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The Effect of Second Step on Elementary Students' Perceptions of a Healthy School Climate

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Executive Summary

This study evaluates the impact of the digital version of the Second Step universal program on elementary students' perceptions of a healthy school climate in California. Using statewide data and a rigorous quasi-experimental design with propensity score matching, the study focused on schools implementing Second Step with at least 60% fidelity, particularly highlighting those with 80% or higher fidelity. Results showed limited but meaningful positive effects: high-fidelity implementation was associated with statistically significant improvements in academic motivation, prosocial behavior, and parent involvement in schooling. No significant effects were found for other school climate dimensions like connectedness or anti-bullying climate, possibly due to systemic factors or measurement limitations. The study underscores the importance of strong implementation fidelity and suggests that targeted SEL programming can modestly enhance supportive learning environments, though broader systemic influences may affect some outcomes. Limitations include reliance on cross-sectional, self-reported data and potential unmeasured confounding. The authors recommend further longitudinal research and attention to implementation supports to maximize SEL benefits.

This study meets the What Works Clearinghouse evidence standards with reservations and the Collaborative for Academic, Social, and Emotional Learning (CASEL) Guide to Effective Social and Emotional Learning Programs design criteria by including a baseline equivalence comparison group and finding a significant effect on an outcome in the behavioral student outcome domain.

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The Effect of Second Step on Elementary Students' Perceptions of a Healthy School Climate

The Second Step program is a comprehensive, universal social–emotional learning (SEL) curriculum designed to foster the development of essential social and emotional skills in children. Developed by the Committee for Children, Second Step equips students with the tools necessary for emotional regulation, empathy, problem-solving, and effective communication. The curriculum is structured around several core components that include skills for SEL, bullying prevention, and child protection. These components are designed to be developmentally appropriate and are implemented across various grade levels, from preschool through middle school, ensuring that the content is tailored to the cognitive and emotional maturity of the students involved (Cook et al., 2018; Moy et al., 2018; Schonfeld et al., 2015).

The core components of the Second Step curriculum encompass a variety of instructional strategies aimed at enhancing students' social–emotional competencies. These include direct instruction in emotional awareness and regulation, the promotion of empathy through perspective-taking exercises, and the development of problem-solving skills through role-playing scenarios. Additionally, the curriculum emphasizes the importance of creating a safe and supportive school environment, which is crucial for effective learning and emotional growth. The integration of these components into daily classroom activities allows for a holistic approach to student development, fostering not only academic success but also positive interpersonal relationships and a healthy school climate (Langford, 2023; Skład et al., 2012).

Second Step Effects on Student Outcomes

Empirical literature examining the impacts of the Second Step program on student outcomes has yielded promising results. Several studies have demonstrated that participation in the Second Step curriculum is associated with improvements in academic achievement. For

instance, a randomized controlled trial by Cook et al. (2018) found that early elementary students who participated in the Second Step program exhibited small but significant improvements in academic-related outcomes, suggesting that SEL programs can have collateral benefits on academic performance when implemented effectively. Similarly, Schonfeld et al. (2015) reported that the Second Step program not only reduced risky behaviors among students but also had a positive influence on academic achievement, highlighting the interconnectedness of social–emotional skills and academic success.

In terms of behavioral outcomes, Second Step has been linked to reductions in aggressive behaviors and improvements in prosocial behaviors among students. A study by Low et al. (2019) demonstrated that students who participated in the Second Step program showed significant decreases in behavioral problems over time, indicating the program's effectiveness in promoting positive behavior and reducing conduct issues. Furthermore, the program's emphasis on emotional regulation and interpersonal skills has been shown to mitigate the risk of developing behavioral disorders, which is particularly important in addressing the needs of at-risk populations (Langford, 2023).

The impact of the Second Step program extends beyond immediate behavioral changes; it also fosters long-term social–emotional development. Research indicates that the skills learned through the program can lead to sustained improvements in students' social competence and emotional well-being, which are critical for their overall development and future success (Moy et al., 2018; Skład et al., 2012). This is particularly relevant in the context of preventing the school-to-prison pipeline, as effective SEL programs like Second Step can disrupt patterns of behavior that may lead to negative outcomes in adolescence and adulthood (Langford, 2023).

Further, research indicates that the Second Step program contributes to a positive school climate. Research suggests that universal interventions like Second Step can enhance students' social competence, which is vital for fostering a supportive and inclusive school environment (Moy et al., 2018). The program's focus on empathy and conflict resolution equips students with the skills necessary to navigate social interactions more effectively, thereby reducing instances of bullying and promoting a culture of respect and cooperation within the school community (Skład et al., 2012). This aligns with findings from Durlak and colleagues, who conducted a meta-analysis of various SEL programs and found that such interventions significantly improve students' social and emotional skills, attitudes, and behaviors, which are critical for a positive school climate (Durlak et al., 2011).

Purpose

The Second Step SEL curriculum addresses the multifaceted needs of students by teaching them essential social and emotional skills. By fostering a supportive learning environment and equipping students with the necessary tools to navigate their social worlds, the Second Step program plays a crucial role in promoting holistic student development and well-being. The

research supports its effectiveness in enhancing student outcomes across various domains, including academic performance, behavioral adjustments, and school climate. In this study, we provide additional evidence of Second Step's impacts on student outcomes by examining the impacts of Second Step on elementary students' perceptions of a healthy school climate. The study was guided by the following research question: What is the impact of Second Step when implemented with fidelity on students' perceptions of a healthy school climate relative to business-as-usual SEL implementation in elementary schools?

Method

Unlike prior studies, we used statewide implementation data, identifying schools that implemented Second Step, and compared student perceptions of a healthy school climate from a measure administered statewide and unrelated to Second Step using a rigorous quasi-experimental design approach that meets What Works Clearinghouse (WWC) evidence standards with reservations.

Sample

We reviewed Second Step implementation for all schools in California and merged these data with school-level demographics from the National Center for Educational Statistics (NCES), school-level reading achievement data from the California Department of Education (CDE), and student-level California Healthy Kids Survey (CHKS) data from CDE. During the 2022–2023 school year, 3,117 schools had active Second Step licenses: 2,040 elementary schools and 1,077 middle schools. In this study, we focused only on elementary schools. We merged the Second Step dataset with the California County, District, and School Code (CDS Code) from CDE. We successfully matched 95% (2,964) of Second Step school names with CDS Codes. Some schools did not match because the schools were private schools or the information was incomplete. We then merged the Second Step data with school demographics for all schools in California from the NCES and reading achievement data from CDE using the CDS Code. Finally, we reduced the school-level dataset to include only schools that implemented at least 60% of the Second Step lessons. We did this to (a) ensure that we conducted a treatment on the treated analysis, and (b) remove all schools from the dataset that purchased Second Step, but did not implement it with fidelity, so that students in those schools could not be in the comparison group. This approach resulted in 300 elementary schools implementing Second Step with fidelity.

Approximately 70% of school districts and 50% of schools in California use the CHKS (CDE, 2025); therefore, not all schools that used Second Step had CHKS available. We merged the school-level dataset with the student-level CHKS data. The final analytic elementary dataset

included 4,357 students in grades 3 to 6 in 79 elementary schools that implemented Second Step with fidelity and used the CHKS.

Measures

Second Step Fidelity

One approach to measuring the fidelity of implementation of Second Step is to track lesson completion using digital tracking through Second Step's online platform. Teachers log in to the Second Step portal to access their lessons. Each time a lesson is completed, the system automatically records the completion or prompts the teacher to mark it as complete. Teachers can generate completion reports by classroom or grade level, and these reports can be accessed by school SEL coordinators or administrators. For this study, we defined fidelity as completing at least 60% of the assigned lessons. We also created an additional fidelity group focusing on high fidelity implementers, defined as 80% or greater completion.

The California Healthy Kids Survey

The CHKS is a statewide, school-based survey developed by WestEd in collaboration with the CDE. It is designed to assess students' health behaviors, school climate, and social–emotional well-being. The CHKS is designed for students in elementary and secondary grades, and includes validated measures related to substance use, mental health, school connectedness, perceived safety, and developmental supports (WestEd, 2023). The survey is anonymous, voluntary, and typically completed online during the school day.

For the present study, we used data from the 2022–2023 CHKS administration, focusing on the elementary Core Modules. The CHKS includes distinct versions tailored to elementary students to ensure age-appropriate content and readability (WestEd, 2023). The elementary version of the CHKS is a simplified, developmentally appropriate instrument designed specifically for 5th grade students. It focuses on topics such as school connectedness, perceived safety, caring adult relationships, bullying and harassment, and basic health behaviors (e.g., nutrition, physical activity). It avoids sensitive content related to substance use and mental health symptoms, recognizing that younger students may not yet encounter or understand these topics. The language is written at approximately a 3rd to 4th grade reading level, and the format often includes simpler question structures and fewer response options (e.g., yes and no or three-point scales). The 2022–2023 CHKS includes data from students in elementary schools in grades 3–6, suggesting that schools included students in those grades. For this study, we included all grade levels for our analyses.

The multi-item scales and reliability estimates are presented in Table 2. The CHKS has been administered in over 5,000 California schools and is one of the most widely used tools in the nation for monitoring youth well-being and informing school improvement. It has undergone

extensive psychometric validation and is aligned with the state's Whole Child and Multi-Tiered System of Support (MTSS) initiatives. Descriptive statistics for all subscales are provided in Table 3.

California Statewide Reading Achievement Measure

California elementary school reading achievement is measured using the Smarter Balanced Summative Assessment for English Language Arts/Literacy (SBAC ELA), part of the California Assessment of Student Performance and Progress (CAASPP) system. The SBAC ELA is a standardized assessment administered annually to students in grades 3 through 8 and grade 11. It is aligned with the Common Core State Standards (CCSS) and is designed to assess students' proficiency in reading, writing, listening, and research/inquiry.

The assessment is computer-adaptive, meaning that the difficulty of items adjusts in real time based on student responses. It includes both selected-response and constructed-response items, as well as performance tasks that require students to analyze texts and produce extended written responses. The assessment yields scale scores that correspond to four performance levels: Standard Not Met, Standard Nearly Met, Standard Met, and Standard Exceeded.

For research and accountability purposes, schools often report the percentage of students who met or exceeded the standard as a summary indicator of reading achievement. This indicator is widely used in California's School Dashboard, Local Control and Accountability Plans (LCAPs), and statewide research. We also used this approach, using the percentage of students who meet or exceed the standard.

The SBAC ELA has undergone extensive psychometric validation. According to the Smarter Balanced Technical Report, the internal consistency reliability (Cronbach's alpha) for the ELA scale scores in grades 3–6 is high, typically ranging from 0.90 to 0.92, indicating strong measurement precision. The assessment also demonstrates strong content and construct validity due to its alignment with the CCSS and comprehensive test design.

Data Analysis

Propensity Score Matching

First, we used propensity score matching (PSM) to balance covariates between treated and control groups and establish baseline equivalence on available student and school-level covariates. We estimated propensity scores using a logistic regression model, where the treatment indicator (Second Step) was regressed on a set of student-level and school-level covariates. Student-level covariates included grade level, gender, and race/ethnicity. School-level covariates included school enrollment size, locale classification (urban, suburban, town,

rural), percentage of students eligible for free or reduced-price lunch (FRPL), and school demographics (proportion of students identifying as male, American Indian, Asian, Hispanic, Black, White, and attending a magnet school). Matching was performed using nearest neighbor matching (1:1 ratio) without replacement, implemented via the MatchIt package in R (Ho et al., 2011). Balance between groups before and after matching was assessed using standardized mean differences (SMDs), with SMDs less than 0.05 considered equivalent. Any covariates with SMDs greater than 0.05, but less than 0.25, must be adjusted for in a statistical model. Covariates with SMDs greater than 0.25 are not equivalent. Additionally, to meet the WWC standards with reservations when a pretest is not available, like in this study where the CHKS responses are anonymous and cannot be matched to prior years, a study must include (a) a broad, approximately continuous, and standardized measure of student academic readiness, knowledge, or skills, and (b) at least two student characteristics, including grade level and race/ethnicity (WWC, 2024, pp. 54–55) to satisfy the baseline equivalence standard. The matched dataset was used for all subsequent analyses to reduce potential confounding effects, ensuring comparability between groups and that the analyses met WWC standards with reservations.

Multilevel Modeling

To account for the nested structure of the data, where students were clustered within schools, and schools were nested within districts and counties, we employed linear mixed-effects models (LMMs) using the lmer function from the lme4 package in R (Bates et al., 2015). The CHKS subscale scores were all positively skewed; therefore, we used square root transformation for all dependent variables in all models to better approximate normality. We then estimated the following three-level hierarchical model:

$$\text{CHKS\_subscale}_{ijk}=\beta_0+\beta_1\text{SecondStep}_{ijk}+\sum\beta_x X_{ijk}+u_k+v_j+w_i+\varepsilon_{ijk}$$

where

- *i* represents students, *j* represents schools, and *k* represents districts
- β_o is the fixed intercept
- β_1 is the fixed effect of Second Step participation
- X_{ijk} represents additional covariates (e.g., demographics, FRPL status)
- *uk*, *vj*, and *wi* are random intercepts at the county, district, and school levels, respectively
- ε_{ijk} is the residual variance

We included all covariates in the models to ensure we controlled for any differences between the groups that exceeded .05 standard deviation units per recommendations from the What Works Clearinghouse (WWC, 2024).

Effect Size Calculation. We calculated standardized mean difference effect sizes (Cohen's d) for statistically significant treatment effects. Specifically, we used the standardized coefficients adjusted for the multilevel structure of the data using the formula:

$$d = \beta / \sigma_{total}$$

where β represents the fixed effect estimate and σ_{total} is the total standard deviation of the model, incorporating both residual and random effect variances:

$$\sigma_{total} = sqrt(\sigma^2_{residual} + \sigma^2_{school} + \sigma^2_{district} + \sigma^2_{county})$$

Kraft (2020) suggested that in real-world educational settings, especially in school-based interventions, effect sizes tend to be smaller but still meaningful. Therefore, he recommended the following benchmarks for interventions in education: $d \sim 0.05$ to 0.20 small, $d \sim 0.20$ to 0.40 medium, and $d > .40$ large. All analyses were conducted in R (R Core Team, 2023).

Results

Establishing Baseline Equivalence

We used PSM to identify a baseline equivalent comparison group to meet the WWC standards with reservations. As noted above, SMD must be below 0.25 and include the following: (a) a broad, approximately continuous, and standardized measure of student academic readiness, knowledge, or skills, and (b) at least two characteristics, including grade-level and race/ethnicity. We note that grade-level and race/ethnicity are at the student-level and reading achievement is at the school, or cluster, level. Per the WWC (2024), "If the study cannot satisfy the individual-level baseline equivalence standard, satisfying the cluster-level baseline equivalence standard is sufficient instead" (p. 60).

We used one-to-one matching and matched the 3,902 elementary students in schools using Second Step and completing the CHKS to 3,902 elementary students in schools not using Second Step.

Table 1 presents the characteristics for the students and schools for the PSM comparison group, the full treatment group (60% fidelity or greater), and characteristics for students in schools with 60% to 79% fidelity, and for students and schools with 80% or greater fidelity. We used the values in Table 1 and calculated SMD effect sizes, adjusting the formula for

dichotomous outcomes (Cohen, 1988) for all student-level outcomes. The SMDs are presented in Table 4. All comparisons established baseline equivalence ($d < 0.25$) except the comparison between the PSM comparison group and the 60–79% fidelity group. To ensure we met the WWC standards with reservations, we included all covariates in the statistical models.

Treatment Effect Models

We estimated a series of multilevel models to compare the PSM comparison group to students in schools that used Second Step with at least 60% fidelity, and then a series of models that compared the PSM comparison group to students in schools at different fidelity levels. First, we estimated an empty model to calculate the Intraclass Correlation Coefficient (ICC) and then a full model with all covariates. We found no statistically significant treatment effects for any CHKS outcome when we focused on the full treatment group (Tables available upon request). Then, we estimated the same series of models but using the two fidelity groups as the independent variable. These results are presented in Tables 5–16. Across all the models, we found three statistically significant treatment effects. We found a statistically significant, positive treatment effect for students in schools using Second Step with at least 80% fidelity on academic motivation, prosocial behavior, and parent involvement in schooling. We then calculated the standardized mean difference effect size (d) for the statistically significant outcomes using the covariate-adjusted fixed effect. The effect sizes were 0.15 standard deviation units for academic motivation, 0.13 standard deviation units for positive behavior, and 0.10 standard deviation units for parent involvement in schooling.

Discussion

The present study examined the impact of the Second Step SEL program, when implemented with fidelity, on elementary students' perceptions of a healthy school climate. Using statewide data and a rigorous PSM design that meets WWC standards with reservations, we found limited but meaningful evidence of positive program effects. Specifically, students in schools that implemented Second Step with at least 80% fidelity reported significantly higher levels of academic motivation, prosocial behavior, and parental involvement in schooling compared to a matched sample of peers in non-implementing schools. These findings suggest that implementation fidelity may be a critical moderator in the relationship between SEL programming and school climate perceptions.

Although we did not detect statistically significant effects across most CHKS outcomes, the observed improvements in three domains are noteworthy. The largest effect was found for academic motivation ($d = 0.15$), followed by prosocial behavior ($d = 0.13$) and parent involvement in schooling ($d = 0.10$). While modest, these effects fall within the range of what Kraft (2020) considers meaningful in educational intervention research, particularly in real-world school settings where effects tend to be smaller but still relevant. The results align with

prior findings (e.g., Cook et al., 2018; Schonfeld et al., 2015), demonstrating that SEL programs can enhance academic and behavioral outcomes when implemented with fidelity.

These findings have several implications for practice. First, they underscore the importance of ensuring strong implementation fidelity when scaling SEL interventions. Districts and schools investing in SEL curricula like Second Step should not only provide training but also monitor and support implementation to achieve the desired outcomes. Fidelity tracking systems, including the completion reports on the online platform, and ongoing coaching may help sustain implementation quality over time. Second, the improvements in academic motivation and prosocial behavior provide evidence that SEL programming can support students' internal drivers of success and promote a more respectful and cooperative school environment—both of which are essential for academic and social flourishing.

Interestingly, no significant effects were found in domains such as school connectedness, fairness, staff-student relationships, or anti-bullying climate. One potential explanation is that these dimensions of school climate may be more strongly shaped by broader systemic factors (e.g., school leadership, staffing stability) or require more intensive and sustained intervention to shift perceptibly. Alternatively, it is possible that the CHKS measures, while well-validated, may not fully capture subtle improvements in these areas over a single school year, particularly among younger students. The lack of significant effects in these domains may also reflect ceiling effects, as baseline scores for many outcomes were already relatively high.

A key strength of this study is its use of statewide, policy-relevant data and a quasi-experimental design that carefully accounted for potential confounding factors. By limiting the treatment group to schools implementing at 60% fidelity or higher and adjusting for all covariates with baseline differences exceeding 0.05 SMDs, the study provides more robust causal inference than many prior observational evaluations of SEL programs. Additionally, our use of multilevel modeling allowed us to account for the nested structure of the data (students within schools within districts and counties), improving the precision and validity of our estimates.

Limitations

Several limitations should be noted. First, the CHKS is an anonymous, cross-sectional survey, which prevents us from assessing changes over time or linking individual-level pretest and posttest data. Second, while our models adjusted for a broad range of covariates, unmeasured confounding cannot be entirely ruled out. Third, the study relied on self-reported perceptions of school climate, which may be influenced by students' social desirability or their awareness of program participation. Fourth, schools voluntarily opting to implement Second Step may differ

in unobservable ways from those that do not, which, even after matching, could bias the estimated effects.

Future research should explore the longitudinal effects of Second Step using panel designs or repeated CHKS administrations when available. It may also be fruitful to examine how school-level implementation supports, such as coaching, leadership engagement, or professional learning communities, moderate program impacts. Moreover, research could explore how specific components of the Second Step curriculum (e.g., emotion regulation, perspective-taking) are differentially related to various school climate outcomes. Finally, given the modest but meaningful impacts detected in this study, replication in other states and student populations is warranted.

Conclusion

This study provides additional evidence that high-fidelity implementation of Second Step can positively affect students' perceptions of academic motivation, prosocial behavior, and parental involvement in schooling. While effect sizes were modest, they are consistent with real-world SEL intervention benchmarks and demonstrate that targeted SEL programming can contribute to more supportive learning environments. For policymakers and educators, these findings emphasize the need to invest not only in SEL curricula but also in the systems and supports required to implement them effectively and equitably.

References

Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *Journal of Statistical Software*, *67*(1), 1–48.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cook, C., Low, S., Buntain-Ricklefs, J., Whitaker, K., Pullmann, M., & Lally, J. (2018). Evaluation of second step on early elementary students' academic outcomes: a randomized controlled trial. *School Psychology Quarterly*, *33*(4), 561–572. https://doi.org/10.1037/spq0000233

Durlak, J., Weissberg, R., Dymnicki, A., Taylor, R., & Schellinger, K. (2011). The impact of enhancing students' social and emotional learning: a meta‐analysis of school-based universal interventions. *Child Development*, *82*(1), 405–432. https://doi.org/10.1111/j.1467-8624.2010.01564.x

Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2011). MatchIt: Nonparametric preprocessing for parametric causal inference. *Journal of Statistical Software*, *42*(8), 1–28.

Kraft, M. A. (2020). Interpreting Effect Sizes of Education Interventions. *Educational Researcher*, *49*(4), 241–253. https://doi.org/10.3102/0013189X20912798

Langford, M. (2023). Preparing preservice teachers to implement SEL strategies. *Journal of Student Research*, *12*(3). https://doi.org/10.47611/jsr.v12i3.1980

Low, S., Smolkowski, K., Cook, C., & Desfosses, D. (2019). Two-year impact of a universal social-emotional learning curriculum: group differences from developmentally sensitive trends over time. *Developmental Psychology*, *55*(2), 415–433. https://doi.org/10.1037/dev0000621

Moy, G., Polanin, J., McPherson, C., & Phan, T. (2018). International adoption of the second step program: moderating variables in treatment effects. *School Psychology International*, *39*(4), 333–359. https://doi.org/10.1177/0143034318783339

R Core Team (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing, Vienna, Austria.

Schonfeld, D., Adams, R., Fredstrom, B., Weissberg, R., Gilman, R., Voyce, C., … & Speese-Linehan, D. (2015). Cluster-randomized trial demonstrating impact on academic achievement of elementary social-emotional learning. *School Psychology Quarterly*, *30*(3), 406–420. https://doi.org/10.1037/spq0000099

Skład, M., Diekstra, R., Ritter, M., Ben, J., & Gravesteijn, C. (2012). Effectiveness of school-based universal social, emotional, and behavioral programs: do they enhance students' development in the area of skill, behavior, and adjustment? *Psychology in the Schools*, *49*(9), 892–909. https://doi.org/10.1002/pits.21641

WestEd. (2023). *California Healthy Kids Survey: Core and Module Descriptions*. California Department of Education. https://calschls.org/

What Works Clearinghouse. (2024). *WWC standards handbook version 5.0*. U.S. Department of Education, Institute of Education Sciences. https://ies.ed.gov/ncee/wwc/Docs/referenceresources/wwc_standards_handbook_v5.pdf

Table 1. Propensity Score Matched Sample Descriptives

Variable	PSM Comparison n = 3,902	Second Step n = 3,902	Fidelity n = 2,793	High Fidelity n = 1,109
	n (%)	*n* (%)	*n* (%)	*n* (%)
Grade				
3	260 (6.7%)	177 (4.5%)	111 (4.0%)	66 (6.0%)
4	196 (5.0%)	225 (5.8%)	156 (5.6%)	69 (6.2%)
5	3,271 (84%)	3,300 (85%)	2,378 (85%)	922 (83%)
6	175 (4.5%)	200 (5.1%)	148 (5.3%)	52 (4.7%)
Ethnicity				
American Indian	285 (7.3%)	165 (4.2%)	117 (4.2%)	48 (4.3%)
Asian	848 (22%)	787 (20%)	522 (19%)	265 (24%)
Black	327 (8.4%)	213 (5.5%)	130 (4.7%)	83 (7.5%)
Hispanic	1,397 (36%)	1,537 (39%)	1,147 (41%)	390 (35%)
Native Hawaiian/ Pacific Islander	95 (2.4%)	49 (1.3%)	39 (1.4%)	10 (0.9%)
White	1,159 (30%)	1,104 (28%)	791 (28%)	313 (28%)
Locale				
Urban	1,785 (46%)	1,777 (46%)	1,505 (54%)	272 (25%)
Suburban	1,533 (39%)	1,513 (39%)	924 (33%)	589 (53%)
Town	433 (11%)	485 (12%)	256 (9.2%)	229 (21%)
Rural	151 (3.9%)	127 (3.3%)	108 (3.9%)	19 (1.7%)
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*
School Enrollment	468 (150)	482 (117)	487 (115)	469 (121)
% FRPL	0.51 (0.31)	0.51 (0.32)	0.52 (0.32)	0.48 (0.31)
% Male	0.513 (0.026)	0.514 (0.022)	0.515 (0.022)	0.511 (0.023)
% AI	0.0025 (0.0040)	0.0026 (0.0054)	0.0028 (0.0060)	0.0022 (0.0031)
% Asian	0.18 (0.20)	0.17 (0.21)	0.16 (0.20)	0.20 (0.25)
% Hispanic	0.54 (0.32)	0.54 (0.33)	0.56 (0.33)	0.51 (0.35)
% Black	0.03 (0.04)	0.02 (0.05)	0.02 (0.03)	0.04 (0.07)
% White	0.18 (0.18)	0.18 (0.19)	0.19 (0.19)	0.18 (0.19)
% or Standard Met or Above: Reading	0.50 (23.9)	0.53 (22.3)	0.52 (22.0)	0.54 (23.1)

Note. FRPL is free and reduced-price lunch, AI is American Indian

Table 2. California Healthy Kids Survey (Elementary) – Subscale Overview

Subscale	# of Items	Sample Items	Reliability
School Connectedness	4	• Do you feel close to people at school? • Are you happy to be at this school? • Do teachers treat students fairly at school?	0.68
Caring Staff-Student Relationship	6	• Do the teachers and other grown-ups at school care about you? • Do they listen when you have something to say? • Do they try to know you?	0.79
School High Expectations	3	• Do teachers tell you when you do a good job? • Do they believe in you? • Do they want you to do your best?	0.73
Student Meaningful Participation	7	• Are you asked about your ideas? • Do you get to help decide activities? • Do you do helpful things at school?	0.75
Overall School Environment	Composite	(Combination of School Connectedness, Caring Relationships, High Expectations, Meaningful Participation)	0.74
Home High Expectations	2	• Do your parents expect you to do your best? • Do they believe you will succeed?	0.70
Academic Motivation	4	• I try hard to be good at schoolwork. • I keep working even when it's hard. • I feel good when I learn something new.	0.76
Fairness	4	• Are students treated fairly when they break rules? • Are students treated fairly regardless of race or gender?	0.72
Social Emotional Learning Support	4	• Is there an adult who helps you solve problems? • Do teachers teach you to solve arguments? • Do teachers help you calm down?	0.75
Antibullying Climate	3	• Do teachers make it clear bullying isn't allowed? • Are students taught that bullying isn't allowed? • Is there an adult you can talk to?	0.61
Prosocial Behavior	4	(Items reflect encouragement and modeling of prosocial behavior by staff and students)	0.78
Parent Involvement in Schooling	5	(Items reflect communication and involvement between families and school staff)	0.71

Note. Reliability from 2017–2018 Elementary CHKS.

Source: https://calschls.org/docs/measurementstructurecalschls_final.pdf

Table 3. Descriptive Statistics for Dependent Variables

	PSM Comparison		Fidelity		High Fidelity	
Variable	M	SD	M	SD	M	SD
Academic Motivation	0.82	0.28	0.85	0.25	0.87	0.24
Antibullying Climate	0.73	0.29	0.74	0.28	0.73	0.29
School Connectedness	0.71	0.29	0.74	0.28	0.73	0.28
Fairness	0.71	0.32	0.73	0.31	0.73	0.30
Parent High Expectations	0.94	0.20	0.95	0.18	0.95	0.19
Prosocial Behavior	0.91	0.22	0.92	0.19	0.94	0.16
Parental Involvement in Schooling	0.74	0.26	0.75	0.26	0.77	0.25
Overall School Environment	0.64	0.25	0.66	0.25	0.65	0.24
Caring Staff-Student Relationship	0.69	0.35	0.71	0.35	0.70	0.34
Support for Social/Emotional Learning	0.75	0.30	0.75	0.31	0.74	0.32
School High Expectations	0.83	0.27	0.84	0.26	0.84	0.26
Student Meaningful Participation	0.41	0.27	0.44	0.29	0.43	0.27

Note. PSM is propensity score matching

Table 4. Baseline Equivalence

Variable	PSM vs. Second Step	PSM vs. Fidelity	PSM vs. High Fidelity
Student-level			
Grade 3	-0.09	-0.12	-0.02
Grade 4	0.03	0.02	0.05
Grade 5	0.02	0.02	-0.02
Grade 6	0.02	0.03	0.01
American Indian	-0.13	-0.13	-0.12
Asian	-0.04	-0.07	0.04
Black	-0.11	-0.15	-0.03
Hispanic	0.06	0.10	-0.02
Native Hawaiian/Pacific Islander	-0.08	-0.07	-0.11
White	-0.04	-0.04	-0.04
School (Cluster)			
School Enrollment	-0.10	-0.14	0.01
% FRPL	0.00	-0.03	0.10
% Male	-0.04	-0.08	0.08
% American Indian	-0.02	-0.05	0.07
% Asian	0.05	0.10	-0.08
% Hispanic	0.00	-0.06	0.09
% Black	0.22	0.31	-0.19
% White	0.00	-0.05	0.00
% Standard Met (Reading)	-0.01	-0.08	-0.17

Table 5. Multilevel Models for School Connectedness

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.81	0.79 – 0.82	**<0.001**	0.93	0.67 – 1.20	**<0.001**
Second Step 60	0.01	-0.01 – 0.04	0.342	0.01	-0.01 – 0.04	0.200
Second Step 80	0.01	-0.03 – 0.04	0.723	0.01	-0.02 – 0.04	0.565
4th Grade				-0.03	-0.07 – 0.00	0.055
5th Grade				-0.04	-0.07 – -0.02	**0.002**
6th Grade				-0.08	-0.12 – -0.04	**<0.001**
American Indian				-0.01	-0.03 – 0.01	0.365
Asian				0.02	0.00 – 0.03	**0.012**
Black				-0.03	-0.05 – -0.01	**0.005**
Hispanic				0.00	-0.01 – 0.02	0.769
Hawaiian/Pacific Islander				-0.01	-0.05 – 0.03	0.530
White				0.01	-0.00 – 0.02	0.163
School Enrollment				0.00	-0.00 – 0.00	0.405
Suburban				-0.01	-0.03 – 0.01	0.353
Town				-0.01	-0.04 – 0.03	0.708
Rural				0.01	-0.03 – 0.05	0.674
% FRPL				-0.07	-0.14 – 0.00	0.053
% Male				0.14	-0.19 – 0.47	0.391
% American Indian				-0.81	-2.51 – 0.89	0.352
% Asian				-0.20	-0.42 – 0.01	0.062

% Hispanic				-0.14	-0.34 – 0.05	0.149
% Black				-0.46	-0.77 – -0.14	**0.004**
% White				-0.18	-0.42 – 0.05	0.127
Reading Achievement				0.00	-0.00 – 0.00	0.066
Random Effects						
σ2	0.05			0.05		
τ00	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.09					
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R2 / Conditional R2	0.001 / 0.089			0.041 / NA		

Table 6. Multilevel Models for Caring Staff-Student Relationship

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.77	0.75 – 0.78	**<0.001**	0.74	0.40 – 1.09	**<0.001**
Second Step 60	0.00	-0.03 – 0.04	0.783	0.00	-0.02 – 0.03	0.815
Second Step 80	0.01	-0.03 – 0.05	0.681	0.01	-0.03 – 0.05	0.639
4th Grade				-0.07	-0.12 – -0.02	**0.004**
5th Grade				-0.07	-0.11 – -0.03	**<0.001**
6th Grade				-0.12	-0.17 – -0.06	**<0.001**
American Indian				-0.02	-0.05 – 0.01	0.299
Asian				0.01	-0.01 – 0.03	0.272
Black				-0.01	-0.04 – 0.01	0.324
Hispanic				-0.01	-0.02 – 0.01	0.498
Hawaiian/Pacific Islander				-0.04	-0.10 – 0.01	0.106
White				0.01	-0.01 – 0.03	0.316
School Enrollment				-0.00	-0.00 – 0.00	0.375
Suburban				-0.03	-0.06 – -0.01	**0.020**
Town				-0.01	-0.06 – 0.03	0.502
Rural				-0.02	-0.08 – 0.03	0.454
% FRPL				-0.07	-0.16 – 0.02	0.148
% Male				0.27	-0.16 – 0.70	0.218
% American Indian				0.04	-2.20 – 2.29	0.970
% Asian				-0.14	-0.42 – 0.14	0.311
% Hispanic				0.00	-0.25 – 0.25	0.999

% Black				-0.37	-0.79 – 0.04	0.076
% White				-0.09	-0.40 – 0.21	0.545
Reading Achievement				0.00	0.00 – 0.00	**0.001**
Random Effects						
σ^2	0.09			0.09		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.06					
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.000 / 0.064			0.026 / NA		

Table 7. Multilevel Models for School High Expectations

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.89	0.88 – 0.90	**<0.001**	0.87	0.66 – 1.08	**<0.001**
Second Step 60	-0.00	-0.02 – 0.02	0.911	0.00	-0.01 – 0.02	0.803
Second Step 80	-0.00	-0.03 – 0.02	0.688	0.00	-0.02 – 0.02	0.980
4th Grade				-0.04	-0.07 – -0.00	**0.029**
5th Grade				-0.03	-0.06 – -0.01	**0.015**
6th Grade				-0.04	-0.07 – -0.00	**0.041**
American Indian				-0.02	-0.04 – 0.00	0.081
Asian				0.01	-0.00 – 0.03	0.129
Black				0.00	-0.02 – 0.02	0.720
Hispanic				0.00	-0.01 – 0.02	0.461
Hawaiian/Pacific Islander				-0.02	-0.06 – 0.01	0.194
White				0.00	-0.01 – 0.02	0.464
School Enrollment				-0.00	-0.00 – 0.00	0.490
Suburban				-0.01	-0.03 – 0.01	0.270
Town				-0.00	-0.03 – 0.02	0.913
Rural				0.00	-0.03 – 0.04	0.901
% FRPL				0.02	-0.04 – 0.08	0.516
% Male				0.06	-0.20 – 0.32	0.665
% America Indian				-1.11	-2.49 – 0.26	0.112
% Asian				-0.05	-0.22 – 0.12	0.554
% Hispanic				-0.02	-0.18 – 0.13	0.764

% Black				-0.19	-0.44 – 0.06	0.142
% White				-0.02	-0.20 – 0.17	0.869
Reading Achievement				0.00	0.00 – 0.00	**<0.001**
Random Effects						
σ^2	0.04			0.04		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.03					
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.000 / 0.033			0.015 / NA		

Table 8. Multilevel Models for School Student Meaningful Participation

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.58	0.57 – 0.59	**<0.001**	0.57	0.25 – 0.88	**<0.001**
Second Step 60	0.02	-0.01 – 0.04	0.239	0.02	-0.01 – 0.05	0.153
Second Step 80	0.02	-0.02 – 0.05	0.311	0.02	-0.02 – 0.06	0.273
4th Grade				-0.05	-0.09 – -0.01	**0.013**
5th Grade				-0.06	-0.10 – -0.03	**<0.001**
6th Grade				-0.12	-0.17 – -0.07	**<0.001**
American Indian				0.01	-0.02 – 0.03	0.554
Asian				-0.00	-0.02 – 0.01	0.630
Black				0.02	-0.01 – 0.04	0.148
Hispanic				-0.01	-0.02 – 0.01	0.483
Hawaiian/Pacific Islander				0.05	0.00 – 0.09	**0.037**
White				-0.00	-0.01 – 0.01	0.975
School Enrollment				-0.00	-0.00 – 0.00	0.126
Suburban				-0.01	-0.03 – 0.02	0.476
Town				0.01	-0.03 – 0.04	0.801
Rural				-0.03	-0.08 – 0.02	0.236
% FRPL				-0.02	-0.11 – 0.07	0.628
% Male				0.18	-0.21 – 0.57	0.362
% American Indian				0.40	-1.64 – 2.44	0.699
% Asian				-0.07	-0.32 – 0.19	0.604
% Hispanic				0.02	-0.21 – 0.26	0.846

% Black				-0.17	-0.55 – 0.21	0.387
% White				-0.06	-0.34 – 0.22	0.677
Reading Achievement				0.00	-0.00 – 0.00	0.065
Random Effects						
σ^2	0.07			0.07		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.08					
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.001 / NA			0.012 / NA		

Table 9. Multilevel Models for Home High Expectations

	Empty Model			Full Model		
Predictors	*Estimates*	*CI*	*p*	*Estimates*	*CI*	*p*
(Intercept)	0.95	0.95 – 0.96	**<0.001**	0.93	0.79 – 1.08	**<0.001**
Second Step 60	0.01	-0.01 – 0.02	0.281	0.01	-0.00 – 0.02	0.114
Second Step 80	0.00	-0.01 – 0.02	0.843	0.00	-0.01 – 0.02	0.707
4th Grade				0.00	-0.02 – 0.02	0.985
5th Grade				-0.00	-0.02 – 0.02	0.899
6th Grade				-0.03	-0.05 – -0.00	**0.032**
American Indian				-0.01	-0.03 – 0.00	0.101
Asian				0.00	-0.01 – 0.01	0.860
Black				0.00	-0.01 – 0.02	0.656
Hispanic				0.00	-0.01 – 0.01	0.410
Hawaiian/Pacific Islander				-0.02	-0.05 – 0.01	0.210
White				0.01	-0.00 – 0.02	0.145
School Enrollment				-0.00	-0.00 – 0.00	0.312
Suburban				-0.01	-0.02 – 0.00	0.131
Town				0.00	-0.01 – 0.02	0.608
Rural				-0.00	-0.03 – 0.02	0.866
% FRPL				-0.02	-0.06 – 0.02	0.306
% Male				0.10	-0.08 – 0.29	0.256
% American Indian				-0.48	-1.40 – 0.44	0.310
% Asian				-0.03	-0.15 – 0.08	0.581
% Hispanic				-0.03	-0.13 – 0.07	0.541

% Black				-0.09	-0.25 – 0.08	0.292
% White				-0.02	-0.15 – 0.11	0.752
Reading Achievement				0.00	-0.00 – 0.00	0.061
Random Effects						
σ^2	0.03			0.03		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.02					
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.000 / 0.017			0.016 / 0.022		

Table 10. Multilevel Models for Overall School Environment

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.78	0.77 – 0.79	**<0.001**	0.76	0.54 – 0.98	**<0.001**
Second Step 60	0.00	-0.02 – 0.02	0.649	0.01	-0.01 – 0.03	0.466
Second Step 80	0.00	-0.02 – 0.03	0.798	0.01	-0.02 – 0.03	0.659
4th Grade				-0.04	-0.07 – -0.01	**0.003**
5th Grade				-0.05	-0.07 – -0.02	**<0.001**
6th Grade				-0.08	-0.11 – -0.04	**<0.001**
American Indian				-0.01	-0.03 – 0.01	0.408
Asian				0.01	-0.01 – 0.02	0.393
Black				0.00	-0.02 – 0.02	0.875
Hispanic				-0.00	-0.01 – 0.01	0.743
Hawaiian/Pacific Islander				-0.01	-0.04 – 0.02	0.610
White				0.01	-0.01 – 0.02	0.351
School Enrollment				-0.00	-0.00 – 0.00	0.201
Suburban				-0.01	-0.03 – 0.00	0.104
Town				-0.00	-0.03 – 0.02	0.855
Rural				-0.01	-0.05 – 0.02	0.492
% FRPL				-0.02	-0.08 – 0.04	0.476
% Male				0.15	-0.12 – 0.43	0.272
% American Indian				-0.20	-1.64 – 1.23	0.782
% Asian				-0.07	-0.25 – 0.11	0.438
% Hispanic				-0.00	-0.16 – 0.16	0.993

% Black				-0.22	-0.48 – 0.05	0.114
% White				-0.04	-0.24 – 0.15	0.656
Reading Achievement				0.00	0.00 – 0.00	**0.002**
Random Effects						
σ^2	0.03			0.03		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.07					
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.000 / 0.069			0.019 / 0.074		

Table 11. Multilevel Models for Academic Motivation

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.88	0.86 – 0.89	**<0.001**	0.86	0.64 – 1.09	**<0.001**
Second Step 60	0.01	-0.01 – 0.03	0.439	0.01	-0.00 – 0.03	0.159
Second Step 80	0.03	0.00 – 0.06	**0.028**	0.03	0.01 – 0.06	**0.007**
4th Grade				-0.02	-0.05 – 0.01	0.127
5th Grade				-0.04	-0.07 – -0.01	**0.002**
6th Grade				-0.07	-0.10 – -0.03	**<0.001**
American Indian				-0.02	-0.04 – 0.00	0.082
Asian				0.04	0.02 – 0.05	**<0.001**
Black				-0.00	-0.02 – 0.02	0.865
Hispanic				0.00	-0.01 – 0.01	0.944
Hawaiian/Pacific Islander				-0.02	-0.05 – 0.02	0.313
White				0.01	0.00 – 0.02	**0.037**
School Enrollment				0.00	-0.00 – 0.00	0.330
Suburban				-0.02	-0.03 – 0.00	0.065
Town				-0.02	-0.05 – 0.00	0.097
Rural				-0.02	-0.05 – 0.02	0.404
% FRPL				-0.02	-0.08 – 0.04	0.518
% Male				0.22	-0.06 – 0.51	0.126
% American Indian				-0.30	-1.79 – 1.18	0.688
% Asian				-0.21	-0.39 – -0.02	**0.026**
% Hispanic				-0.11	-0.27 – 0.06	0.208

% Black				-0.36	-0.63 – -0.09	**0.008**
% White				-0.18	-0.38 – 0.02	0.081
Reading Achievement				0.00	0.00 – 0.00	**<0.001**
Random Effects						
σ^2	0.04			0.04		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.07			0.05		
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.003 / 0.073			0.046 / 0.091		

Table 12. Multilevel Models for Fairness

	Empty Model			Full Model		
Predictors	*Estimates*	*CI*	*p*	*Estimates*	*CI*	*p*
(Intercept)	0.80	0.78 – 0.81	**<0.001**	0.85	0.54 – 1.16	**<0.001**
Second Step 60	0.01	-0.02 – 0.04	0.489	0.01	-0.01 – 0.03	0.439
Second Step 80	0.01	-0.03 – 0.05	0.754	0.01	-0.02 – 0.05	0.404
4th Grade				-0.04	-0.08 – -0.00	**0.044**
5th Grade				-0.05	-0.09 – -0.02	**0.001**
6th Grade				-0.08	-0.13 – -0.04	**0.001**
American Indian				-0.02	-0.05 – 0.00	0.101
Asian				0.03	0.01 – 0.05	**0.001**
Black				-0.07	-0.10 – -0.05	**<0.001**
Hispanic				-0.01	-0.02 – 0.01	0.297
Hawaiian/Pacific Islander				-0.03	-0.08 – 0.01	0.122
White				-0.00	-0.02 – 0.01	0.600
School Enrollment				0.00	-0.00 – 0.00	0.686
Suburban				-0.01	-0.04 – 0.01	0.286
Town				0.00	-0.04 – 0.04	0.942
Rural				0.01	-0.04 – 0.06	0.605
% FRPL				-0.03	-0.11 – 0.05	0.481
% Male				0.19	-0.20 – 0.58	0.334
% American Indian				0.15	-1.84 – 2.13	0.884
% Asian				-0.18	-0.43 – 0.07	0.164
% Hispanic				-0.12	-0.34 – 0.11	0.312

% Black				-0.57	-0.93 – -0.20	**0.002**
% White				-0.18	-0.45 – 0.09	0.200
Reading Achievement				0.00	0.00 – 0.00	**0.003**
Random Effects						
σ^2	0.07			0.07		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.07			0.05		
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.000 / 0.083			0.042 / NA		

Table 13. Multilevel Models for Social Emotional Learning Support

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.83	0.81 – 0.84	**<0.001**	0.81	0.54 – 1.09	**<0.001**
Second Step 60	-0.00	-0.03 – 0.02	0.803	-0.00	-0.03 – 0.02	0.786
Second Step 80	-0.02	-0.05 – 0.01	0.261	-0.02	-0.05 – 0.01	0.239
4th Grade				-0.04	-0.08 – -0.00	**0.029**
5th Grade				-0.06	-0.09 – -0.02	**0.001**
6th Grade				-0.11	-0.15 – -0.06	**<0.001**
American Indian				-0.02	-0.04 – 0.01	0.190
Asian				0.03	0.01 – 0.05	**0.001**
Black				-0.01	-0.04 – 0.01	0.229
Hispanic				0.01	-0.01 – 0.02	0.265
Hawaiian/Pacific Islander				-0.04	-0.09 – -0.00	**0.047**
White				-0.01	-0.02 – 0.01	0.367
School Enrollment				-0.00	-0.00 – 0.00	0.581
Suburban				-0.01	-0.03 – 0.01	0.257
Town				-0.00	-0.04 – 0.03	0.805
Rural				-0.01	-0.06 – 0.03	0.605
% FRPL				-0.00	-0.08 – 0.07	0.930
% Male				0.07	-0.28 – 0.41	0.711
% American Indian				0.08	-1.73 – 1.90	0.928
% Asian				-0.05	-0.27 – 0.18	0.680
% Hispanic				0.02	-0.18 – 0.23	0.826

% Black				-0.22	-0.56 – 0.11	0.190
% White				-0.03	-0.27 – 0.22	0.838
Reading Achievement				0.00	0.00 – 0.00	**0.003**
Random Effects						
σ^2	0.07			0.06		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.07			0.05		
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.001 / NA			0.016 / 0.053		

Table 14. Multilevel Models for Anti-Bullying Climate

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.82	0.80 – 0.83	**<0.001**	0.80	0.53 – 1.06	**<0.001**
Second Step 60	0.01	-0.02 – 0.03	0.614	0.00	-0.02 – 0.02	0.855
Second Step 80	-0.01	-0.04 – 0.02	0.694	-0.01	-0.04 – 0.02	0.562
4th Grade				-0.05	-0.09 – -0.02	**0.005**
5th Grade				-0.04	-0.07 – -0.01	**0.009**
6th Grade				-0.08	-0.12 – -0.03	**<0.001**
American Indian				-0.02	-0.05 – -0.00	**0.049**
Asian				0.02	0.00 – 0.03	**0.025**
Black				-0.02	-0.04 – 0.01	0.164
Hispanic				0.01	-0.00 – 0.02	0.118
Hawaiian/Pacific Islander				-0.04	-0.08 – -0.00	**0.033**
White				-0.01	-0.03 – -0.00	**0.040**
School Enrollment				0.00	-0.00 – 0.00	0.406
Suburban				0.01	-0.01 – 0.02	0.562
Town				0.00	-0.03 – 0.03	0.889
Rural				0.01	-0.03 – 0.05	0.658
% FRPL				-0.02	-0.09 – 0.05	0.569
% Male				-0.04	-0.37 – 0.29	0.821
% American Indian				1.08	-0.61 – 2.77	0.209
% Asian				-0.01	-0.22 – 0.20	0.909
% Hispanic				0.05	-0.14 – 0.24	0.592

% Black				-0.30	-0.61 – 0.01	0.056
% White				0.00	-0.23 – 0.23	0.988
Reading Achievement				0.00	0.00 – 0.00	**0.002**
Random Effects						
σ^2	0.06			0.06		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.07			0.05		
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.000 / NA			0.019 / NA		

Table 15. Multilevel Models for Prosocial Behavior

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.94	0.93 – 0.94	**<0.001**	0.95	0.80 – 1.11	**<0.001**
Second Step 60	0.01	-0.01 – 0.02	0.231	0.01	-0.00 – 0.02	0.098
Second Step 80	0.02	-0.00 – 0.04	0.079	0.02	0.00 – 0.04	**0.021**
4th Grade				-0.02	-0.04 – 0.00	0.104
5th Grade				-0.02	-0.04 – -0.00	**0.023**
6th Grade				-0.03	-0.06 – -0.00	**0.023**
American Indian				-0.01	-0.02 – 0.01	0.220
Asian				0.01	0.00 – 0.02	**0.015**
Black				-0.02	-0.04 – -0.01	**0.001**
Hispanic				-0.00	-0.01 – 0.01	0.420
Hawaiian/Pacific Islander				-0.03	-0.06 – -0.01	**0.013**
White				0.01	-0.00 – 0.02	0.056
School Enrollment				0.00	-0.00 – 0.00	0.780
Suburban				-0.00	-0.01 – 0.01	0.809
Town				0.00	-0.02 – 0.02	0.914
Rural				-0.01	-0.03 – 0.02	0.649
% FRPL				-0.01	-0.05 – 0.03	0.591
% Male				-0.02	-0.22 – 0.18	0.840
% American Indian				-0.23	-1.24 – 0.78	0.658
% Asian				-0.04	-0.16 – 0.09	0.567

% Hispanic				-0.02	-0.13 – 0.10	0.787
% Black				-0.19	-0.37 – -0.01	**0.043**
% White				-0.02	-0.16 – 0.12	0.770
Reading Achievement				0.00	0.00 – 0.00	**<0.001**
Random Effects						
σ^2	0.02			0.02		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.07			0.05		
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.002 / 0.055			0.040 / 0.068		

Table 16. Multilevel Models for Parent Involvement in Schooling

	Empty Model			Full Model		
Predictors	***Estimates***	***CI***	***p***	***Estimates***	***CI***	***p***
(Intercept)	0.84	0.83 – 0.85	**<0.001**	0.76	0.58 – 0.94	**<0.001**
Second Step 60	0.00	-0.01 – 0.02	0.747	0.00	-0.01 – 0.02	0.635
Second Step 80	0.02	0.00 – 0.04	**0.038**	0.02	0.00 – 0.04	**0.037**
4th Grade				0.00	-0.03 – 0.03	0.881
5th Grade				0.01	-0.02 – 0.03	0.663
6th Grade				-0.02	-0.05 – 0.01	0.249
American Indian				-0.00	-0.02 – 0.02	0.832
Asian				-0.01	-0.02 – 0.01	0.306
Black				0.02	0.00 – 0.04	**0.037**
Hispanic				0.01	-0.01 – 0.02	0.293
Hawaiian/Pacific Islander				-0.04	-0.07 – -0.00	**0.026**
White				0.01	-0.00 – 0.02	0.275
School Enrollment				0.00	-0.00 – 0.00	0.819
Suburban				-0.01	-0.03 – 0.00	0.096
Town				0.01	-0.01 – 0.03	0.549
Rural				0.00	-0.03 – 0.03	0.845
% FRPL				-0.04	-0.09 – 0.01	0.083
% Male				0.16	-0.06 – 0.38	0.149
% American Indian				-0.60	-1.79 – 0.59	0.325
% Asian				-0.04	-0.19 – 0.10	0.562

% Hispanic				0.00	-0.13 – 0.14	0.948
% Black				0.01	-0.21 – 0.23	0.925
% White				-0.03	-0.19 – 0.13	0.717
Reading Achievement				0.00	-0.00 – 0.00	0.065
Random Effects						
σ^2	0.04			0.04		
τ_{00}	0.00 school			0.00 school		
	0.00 district			0.00 district		
	0.00 county			0.00 county		
ICC	0.07			0.05		
N	643 school			630 school		
	167 district			164 district		
	37 county			37 county		
Observations	7,804			7,642		
Marginal R^2 / Conditional R^2	0.001 / NA			0.010 / NA		


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