska Native	0.205 (0.006)	0.091 (0.004)	4175	0.368 (0.010)	0.158 (0.008)	2269
Asian or Asian American	0.188 (0.002)	0.087 (0.001)	58552	0.331 (0.002)	0.152 (0.002)	55940
Native Hawaiian or Pacific Islander	0.231 (0.009)	0.106 (0.007)	2047	0.420 (0.012)	0.192 (0.010)	1625
Multiple Races	0.256 (0.002)	0.127 (0.002)	43262	0.433 (0.002)	0.208 (0.002)	40154
Latino	0.216 (0.001)	0.078 (0.001)	175394	0.408 (0.001)	0.151 (0.001)	182202

Source: California Healthy Kids Survey, school years: 2022-23 and 2023-24

Results from regression analysis

Tables A12 – A14 show results for regression models investigating the associations between individual characteristics—grade, sex, race—and poor mental health

$$Y\_ist = \alpha\_0 + \boldsymbol{\beta}\_\mathbf{1}\, x\_i + \beta\_2^{\prime}\, W\_i + \delta\_s + \gamma\_t + \epsilon\_ist$$

Y is a proxy for poor mental health (sadness, suicidal thoughts)

x is the individual characteristic we analyze correlations with

W is a vector of individual characteristics (full list: sex, grade, race)

δ are school fixed effects

γ are time (school year) fixed effects

We cluster standard errors at the district level

TABLE A12

Grade

	Chronic Sadness/Hopelessness	Suicidal thoughts
Grade 9	0.0399 *** (0.007)	0.014 ** (0.005)
Grade 11	0.087 *** (0.008)	0.020 *** (0.005)

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

Note: Estimates are based on covariate models, Grade 7 is the reference grade. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05 **p< 0.01 ***p< 0.001

TABLE A13

Gender

	Bivariate model	With covariates	Bivariate model	With covariates
	Sadness		Suicidal Thoughts	
Male	-0.187***(0.002)	-0.185*** (0.002)	-0.082***(0.001)	-0.082*** (0.001)

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

Note: Estimates are based on both bivariate and covariate models, Female is the reference group. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05 ***p< 0.001

TABLE A14

Race/ethnicity (bivariate and covariate)

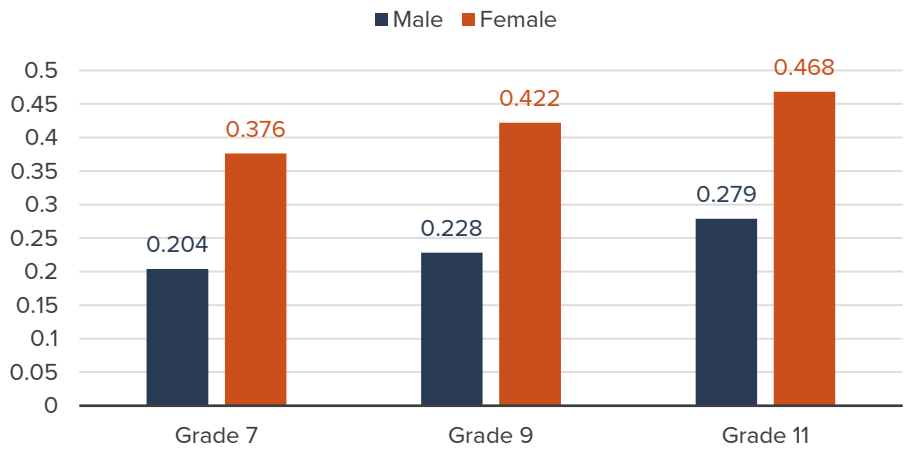
	Bivariate model	With covariates	Bivariate model	With covariates
	Sadness		Suicidal Thoughts	
Black	0.003 (0.004)	-0.007* (0.003)	0.008** (0.003)	0.008*** (0.002)
American In/Alaska Native	-0.006 (0.006)	0.013*** (0.004)	0.001 (0.004)	0.008** (0.003)
Asian	-0.014* (0.006)	-0.008** (0.003)	0.001 (0.003)	0.007*** (0.002)
Native Hawaiian/Pacific Is	0.066*** (0.005)	0.050*** (0.004)	0.046*** (0.004)	0.038*** (0.004)
Multiple Races	0.054*** (0.002)	0.054*** (0.002)	0.041*** (0.002)	0.043*** (0.001)
Latino	0.046*** (0.004)	0.029*** (0.002)	0.002 (0.003)	0.003 (0.002)

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

Note: Estimates are based on both bivariate and covariate models, White is the reference group. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05 **p< 0.01 ***p< 0.001

FIGURE A1

Feelings of sadness or hopelessness by grade and gender



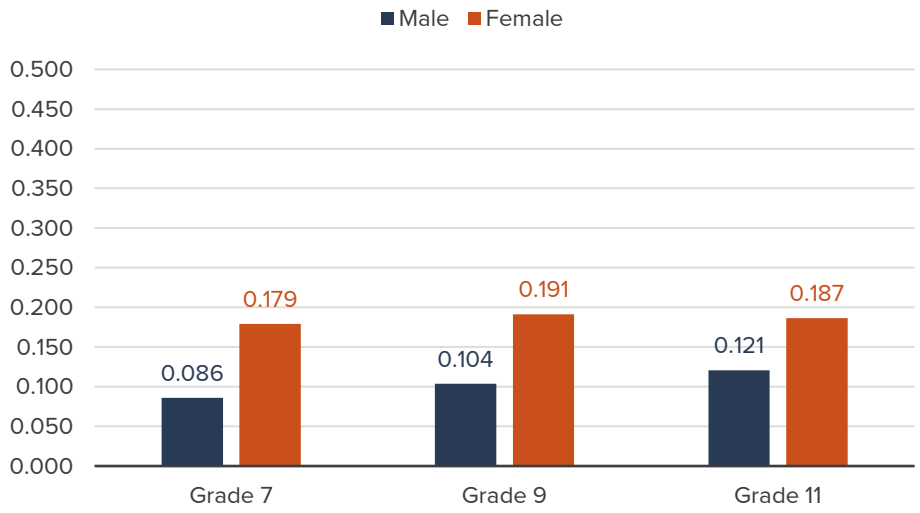
SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

NOTE: Bars represent predicted probabilities from regression model estimating associations between having chronic sadness in the past year with gender and grade. Estimates reflect interactions between grade level and gender, adjusted for school year,

race/ethnicity, and school fixed effects. Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. All underlying interaction effects between gender and grade are statistically significant at $p < 0.001$.

FIGURE A2

Suicidal thoughts by grade and gender

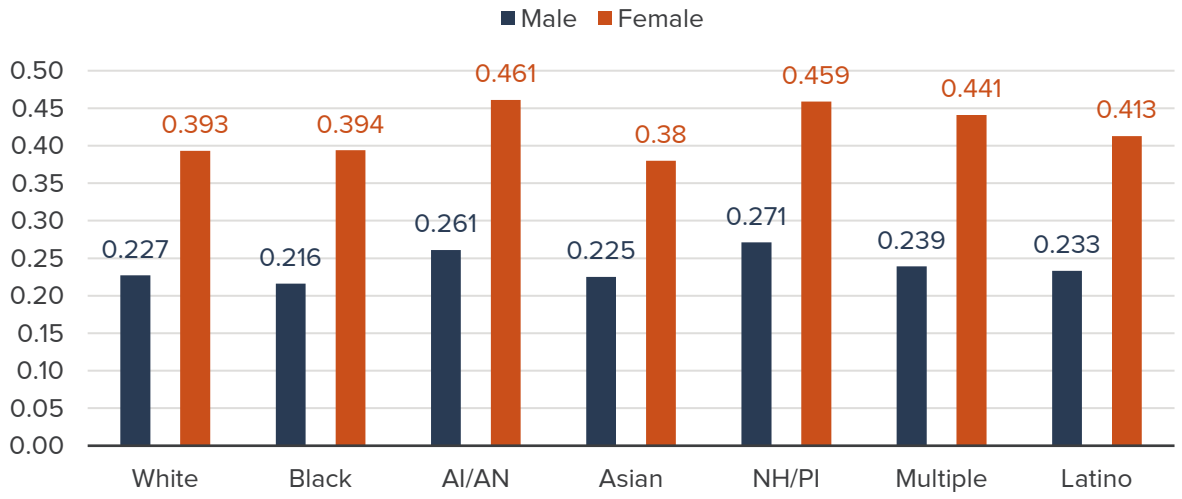


SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

NOTE: Bars represent predicted probabilities from regression model estimating associations between having a suicidal thoughts in the past year with gender and grade. Estimates reflect interactions between grade level and gender, adjusted for school year, race/ethnicity, and school fixed effects. Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The interaction between gender and grade is statistically significant for both 9th and 11th graders, with $p < 0.01$ for 9th grade and $p < 0.001$ for 11th grade (compared to 7th grade, the reference group).

FIGURE A3

Share of students reporting chronic sadness or hopelessness, by gender and race/ethnicity

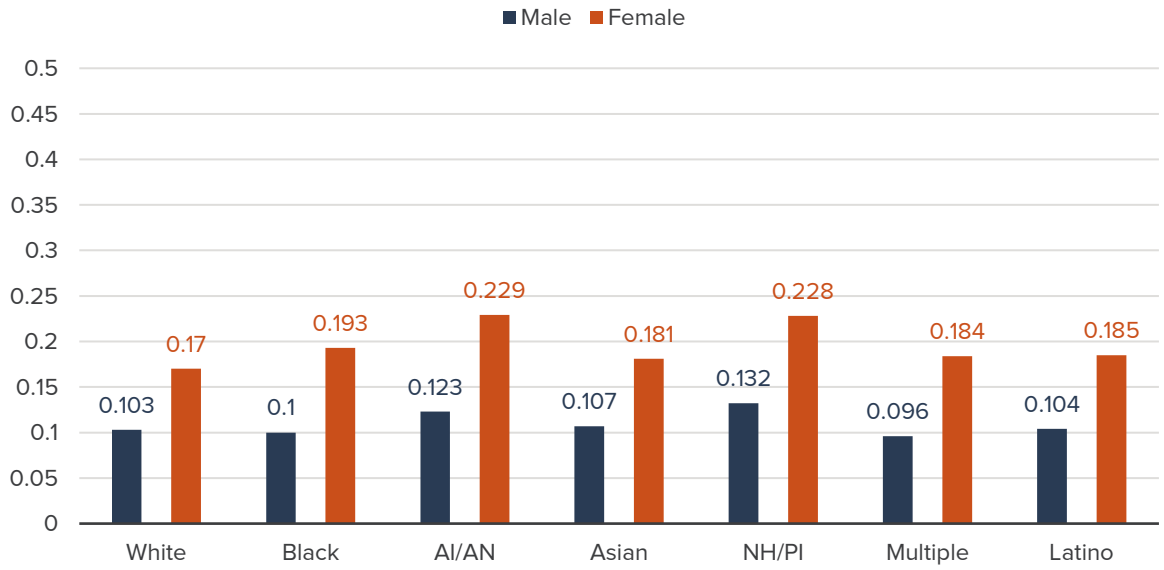


SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

NOTE: Bars represent predicted probabilities from regression model estimating associations between having chronic sadness in the past year with gender and race/ethnicity. Estimates reflect interactions between race/ethnicity and gender, adjusted for school year, grade, and school fixed effects. Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The interaction between gender and race/ethnicity is statistically significant for all race/ethnicity groups - AI/AN, NH/PI and teens of multiple races with $p < 0.001$, for Black teens with $p < 0.01$ and Hispanic and Asian students with $p < 0.1$ (compared to White, the reference group).

FIGURE A4

Share of students reporting suicidal thoughts, by gender and race/ethnicity



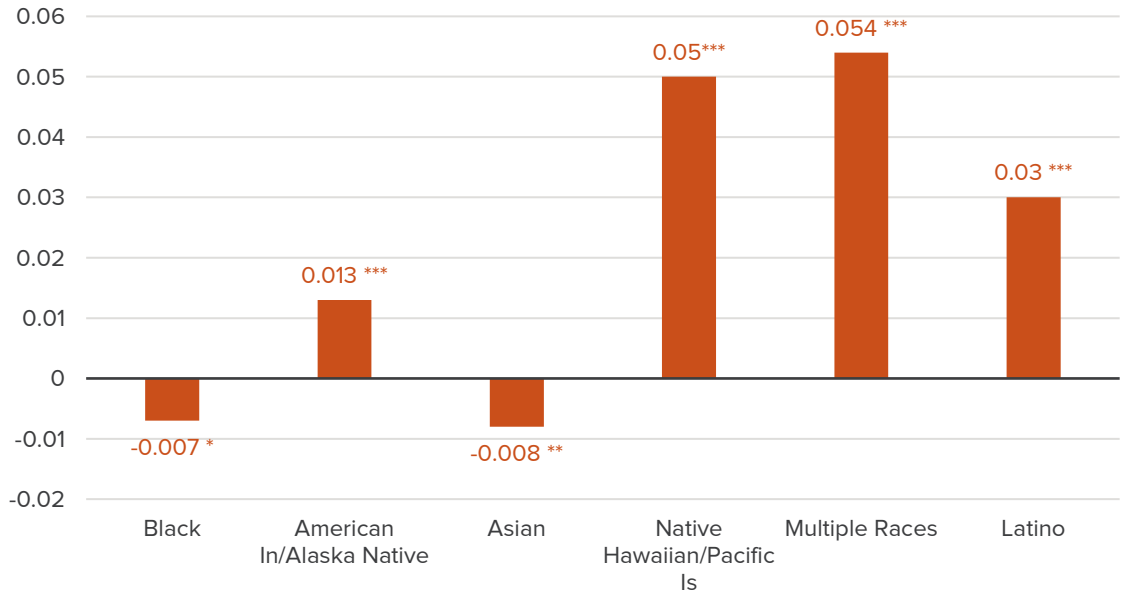
SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

NOTE: Bars represent predicted probabilities from regression model estimating associations between having suicidal thoughts in the past year with gender and race/ethnicity. Estimates reflect interactions between race/ethnicity and gender, adjusted for school year, grade, and school fixed effects. Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The interaction between gender and race/ethnicity is

statistically significant for all race/ethnicity groups - for Asian teens with $p < 0.01$ and Hispanic teens with $p < 0.1$ and all other groups with $p < 0.001$ (compared to White, the reference group).

FIGURE A5

Likelihood of experiencing chronic sadness/hopelessness is higher in certain racial and ethnic groups relative to Whites

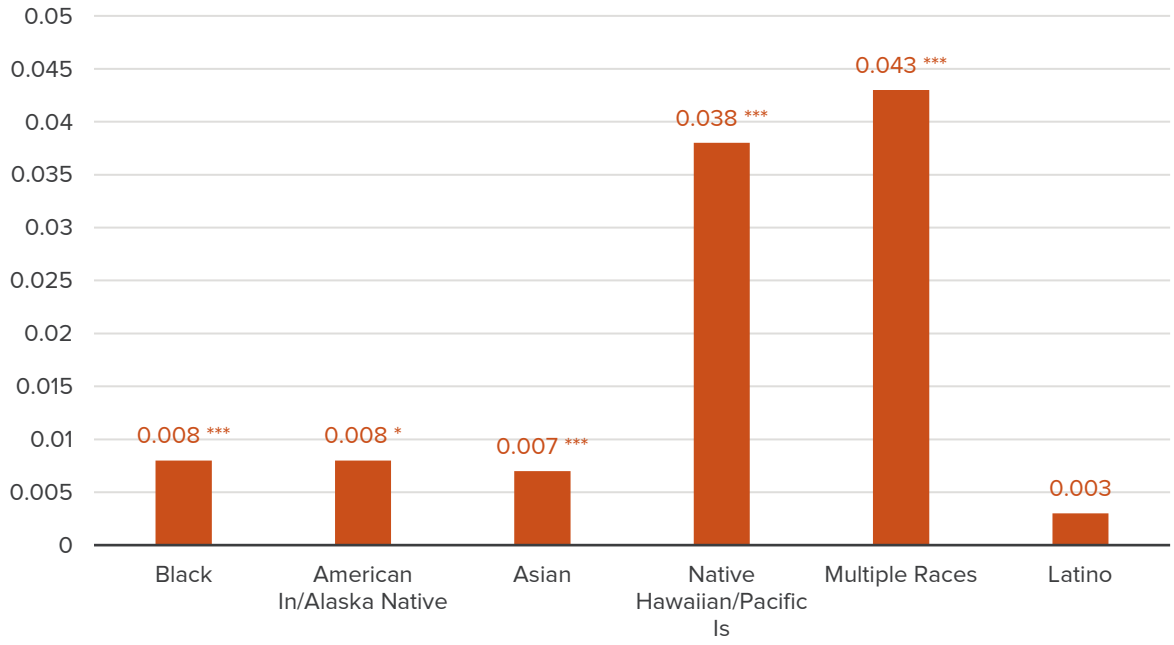


SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

NOTE: Bars represent regression-adjusted associations between having a chronic sadness in the past year and race/ethnicity. Linear probability models are used to estimate associations between race/ethnicity and the probability of reporting chronic sadness. See Technical Appendix Table A14 for model estimates. White teens are the reference group. Control variables grade, gender, school year, and fixed effects for school. Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05 **p< 0.01 ***p< 0.001.

FIGURE A6

Likelihood of experiencing suicidal thoughts is higher in certain racial and ethnic groups relative to Whites



SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24

NOTE: Bars represent regression-adjusted associations between having suicidal thoughts in the past year and race/ethnicity. Linear probability models are used to estimate associations between race/ethnicity and the probability of reporting having suicidal thoughts. See Technical Appendix Table A14 for model estimates. White teens are the reference group. Control variables grade, gender, school year, and fixed effects for school. Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05 ***p< 0.001

Tables A15-A24 show results for regression models investigating the relationships of school characteristics (urbanicity, poverty) and services (clinics / wellness centers, community schools) to poor mental health

$$Y_{ist} = \alpha_0 + \boldsymbol{\beta_1} x_s + \beta_2' W_i + \beta_3' p_s + \gamma_t + \epsilon_{ist}$$

Y is a proxy for poor mental health (sadness, suicidal thoughts)

x is the school characteristic or service we analyze

W is a vector of individual characteristics (full list: sex, grade, race)

p is school-level poverty in 2023-24 (%FRPM)

γ are time (school year) fixed effects

We cluster standard errors at the district level

TABLE A15

Students in high-poverty schools had poorer mental health on one, but not both, of our measures

	Chronic Sadness	Suicidal Thoughts

School poverty	0.079***	0.007

SOURCES: California Healthy Kids Survey, school years: 2017-18 to 2023-24 and California Department of Education data on percentages of students eligible for free- or reduced-price lunch (FRPM) in 2023-24

NOTES: Estimates represent bivariate associations between school poverty (the percentage of students eligible for free or reduced-price lunch at a school) and our two outcomes: having chronic sadness and having suicidal thoughts in the past year, while controlling for school year. We used a linear probability model to estimate associations. Standard errors are clustered by school district. See Technical Appendix Table A16 for details. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. ***p< 0.001

TABLE A16

School geography type is not clustered by school poverty

	Poorest quarter of schools (FRPM 84-100%)	Second-poorest quarter of schools (FRPM 67-84%)	Second-wealthiest quarter of schools (FRPM 43-67%)	Wealthiest quarter of schools (FRPM 1-43%)
City	282	223	244	285
Suburb	318	265	290	292
Town	47	74	74	59
Rural	82	167	121	92

SOURCES: California Healthy Kids Survey, school years: 2017-18 to 2023-24 and U.S. Department of Education data on school urbanicity and California Department of Education data on student eligibility for free or reduced-price meals (FRPM) by school.

NOTES: Counts of study schools shown. City is more urban than suburb, which is more urban than town, which is more urban than rural, location. Percent of students eligible for FRPM is used as a proxy for school poverty.

TABLE A17

School-level Poverty and Rural Geography: Association with Chronic Sadness

	In all schools	In the richest half of schools	In the poorest half of schools
Rural	0.021*** (0.005)	0.048*** (0.008)	-0.004 (0.004)
Poverty	0.079*** (0.009)		
N	2,319,384	1,160,235	1,159,149
Depvar mean	0.330	0.313	0.347

SOURCE: California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are based on bivariate models controlling for school year. "Rural" excludes schools located in cities, suburbs, and towns. Poverty is proxied using the percentage of students in a school eligible for free or reduced-price meals (FRPM). Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. ***p< 0.001

TABLE A18

Rural Geography: Association with Chronic Sadness by School Poverty Quartiles

	In the richest quartile Q1	Q2	Q3	In the poorest quartile Q4
Rural	0.028* (0.014)	0.037*** (0.008)	-0.000 (0.006)	-0.011 (0.006)
N	580,491	579,744	579,320	579,829

SOURCE: California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are based on bivariate models, controlling for school year. "Rural" excludes schools located in cities, suburbs, and towns. Poverty is proxied using the percentage of students in a school eligible for free or reduced-price meals (FRPM). Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05 ***p< 0.001.

TABLE A19

Detailed Geography: Association with Chronic Sadness

	In all schools	In the richest half of schools	In the poorest half of schools
City	-0.030*** (0.006)	-0.058*** (0.009)	0.002 (0.006)
Suburb	-0.019*** (0.005)	-0.047*** (0.008)	0.008 (0.005)
Town	0.008 (0.006)	0.012 (0.010)	0.007 (0.006)
N	2,319,384	1,160,235	1,159,149
Depvar mean	0.330	0.313	0.347

SOURCE: California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are from linear probability regressions of chronic sadness modeled on geographical categories, controlling for school year. Rural is the excluded geographical category. Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The coefficients for city and suburb differed from each other with p-values 0.04 (all schools), 0.07 (richest schools), and 0.18 (poorest schools). ***p< 0.001

TABLE A20

Detailed Geography: Association with Chronic Sadness by School Poverty Quartiles

	In the richest quartile Q1	Q2	Q3	In the poorest quartile Q4

City	-0.039** (0.015)	-0.040*** (0.008)	-0.005 (0.008)	0.005 (0.007)
Suburb	-0.021 (0.014)	-0.044*** (0.009)	-0.000 (0.006)	0.018** (0.006)
Town	0.013 (0.012)	0.010 (0.010)	0.013 (0.009)	0.005 (0.008)
N	580,491	579,744	579,320	579,829

SOURCE: California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are based on bivariate models, controlling for school year. "Rural" excludes schools located in cities, suburbs, and towns. Poverty is proxied using the percentage of students in a school eligible for free or reduced-price meals (FRPM). Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The coefficients for city and suburb differed from each other with p-values 0.01 (Q1), 0.55 (Q2), 0.80 (Q3), and 0.08 (Q4). ** p<0.01 ***p< 0.001

TABLE A21

School-level Poverty and Rural Geography: Association with Suicidal Thoughts

	In all schools	In the richest half of schools	In the poorest half of schools
Rural	0.014*** (0.004)	0.032*** (0.005)	0.001 (0.004)
Poverty	0.007 (0.005)		
N	2,319,384	1,160,235	1,159,149
Depvar mean	0.145	0.144	0.145

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are based on bivariate models, controlling for school year. "Rural" excludes schools located in cities, suburbs, and towns. Poverty is proxied using the percentage of students in a school eligible for free or reduced-price meals (FRPM). Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. ***p< 0.001.

TABLE A22

Rural Geography: Association with Suicidal Thoughts by School Poverty Quartiles

	In the richest quartile Q1	Q2	Q3	In the poorest quartile Q4
Rural	0.024** (0.008)	0.029*** (0.006)	0.002 (0.005)	-0.002 (0.005)

N	580,491	579,744	579,320	579,829

SOURCE: California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are based on bivariate models, controlling for school year. "Rural" excludes schools located in cities, suburbs, and towns. Poverty is proxied using the percentage of students in a school eligible for free or reduced-price meals (FRPM). Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. **p<0.01 ***p< 0.001.

TABLE A23

Detailed Geography: Association with Suicidal Thoughts

	In all schools	In the richest half of schools	In the poorest half of schools
City	-0.019*** (0.004)	-0.037*** (0.005)	-0.005 (0.005)
Suburb	-0.013** (0.004)	-0.033*** (0.006)	0.001 (0.004)
Town	0.002 (0.006)	0.012 (0.009)	0.001 (0.005)
N	2,319,384	1,160,235	1,159,149
Depvar mean	0.145	0.144	0.145

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are based on bivariate models. Rural is the excluded geographical category. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The coefficients for city and suburb differed from each other with p-values 0.02 (all schools), 0.08 (richest schools), and 0.13 (poorest schools). **p< 0.01 ***p< 0.001

TABLE A24

Detailed Geography: Association with Suicidal Thoughts by School Poverty Quartiles

	In the richest quartile Q1	Q2	Q3	In the poorest quartile Q4
City	-0.028** (0.009)	-0.033*** (0.006)	-0.006 (0.006)	-0.000 (0.006)
Suburb	-0.021* (0.009)	-0.034*** (0.006)	-0.002 (0.005)	0.006 (0.005)
Town	-0.006 (0.011)	0.015 (0.010)	0.009 (0.007)	-0.003 (0.006)

N	580,491	579,744	579,320	579,829

SOURCE: California Healthy Kids Survey, school years: 2017-18 to 2023-24, combined with data on free and reduced-price meals from the California Department of Education and geographical data from the U.S. Department of Education.

Note: Estimates are based on bivariate models, controlling for school year. "Rural" excludes schools located in cities, suburbs, and towns. Poverty is proxied using the percentage of students in a school eligible for free or reduced-price meals (FRPM). Standard errors are clustered by school district. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The coefficients for city and suburb differed from each other with p-values 0.06 (Q1), 0.58 (Q2), 0.23 (Q3), and 0.31 (Q4). ** p<0.01 ***p< 0.001

TABLE A25

Sources of help received from a counselor or therapist

	Got help when needed
At school	49.03%
From a counselor or therapist not from my school	50.49%
Somewhere else	15.16%
I don't know	9.15%

SOURCE: California Healthy Kids Survey Behavioral Health module, school year: 2023-24

Note: Percentages are calculated for students who said they received help from a counselor or therapist in the previous year. N = 14,060

TABLE A26

Got help from a counselor or therapist – race/ethnicity

	Got help when needed
Black or African American	0.003 (0.018)
American Indian or Alaska Native	0.075* (0.033)
Asian or Asian American	-0.118*** (0.012)
Native Hawaiian or Pacific Islander	-0.192*** (0.033)
Multiple Races	-0.030** (0.009)
Latino	-0.025** (0.008)

SOURCE: Analysis of California Healthy Kids Survey Behavioral Health module, school year: 2023-24

Note:.Estimates are based on covariate regression model that include students who said they needed help from a counselor or therapist in the previous year. Coefficients represent differences in the likelihood of receiving such help. White is the reference group. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05 **p< 0.01 ***p< 0.001. N = 33654

TABLE A27

Got help from a counselor or therapist – gender

	Got help when needed
Male	0.026**

	(0.009)

SOURCE: Analysis of California Healthy Kids Survey Behavioral Health module, school year: 2023-24

Note:.Estimates are based on covariate regression model that include students who said they needed help from a counselor or therapist in the previous year. Coefficients represent differences in the likelihood of receiving such help. Female is the reference group. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. **p< 0.01. N = 33654

TABLE A28

Got help from a counselor or therapist – school poverty

	Got help when needed
School-level share of students with FRPM	-0.058* (0.023)

SOURCE: Analysis of California Healthy Kids Survey Behavioral Health module, school year: 2023-24

Note:.Estimates are based on covariate regression model that include students who said they needed help from a counselor or therapist in the previous year. Coefficients represent differences in the likelihood of receiving such help. . Poverty is proxied using the percentage of students in a school eligible for free or reduced-price meals (FRPM). Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. *p<0.05. N = 33654

TABLE A29

All public schools in California

	Total # schools	Total # students	% total students
	10579	5,837,690	
FRPM			
Above 55%	6802	3,658,050	62.7%
Below 55%	3777	2,179,640	37.3%
Urban/Rural Categores			
City	4022	2,441,368	42.0%
Suburban	3834	2,519,129	43.3%
Town	1279	376,694	6.5%
Rural	832	477,161	8.2%

Sources: Census Day enrollment data, CDE school year 2023-24, Free or Reduced Price Meal (Student Poverty) data, CDE school year 2023-24, National Center for Education Statistics (NCES) locale classification (additional details in Technical Appendix C)

Note: Enrollment data does not include non-traditional schools, and some independently reporting charter schools

TABLE A30

Schools with a School-based health center or a wellness center on-site

	SBHC/Wellness # schools	# students	% total students
	308	319,461	
FRPM			

Above 55%	245	229,490	71.8%
Below 55%	63	89,971	28.2%
Urban/Rural Categores			
City	178	186,894	58.5%
Suburban	91	106,453	33.3%
Town	18	15,101	4.7%
Rural	21	11,013	3.4%

Sources: List of School-based health centers/Wellness centers by California School-based Health Alliance

Note: We matched CDS codes (unique school identifiers) to schools in the list using a combination of fuzzy string matching of the school name and manual review. Out of the 365 SBHCs/WCs in the list, 33 are mobile clinics that could not be tied to a specific school site, 9 are schools that have since closed, and the remainder are community health centers or wellness spaces located in community settings that serve school districts but cannot be attributed to an individual school. A limitation of this data is that it may undercount SBHCs/WCs, particularly wellness centers that have grown rapidly in recent years.

TABLE A31

Schools that are California Community School Partnership Program (CCSPP) grantees

	Community Schools # schools	# students	% total students
	1468	797,576	
FRPM			
Above 55%	1,458	793,200	99.5%
Below 55%	10	4,376	0.5%
Urban/Rural Categores			
City	639	344,416	43.2%
Suburban	508	313,456	39.4%
Town	179	92,134	11.6%
Rural	138	46,396	5.8%

Source: CCSPP implementation grant recipients, cohorts 1,2 and 3 (2021-24)

TABLE A32

School-based Health Centers/Wellness Centers and Teen Mental Health

	Chronic Sadness		Suicidal Thoughts	
	Bivariate	Controlled	Bivariate	Controlled

School-based health center	0.024 (0.016)	-0.006 (0.018)	0.005 (0.013)	0.002 (0.012)
N	2,013,923	2,013,923	2,013,923	2,013,923
Depvar mean	0.327	0.327	0.143	0.143

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24—excluding 2021-22, when school-based supports were less accessible due to covid-era school closures; List of School-based health centers/Wellness centers by California School-based Health Alliance.

Note: Estimates are based on bivariate models with school year fixed effects and controlled models that include school year, student grade, sex, and race/ethnicity variables. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. The CHKS data includes 205 out of the 308 schools with SBHCs/WCs (see Table A30).

TABLE A33

School-Based Health Clinics/Wellness Centers with Behavioral Health Services and Teen Mental Health

	Chronic Sadness		Suicidal Thoughts	
	Bivariate	Controlled	Bivariate	Controlled
Wellness centers	0.003 (0.005)	-0.007 (0.004)	-0.008*** (0.003)	-0.009*** (0.003)
N	2,013,923	2,013,923	2,013,923	2,013,923
Depvar mean	0.327	0.327	0.143	0.143

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2017-18 to 2023-24—excluding 2021-22, when school-based supports were less accessible due to covid-era school closures; List of School-based health centers/Wellness centers by California School-based Health Alliance.

Note: Estimates are based on bivariate models with school year fixed effects and controlled models that include school year, student grade, sex, and race/ethnicity variables. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. Includes School-Based Health Clinics/Wellness Cneters (SBHCs/WCs) that offer behavioral health services. 179 out of the 205 SBHCs/WCs in the CHKS data (see Table A33) provide behavioral health services.

TABLE A34

Community Schools Grants and Teen Mental Health

	Chronic Sadness	Suicidal Thoughts

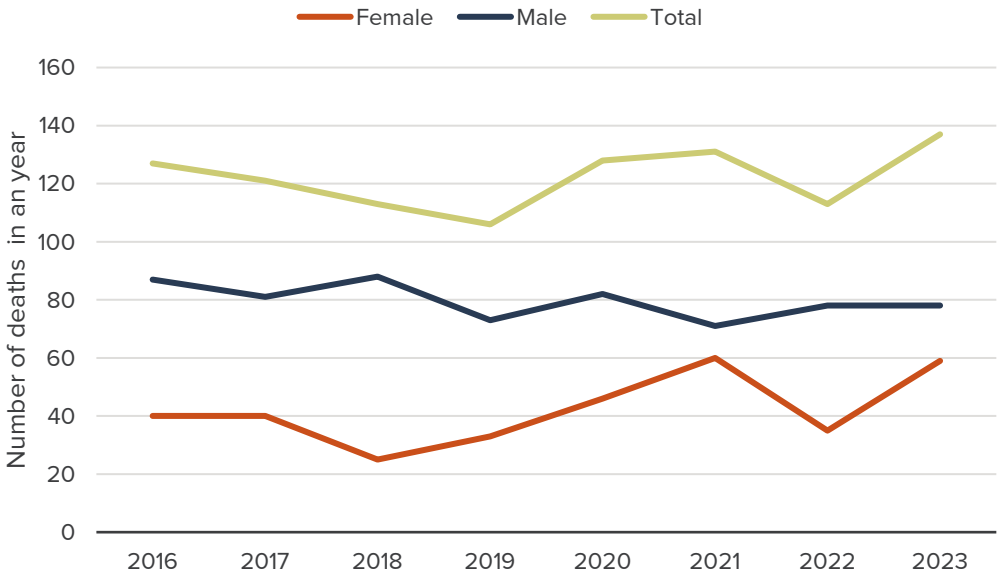
	Bivariate	Controlled	Bivariate	Controlled
Community Schools grants	0.011 (0.007)	-0.010 (0.007)	-0.007 (0.005)	-0.008* (0.004)
N	739,488	739,488	739,488	739,488
Depvar mean	0.299	0.299	0.122	0.122

SOURCE: Analysis using the California Healthy Kids Survey, school years: 2022-23 and 2023-24, when Community Schools grants were made to some schools; CCSPP implementation grant recipients, cohorts 1 and 2 (2021-23)

Note: Estimates are based on bivariate and controlled models that include school year, student grade, sex, and race/ethnicity variables. Effects are considered significant if they differ from 0 at the 95-percent level of confidence or greater. CHKS data includes 191 out of the 1016 schools that are part of cohorts 1 and 2 that received CCSPP implementation grants.

FIGURE A7

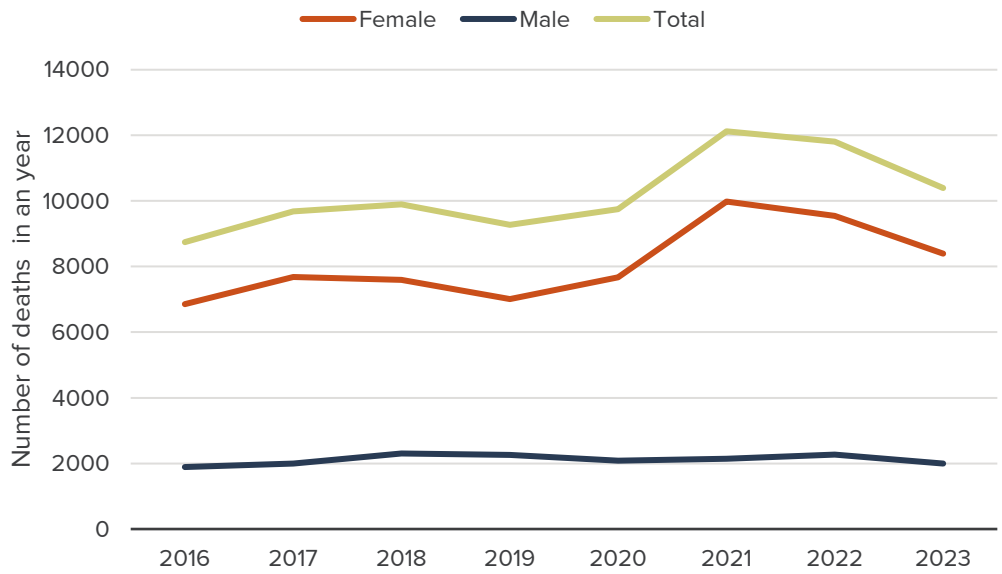
Deaths due to suicides among adolescents ages 12-17



SOURCE: California Injury Data by California Department of Public Health, 2016-2023.

FIGURE A8

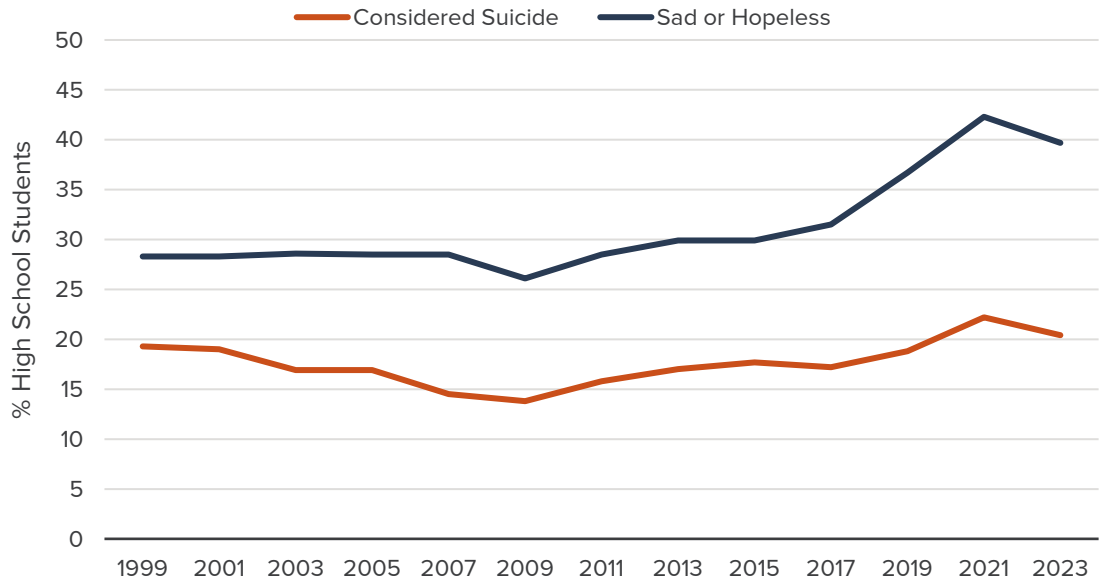
Emergency Department visits due to self-harm, ages 12-17



SOURCE: California Injury Data by California Department of Public Health, 2016-2023.

FIGURE A9

Percentage of US high school students reporting symptoms related to poor mental health peaked in 2021



SOURCE: CDC, Youth Behavior Risk Survey

NOTE: Includes a representative sample of high school students in the U.S. "Sad or hopeless" refers to having had persistent feelings of sadness or hopelessness that last at least 2 weeks in the previous year. "Considered suicide" refers to having seriously considered suicide in the past year.

TABLE A35

OLS Regression Results, Health and Mental health Expenditures per Student, 2018

	Model 1	Model 2	Model 3	Model 4
High school district	-38.96***	-39.06***	-40.23***	-39.11***
	(13.08)	(13.14)	(13.13)	(13.15)
District enrollment, per 1000	0.263	0.266	0.286	0.267
	(0.176)	(0.178)	(0.177)	(0.178)
(Rural is omitted category)				
City	89.54***	89.21***	86.71***	87.24***
	(16.48)	(16.77)	(16.67)	(17.16)
Suburban	76.66***	76.40***	74.66***	74.00***
	(13.33)	(13.55)	(13.44)	(14.24)
Town	64.77***	64.93***	65.35***	62.62***
	(15.01)	(15.10)	(15.01)	(15.68)
FRPM rate		-2.433		-16.39
		(22.50)		(33.75)
UPC over 55%			-11.64	
			(10.37)	
Share Latino				16.48
				(29.70)
Constant	109.9***	111.4***	118.4***	112.7***
	(10.73)	(17.50)	(13.11)	(17.66)
Observations	394	394	394	394
R-squared	0.127	0.127	0.130	0.128
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

SOURCE: SACS district expenditure data, 2018-2019 school year.

TABLE A36

OLS Regression Results, Health and Mental health Expenditures per Student, 2023

	Model 1	Model2	Model 3	Model 4
High school district	-50.29	-48.13	-49.44	-47.93
	(31.27)	(31.34)	(31.44)	(31.31)
District enrollment, per 1000	0.127	0.0660	0.113	0.0688
	(0.416)	(0.420)	(0.419)	(0.420)
(Rural is omitted category)				
City	148.7***	156.5***	150.7***	145.6***
	(38.82)	(39.54)	(39.44)	(40.31)
Suburban	87.27***	93.61***	88.77***	80.32**

	(31.12)	(31.72)	(31.57)	(33.18)
Town	66.84*	63.78*	66.73*	51.41
	(35.00)	(35.12)	(35.04)	(36.26)
FRPM rate		54.93		-24.29
		(53.30)		(79.28)
UPC over 55%			7.284	
			(24.74)	
Share Latino				93.10
				(69.02)
Constant	247.5***	213.2***	241.9***	220.2***
	(24.81)	(41.50)	(31.20)	(41.78)
Observations	398	398	398	398
R-squared	0.047	0.050	0.047	0.054
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

SOURCE: SACS district expenditure data, 2023-24 school year.

Appendix B: School-based services

Types of mental health professionals at schools

School Counselors: They typically hold a master's degree and state certification, supporting students' academic and emotional development through counseling, consultation, and referrals. They may spend considerable time on non-counseling duties like scheduling and testing.

School Nurses: Most hold a BSN and are licensed registered nurses. They connect healthcare and education, coordinate care, and address various health-related challenges, including mental health.

School psychologists: They typically need a master's or specialist degree, an internship, and state certification. Drawing on expertise in mental health, learning, and behavior, they work with families, educators, and communities. Their roles include assessment, diagnosis, intervention, and consultation within a multitiered support system, with much of their time spent on evaluations and documentation.

School Social Workers: Most states require a master's degree in social work (MSW), though some accept a bachelor's (BSW). They connect schools, families, and communities by delivering interventions, prevention, crisis support, and consultation, and are involved in special education assessments. A large portion of their work involves documentation.

Other professionals like clinical social workers, psychiatrists, psychiatric/mental health nurses, and nurse practitioners may also provide services. Community mental health providers may also work in partnership with schools.

These professionals receive training in many of the core competencies needed for comprehensive school-based mental health services, such as family-school-community collaboration, using data, evidence-based practice, and cultural responsiveness. However, the breadth and depth of training vary by profession, and some competencies, like systematic screening or mental health therapy, may be emphasized more in some fields (e.g., school psychology and social work) than others (e.g., school counseling and nursing) (Shelton and Owens 2021), (Zabek et al. 2022).

Mental health services provided at schools

Mental health promotion and prevention programs (these include school-wide initiatives supporting social-emotional development, safe and drug-free schools, and positive behavioral supports), social-emotional learning programs and individualized regulation strategies, individual, group, and family therapy or counseling, crisis counseling and crisis intervention, mental health screenings and assessment (this involves conducting and interpreting assessments and diagnosing learning, behavior, and emotional problems), substance abuse counseling and prevention, treatment for mental health disorders (which can involve clinical treatment and medication management), consultation with teachers, families, and community partners to support student needs and understanding of mental health behaviors.

Based on findings from the California school administrators survey (UCSF School Health Evaluation & Research Team. 2022), common approaches for tier 1 services included social-emotional learning (SEL), Positive Behavioral Interventions and Supports (PBIS), and restorative justice practices. Implementation patterns varied by school level, with elementary schools more likely to use SEL and PBIS, and secondary

schools more likely to offer mental health awareness curricula or peer-led groups (Shelton and Owens 2021), (Zabek et al. 2022).

Multi-Tiered Systems of Supports

Multi-Tiered Systems of Support (MTSS) is a comprehensive, three-tiered framework used by schools to organize and deliver academic, behavioral, and mental health services that meet the varying needs of students. It emphasizes early identification, prevention, and increasingly intensive interventions based on student-specific data. MTSS is widely recognized as one of the most promising approaches for supporting student behavioral health, promoting well-being and social-emotional development for all students, regardless of diagnosis or risk level. Key components include universal screening, progress monitoring, data-driven decision-making, and a continuum of tiered supports (Mental Health Services Oversight and Accountability Commission. 2020).

The MTSS model is structured across three tiers. Tier 1 strategies are preventive and proactive supports provided to all students as part of regular school programming. These include school-wide practices such as social-emotional learning (SEL), positive discipline, trauma-sensitive classrooms, and behavioral health literacy. When implemented consistently, these approaches promote student well-being and academic success. About 80 percent of students are expected to respond well to Tier 1 supports without needing further intervention. Tier 2 interventions are designed for students with mild to moderate behavioral or social-emotional needs that go beyond what universal supports can address. These targeted services may include small group interventions, mentoring, classroom-based supports, or brief individualized strategies. Examples include cognitive behavioral therapy groups for anxiety or depression, social skills training, or "Check-in/Check-out" programs that offer regular adult support. These early interventions aim to prevent escalation of challenges and are typically appropriate for about 15 percent of students. Tier 3 provides individualized, intensive interventions for students whose needs cannot be met through Tier 1 or 2 supports. These services are tailored to the specific challenges a student is facing and often involve school-based or community mental health professionals. Supports may include evidence-based individual, group, or family therapy. Students at this level may also require additional assessments and coordinated care involving specialists like behavioral analysts, occupational therapists, or child psychiatrists. Approximately 5 percent of students are expected to need Tier 3 interventions (Crocker et al. 2023).

Funding for school-based mental health services in California

According to findings from the school district administrator survey, 2021-22 (UCSF School Health Evaluation & Research Team. 2022), schools rely on a range of funding sources to support mental health services, with the most commonly reported being the Local Control Funding Formula (75%). In the 2021–22 school year, 35% of administrators indicated using ESSER funds to expand mental health supports. However, only 23% reported billing Medi-Cal through the LEA Medi-Cal Billing Option Program—highlighting an underused funding stream. With the rollout of the Children and Youth Behavioral Health Initiative (CYBHI) multi-payer fee schedule, which enables reimbursement from both Medi-Cal managed care and private insurance plans, tracking shifts in Medi-Cal billing uptake will be critical for evaluating progress toward sustainable funding.

Below listed are some one-time funding sources investing in mental health services at schools in recent years (Children Now. 2023), (Burns et al. 2023):

Mental Health Student Services Partnership Grant Program (MHSSA): grant program is administered by California's Behavioral Health Services Oversight and Accountability Commission (BHSOAC). It funds partnerships between county behavioral health departments and schools to provide school-based mental health services and early intervention for students.

School-Linked Partnership and Capacity Grants: This is a component of the CYBHI. Grants support behavioral health services to students provided by schools, school affiliated CBOs, or school-based health centers.

Student Behavioral Health Incentive Program: This is a component of the CYBHI. Provides funding to Medi-Cal Managed Care Plans to infrastructure and capacity for school-based behavioral health services

Certified Wellness Coaches: Also a component of the CYBHI. A new workforce initiative to support students' mental health and well-being in schools.

Behavioral Health Continuum Infrastructure Program: Provides funds to school-linked health clinics in addition to other entities to increase capacity for behavioral health care.

California Community Schools Partnership Program: Discussed in the report

Full-Service Community Schools Program: This is a federal grant to support the planning and implementation of community schools, particularly for students in high-poverty or rural schools.

Project Cal-Well: Federally funded initiative administered by the California Department of Education (CDE). It aims to promote mental health awareness and access to services for students, families, and school staff through a mix of school-based prevention, early intervention, and training efforts.

Project CalHOPE: Federally and state-funded program administered by the California Department of Health Care Services (DHCS). It provides crisis counseling, emotional support, and outreach to individuals and communities impacted by stress, trauma, and disasters—offering free, culturally responsive mental health resources across the state

Appendix C. School district financial data

We use the Standardized Account Code Structure (SACS) data to gain insights into school district spending on mental health services. We use the SACS data from two years – 2018-19 and 2022-23 to look at the differences in characteristics of spending before and after the pandemic. The SACS data are school district financial records collected and maintained by the California Department of Education (CDE). These data provide detailed information on district revenues and expenditures, organized by standardized codes that classify spending by function (such as instruction, pupil services, and administration) and object (such as salaries, benefits, and contracts). Because all California districts use the same coding framework, the SACS data allow for consistent comparisons of spending patterns across districts and over time.

Limitations/Notes for SACS data analyses

The analysis is limited to unified and high school districts. As a result, we do not capture 7th grade students enrolled in elementary districts.

We exclude services in the psychological services (Function 3120) that are targeted for special education. This helps us identify services that are more focused on student mental health. But this also means that we're losing mental health services performed for students with IEPs who tend to have high rates of mental health challenges. Table 1 of Appendix C shows the number of elementary, unified and high school districts in the state that provide psychological services – both including and excluding special education related services. The majority of expenditures on psychological services goes for special education.

We include all health-related expenditures (Function 3140)—both physical and mental—because the financial data do not allow us to disaggregate these categories. Importantly, adolescent physical and mental health are closely linked: access to physical health care often supports early identification and treatment of mental health issues, and untreated physical conditions can contribute to psychological distress (Feiss and Pangelinan 2021).

Most districts report spending on psychological services

Between 70 and 80 percent of unified and high school districts reported spending on psychological services in both 2018–19 and 2022–23. Only psychological services outside of special education services are included in the analysis. The percentage of school districts spending on these services has slightly increased over the past five years, reflecting the pandemic-related funding directed toward student mental health services. By comparison, fewer elementary districts reported such spending. On the other hand, nearly all school districts reported some level of spending on health services, across all district types.

TABLE C1

Count of districts providing psychological services (special education related services included and not included) and health services for all three district types – unified, high school and elementary – Year 2023

District Type	N - Total	N – Districts providing psychological services including special education	N – Districts providing psychological services excluding special education	N – Districts providing health services
Elementary	514	369	241	439
High School	72	62	48	65
Unified	345	314	253	331

SOURCE: School District Annual Financial Data, 2023-24

TABLE C2

Median expenditure spent by districts providing psychological services (special education related services included and not included) and health services for all three district types – unified, high school and elementary – Year 2023

District Type	Median expenditure on psychological services including special education	Median expenditure on psychological services excluding special education	Median expenditure on health services
Elementary	352153	184108	156264
High School	1228217	569010	599476
Unified	1767681	460224	1137547

SOURCE: School District Annual Financial Data, 2023-24

TABLE C3

Count of districts providing psychological services (special education related services included and not included) and health services for all three district types – unified, high school and elementary – Year 2018

District Type	N - Total	N – Districts providing psychological services including special education	N – Districts providing psychological services excluding special education	N – Districts providing health services
Elementary	514	352	198	430
High School	72	62	50	67
Unified	344	307	236	325

SOURCE: School District Annual Financial Data, 2018-19

TABLE C4

Median expenditure spent by districts providing psychological services (special education related services included and not included) and health services for all three district types – unified, high school and elementary – Year 2018

District Type	Median expenditure on psychological services including special education	Median expenditure on psychological services excluding special education	Median expenditure on health services
Elementary	252246	155282	85365
High School	905659	283763	347298
Unified	1109201	264292	715775

SOURCE: School District Annual Financial Data, 2018-19

TABLE C5

School district size quartiles – Unified districts

Size Quartile	Enrollment Range (min-max)	Percent of students
Q1 (smallest)	26 – 2158	2.20
Q2	2163 – 5340	7.27
Q3	5358 – 14208	19.82
Q4 (largest)	14263 – 538295	70.7

Source: District enrollment data 2022-23, published by California Department of Education

TABLE C6

School district size quartiles – High School districts

Size Quartile	Enrollment Range (min-max)	Percent of students
Q1 (smallest)	66 – 1747	3.44
Q2	1854 – 4237	9.36
Q3	4326 – 10614	24.85
Q4 (largest)	11226 – 43020	62.35

Source: District enrollment data 2022-23, published by California Department of Education

TABLE C7

Expenditures for health and mental health services - unified and high school districts combined

	Total expenditure on health and mental health services in 2018	Total expenditure on health and mental health services in 2023	Difference between the two years

Per-student spending (weighted by total enrollment)	208.03	365.04	157.01
Median spending (district-level)	846170	1416833	570663
Percentage of total district expenditure (Median)	1.08	1.16	

SOURCE: School District Annual Financial Data, 2018-19 and 2023-24

Notes: The data includes expenditures on psychological services (excluding special education) and health services for both unified and high school districts.

Pandemic Relief Funds

During the COVID-19 pandemic, California school districts received substantial one-time funding of nearly $60 billion from federal and state sources to support educational recovery. Key federal programs included the Elementary and Secondary School Emergency Relief (ESSER) funds, distributed in three phases, and the American Rescue Plan (ARP) Act. The state also provided significant support through initiatives like the Expanded Learning Opportunities Grant (ELO-G).

Districts utilized these funds to address various needs, such as mitigating learning loss, enhancing health and safety measures, and supporting student well-being. Specifically, many districts invested in mental health services by hiring additional counselors, implementing social-emotional learning (SEL) programs, and expanding access to mental health resources for students. These investments aimed to address the heightened mental health challenges faced by students during the pandemic. Most of these one-time funds have expired in September 2024, including ESSER and ELO-G (Lafortune et al. 2023).

TABLE C8

Health and mental health related spending using ESSER and ELO grants in 2023

	ESSER Funds	ELO-G
N districts	384	252
Per-student spending (weighted by total enrollment)	59.06	16.4
Median spending (district-level)	86143	59658
Share of ESSER/ELO-G funds in district's spending on health and mental health services (Median)	6.64	4.60

Share of increase in per-student spending in 2023 on health and mental health services	37.6	10.4

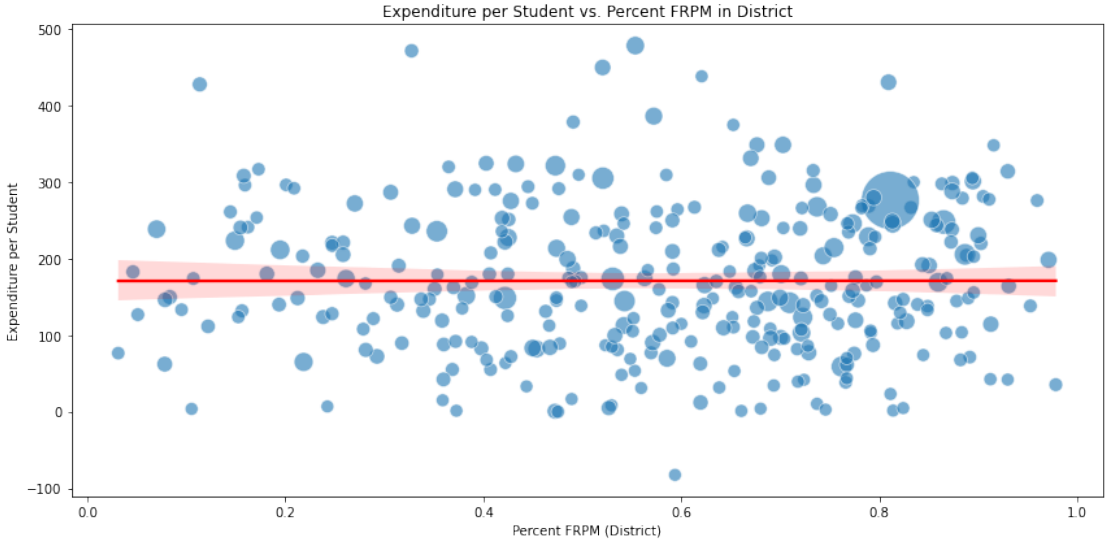
SOURCE: School District Annual Financial Data, 2018-19 and 2023-24

Notes: The data includes expenditures on psychological services (excluding special education) and health services for both unified and high school districts. The expenses using ESSER funds are identified using "Resource" codes - 3211, 3212, 3213 and 3214. The expenses under ELO-G are identified using "Resource" codes - 3216, 3217, 3218, 3219

Health spending did not vary with district poverty

FIGURE C1

Expenditure per student by share of students receiving FRPM in the district – Unified districts - 2018-19

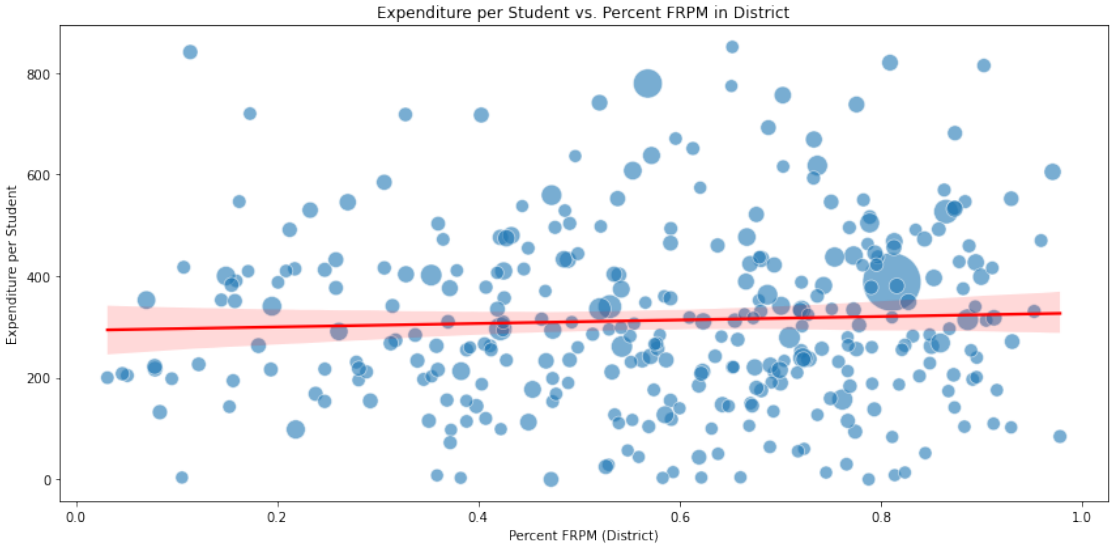


SOURCE: School District Annual Financial Data, 2018-19 a

NOTE: Chart includes all unified districts, bubble sizes reflect total district enrollment. Correlation coefficient = 0.0006, p= 0.99

FIGURE C2

Expenditure per student by share of students receiving FRPM in the district – Unified districts - 2023-24

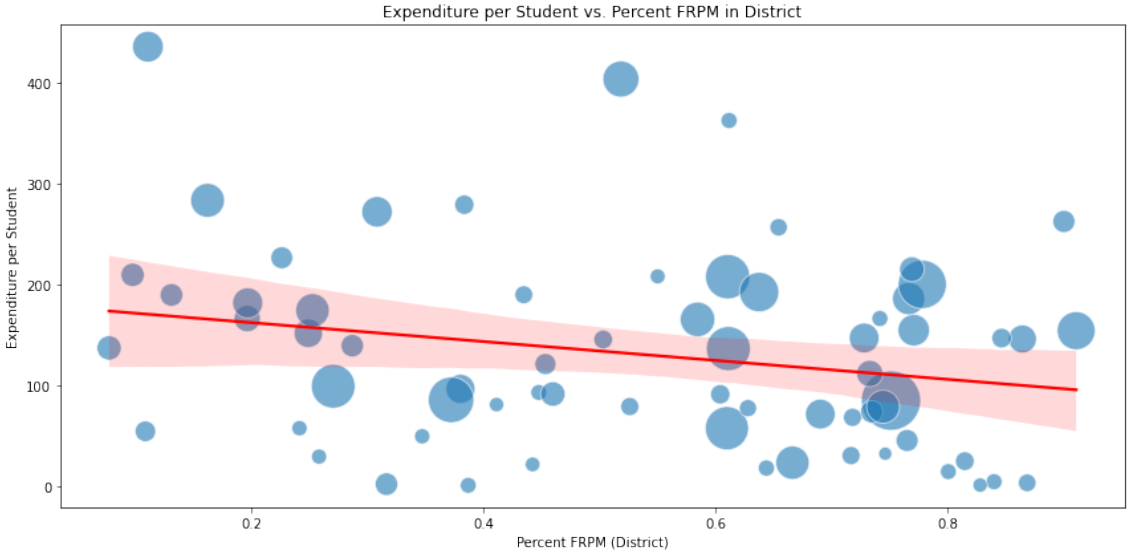


SOURCE: School District Annual Financial Data, 2023-24

NOTE: Chart includes all unified districts, bubble sizes reflect total district enrollment. Correlation coefficient = 0.03, p= 0.56

FIGURE C3

Expenditure per student by share of students receiving FRPM in the district - High School districts - 2018-19

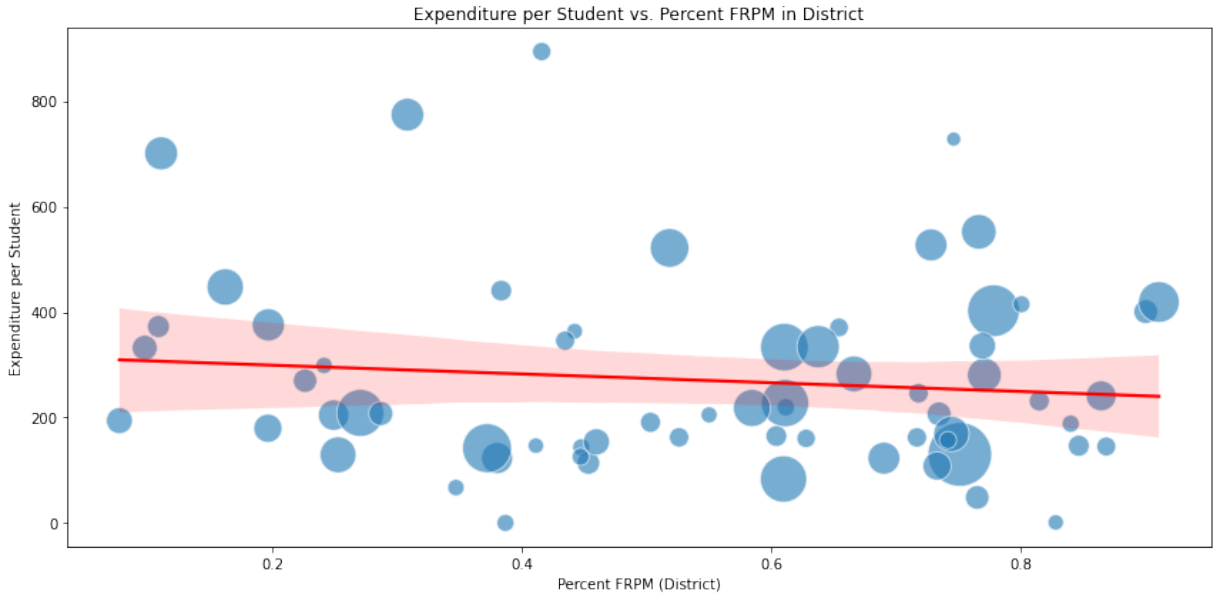


SOURCE: School District Annual Financial Data, 2018-19

NOTE: Chart includes all high school and Jr. high school districts, bubble sizes reflect total district enrollment. Correlation coefficient = -0.23, p= 0.059

FIGURE C4

Expenditure per student by share of students receiving FRPM in the district - High School districts - 2023-24



SOURCE: School District Annual Financial Data, 2023-24

NOTE: Chart includes all high school and Jr. high school districts, bubble sizes reflect total district enrollment. Correlation coefficient = -0.07, p= 0.57

Locale Classification:

We use the National Center for Education Statistics (NCES) locale classification to categorize districts into the four locale types. The NCES uses a standardized system to classify school locales based on proximity to urbanized areas and population density. The four main locale categories - City, Suburban, Town, and Rural - are further divided into subcategories based on size and distance from urban centers (e.g., City: Large, Midsize, Small) (Geverdt and Maselli 2024). This classification helps policymakers and researchers understand educational contexts in geographically diverse settings.

According to the locale classification criteria, City locales include schools located within principal cities of urbanized areas, with distinctions based on population size (Large: ≥250,000; Midsize: 100,000–249,999; Small: <100,000). Suburban locales refer to areas outside principal cities but still within urbanized areas, also divided by population size. Town locales are located within urban clusters and categorized by their distance from urbanized areas (Fringe, Distant, or Remote). Finally, Rural locales are situated outside both urbanized areas and urban clusters, with similar subcategories based on remoteness.

TABLE C9

Summary Table: Locale classification

LOCALE	N districts	Total enrollment	Percent enrolled
City	71	2115353	47.144805
Rural	85	150329	3.350378

Suburban	154	1941325	43.266249
Town	86	279920	6.238568

SOURCE: School District Annual Financial Data, 2022-23; National Center for Education Statistics (NCES) locale classification

Notes: This includes only unified and high school districts in the data

TABLE C10

Statewide total expenditures assigned to psychological services (Function 3120)

	2023-24			2018-19		
Filter type	All Districts	Unified/High only	Elementary only	All Districts	Unified/High only	Elementary only
All expenditures	563974878	419773544	144201334	288881147	208913243	79967904
Personnel only	526044994	388913491	137131503	280034610	203516127	76518483

SOURCE: School District Annual Financial Data, 2018-19 and 2023-24

TABLE C11

Statewide total expenditures assigned to health services (Function 3140)

	2023-24			2018-19		
Filter type	All Districts	Unified/High only	Elementary only	All Districts	Unified/High only	Elementary only
All expenditures	1517177918	1218652102	298525817	900102969	724860451	175242518
Personnel only	1266079909	1036682720	229397189	780652261	636834793	143817468

SOURCE: School District Annual Financial Data, 2018-19 and 2023-24

TABLE C12

State-level total expenditure assigned to personnel only objects in psychological services

year	Total spending on psychological services (State)	Total spending on personnel related objects within psychological services	Ratio of personnel related expenses to total spending (psychological services)
2023-24	419773544	388913491	0.93
2018-19	208913243	203516127	0.97

SOURCE: School District Annual Financial Data, 2018-19 and 2023-24

NOTES: This includes unified and high school districts that spent on psychological services (function 3120) outside of special education related activities.

TABLE C13

State-level total expenditure assigned to personnel only objects in health services

year	Total spending on health services (State)	Total spending on personnel related objects within health services	Ratio of personnel related expenses to total spending (health services)
2023-24	1218652102	1036682720	0.85
2018-19	7.25E+08	6.37E+08	0.88

SOURCE: School District Annual Financial Data, 2018-19 and 2023-24

NOTES: This includes unified and high school districts that spent on health services (function 3140)

TABLE C14

State-level total expenditure assigned to personnel only objects in health and mental health services

Year	Total spending on health and mental health services (state)	Total spending on personnel related objects within health and mental health services	Ratio of personnel related expenses to total spending
2023-24	1638425544	1425596491	0.85
2018-19	9.34E+08	8.4E+08	0.90

SOURCE: School District Annual Financial Data, 2018-19 and 2023-24

NOTES: This includes unified and high school districts that spent on psychological services (outside of special education) and/or health services.

TABLE C15

Ratio of Students to Pupil Support Service Personnel

Staff Type	California Ratio (2019-20)	Recommended ratio
School Counselor	626:1	250:1
School Psychologist	771:1*	500–700:1
School Nurse	2410:1	No formal national ratio, often cited as 750:1
School Social Worker	7308:1	250:1

SOURCES: Ratio of Students to Pupil Support Service Personnel, by Type of Personnel, Kidsdata.org, 2019. Sources for recommended ratios: School Counselor: American School Counselor Association, School Psychologist: National Association of School Psychologists, School Social Worker: National Association of Social Workers

NOTES: These ratios represent the number of students per one full-time equivalent (FTE) support staff member. The ratios are based on the most recent year of data (2019-20) published by the California Department of Education. * This is based on more up-to-date data for school psychologists available through the Common Core Data, National Center for Education Statistics, this ratio was 1041:1 in 2019-20.

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