

The effects of investing in failing schools: evidence from Los Angeles Unified School District*

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Abstract

Can investing in failing schools help them improve? This paper studies this question using a natural experiment based on a 2017 lawsuit settlement that allocated substantial resources to the lowest-performing schools in the Los Angeles Unified School District (LAUSD). Using a difference-in-differences design, I compare 50 secondary schools that received approximately \$1,000 per student annually for three years to similarly disadvantaged, nearby schools that did not receive the funding. The intervention mandated hiring additional staff members and allocating funds to professional development, with discretionary spending on high-need student initiatives. In line with the intent of the settlement, I find that schools successfully implemented the required staffing changes, increasing instructional staff such as teachers, counselors, and administrative staff, while also expanding support personnel, including paraprofessionals and school service personnel. In terms of performance outcomes, I find that settlement schools experienced substantial reductions in suspension rates relative to comparable district schools not funded. These reductions are particularly notable given that the settlement triggered demographic sorting, with treated schools losing students overall and shifting toward higher concentrations of economically disadvantaged students alongside lower Black enrollment. A simple bounding exercise that accounts for demographic sorting indicates that the settlement had meaningful effects on school climate, pointing to real improvements in the non-cognitive dimensions of schooling. Moreover, survey evidence from students and teachers reveals a key mechanism: while students report improved school climate but not reduced bullying experiences, teachers report improvements across multiple dimensions including reduced bullying, more effective bullying interventions, fairer and more effective discipline practices, and enhanced overall school climate.

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1 Introduction

School spending in the United States represents a massive public investment, with K-12 public schools spending annually \$918.5 billion nationwide.¹ Despite massive expenditures, schools have experienced long-term enrollment declines of 10% or more.² Moreover, chronically low-performing schools are more than twice likely to experience big enrollment declines (Goulas, 2024). There has been an extended public debate on what to do with low-performing schools, with closing them being one option. Between 2000 and 2022, districts closed around 1,450 schools nationwide each year on average.³ Supporters of closure argue that chronically under-performing schools cannot be fixed and that shuttering them redirects scarce resources toward more effective alternatives while giving families better options. In contrast, advocates for investment contend that these schools fail because they have been systematically under-resourced, and that substantial, sustained funding can turn them around. While recent research demonstrates that increased school spending improves student outcomes on average (Jackson and Mackevicius, 2024), this evidence derives mainly from studies of general finance reforms or district-level policies rather than focused interventions in failing schools, making it unclear whether these positive effects extend to the most under-performing institutions.

This paper addresses this gap by examining how investment affects the lowest-performing schools. I study a natural experiment from a 2017 lawsuit settlement in Los Angeles Unified School District that delivered substantial resources to the district’s most struggling schools. Fifty secondary schools that officials identified as the lowest-performing received approximately \$1,000 per student annually for over three years, representing roughly 40% of their existing budgets on average. This setting provides a rare opportunity with several advantages to study whether large increases in investing in failing schools can improve them, directly informing a key policy debate. First, it targets investment specifically at failing schools rather than broad school populations; second, it generates substantial school-specific funding variation where the selection of recipient schools was determined by legal settlement terms rather than district educational policy decisions; and third the money was for critical needs and high need students. In low performing schools this means addressing particular challenges like high suspension rates, poor school climate, and low-performance on standardized test scores.

Using a difference-in-differences design, I compare outcomes between fifty high-need secondary

¹FY2023. <https://www.census.gov/data/tables/2023/econ/school-finances/secondary-education-finance.html>

²<https://fordhaminstitute.org/national/commentary/case-closing-underenrolled-low-performing-schools>

³<https://nces.ed.gov/fastfacts/display.asp?id=619>

schools that received approximately \$1,000 per student annually for three years and similarly disadvantaged, nearby schools that did not. The settlement required treated schools to hire additional staff to improve school climate, invest in teacher professional development, and improve or provide more services for high-need students. I obtain data from multiple sources to examine both outcomes and underlying mechanisms. The California Department of Education and the Los Angeles Unified School District provides publicly available school-level information covering all public schools in the state and in the district. For academic outcomes, I use standardized test scores, specifically the percentage of students meeting or exceeding standards in English Language Arts and Mathematics. For disciplinary outcomes, I use suspension records to calculate school-level suspension rates. From staffing data, I measure both certified employees (teachers, counselors, administrators) and non-certified staff (paraprofessionals, support staff) per 1,000 students, providing direct measures of the resource changes the settlement required. I also use enrollment and demographic data to track student composition and examine potential sorting effects. Additionally, I incorporate survey data on bullying incidents and school climate perceptions from both students and staff to understand the mechanisms driving observed changes in school disciplinary outcomes. My sample includes secondary schools in LAUSD serving grades 6-12, with the fifty treated schools that received settlement funding and a comparison group of similarly disadvantaged, nearby secondary schools in the district.

Schools successfully implemented required changes, improved disciplinary climate, and test score gains were modest. However, this type of intervention combines positive elements (additional resources) with potentially negative signals (being publicly labeled as low-performing), which could affect other outcomes like enrollment and student composition. Indeed, the investment triggered demographic sorting, with families who had more school choice options leaving treated schools, concentrating economic disadvantage. These findings reveal a fundamental tension: investment can improve school practices but may simultaneously induce family responses that undermine long-term success.

Schools successfully implemented the changes the settlement required and achieved notable progress in staffing and school climate. Schools increased certified staff, like teachers, by 3.1 per 1,000 students and support staff, like office staff, by 1.8 per 1,000 students, representing approximately 5% increases over baseline levels. More importantly, schools meaningfully improved their disciplinary climate, reducing suspension rates by 0.75 percentage points, a substantial 44% reduction from pre-treatment levels. Test score improvements were modest and statistically insignificant,

though this likely understates actual academic progress given concurrent demographic changes.

A key empirical question is whether the settlement also affected enrollment and student composition, with theoretically ambiguous predictions. Additional resources might attract students seeking improved opportunities, while litigation stigma could signal poor performance and deter enrollment. Different student populations might respond differently: high-achieving families seeking better programs, struggling students hoping for additional support, or disadvantaged families with fewer alternatives. In practice, treated schools lost 48 students on average (5.7% decline), experienced a 0.9 percentage point decrease in Black enrollment (6.2% decline), and saw free lunch eligibility increase by 3.6 percentage points (4.2% increase). These patterns suggest that families with greater school choice options left treated schools, concentrating economic disadvantage and revealing an important policy trade-off: while funding successfully improved school practices and climate, it simultaneously altered school composition.

These shifts in student composition raise important questions about the interpretation of my main findings, particularly the substantial reduction in suspension rates. If families who left treated schools included those with higher-suspension-risk students, the observed decline in disciplinary incidents might partly reflect changes in the student body rather than improvements in school practices alone. To address this concern, I implement a bounding exercise following [Horowitz and Manski \(2000\)](#) that assesses how sensitive my estimates are to different assumptions about the characteristics of students who left. I consider various scenarios regarding the suspension propensity of students who left, including assumptions that they had suspension rates similar to, higher than, or lower than the baseline. For each scenario, I impute plausible suspension outcomes for the departing students and recompute my treatment effects. Across all reasonable bounding assumptions, I find that my main results remain substantively unchanged. The estimated reduction in suspension rates remains statistically significant and economically meaningful, suggesting that the observed improvements in disciplinary climate reflect genuine changes in school practices rather than simply a mechanical result of altered student composition.

The substantial reduction in suspension rates following the funding intervention raises important questions about the underlying mechanisms driving this change. While the settlement aimed to improve school environments, the observed decrease in suspensions could reflect several pathways: genuine improvements in student behavior, shifts in how educators respond to disciplinary incidents, or changes in administrative practices around suspension decisions. To disentangle these competing explanations, I use survey data from both students and school staff. The evidence

suggests that while students did not report significant changes in their direct experiences with bullying, they did perceive meaningful improvements in overall school climate. More strikingly, teachers and staff reported substantial improvements across multiple dimensions of their work environment. They indicated that bullying had become a less significant problem, that they address behavioral issues when they arose, and that they had received professional development on bullying. Additionally, staff reported greater agreement that disciplinary practices at their schools were both fair and effective, alongside notable improvements in their perceptions of overall school climate. These patterns point toward a story where the intervention primarily operated through enhancing educators’ capacity and approaches to discipline, rather than through direct changes in student behavior.

My analysis relies on two key assumptions to provide credible causal estimates. First, I assume that treated and control schools would have followed similar trajectories absent the intervention, the parallel trends assumption central to difference-in-differences estimation. I test this by examining pre-treatment trends in key outcomes and find no evidence of different trajectories between treated and control schools before the intervention. Second, it is important that schools actually spend the funding on school resources. I verify this by examining whether treated schools hired additional staff as the settlement required. Treated schools did substantially increase staffing levels, confirming that the funding translated into operational improvements rather than being diverted elsewhere.

This research contributes to the school finance literature. In recent years, robust evidence shows that increased school spending improves student outcomes, including test scores, graduation rates, college attendance, and adult earnings, with particularly strong effects for low-income students (Abott et al., 2020, Baron, 2022, Candelaria and Shores, 2019, Hyman, 2017, Jackson et al., 2016, Lafortune et al., 2018). A recent meta-analysis of 31 studies finds that a \$1,000 increase in per-pupil spending for four years increases test scores by 0.03 SD, high school graduation by two percentage points, and college-going by 2.8 percentage points (Jackson and Mackevicius, 2024). This evidence provides a strong foundation for the argument that investment, rather than closure, could effectively address failing schools. However, this literature has important limitations for understanding whether investment can improve failing schools specifically.

Despite growing consensus that money matters for schools, answering whether it matters for failing schools presents several empirical challenges. First, investment in low-performing schools is rare. Most studies examine broad expenditure increases from school finance reforms or close elections that affect diverse populations of schools, not just those that are failing. The contexts

these studies examine, typically entire districts or states receiving additional funding, differ substantially from interventions in the lowest-performing schools. This evidence may not generalize to investments in the schools that most need to improve. Moreover, spending effectiveness varies considerably depending on how districts allocate resources. Researchers find larger and more consistently positive effects for operational spending on teachers, support staff, and materials than for capital expenditures on facilities (Abott et al., 2020, Baron, 2022, Biasi, n.d.). This heterogeneity suggests that simply demonstrating that “money matters” may not suffice to conclude that investment can successfully turn around failing schools, the specific nature of the investment and the context matter.

This paper also contributes to school accountability literature.

This paper also contributes to input based policies literature.

This paper also contributes to information policies literature.

This study contributes to the literature in several important ways. First, it provides causal evidence on the effects of investment specifically in failing schools, addressing a critical gap between the general school spending literature and the policy question of whether investment can improve the lowest-performing schools. Second, it documents how such investments can trigger unintended family responses that complicate both the interpretation of results and the long-term effectiveness of the policy. Third, it demonstrates the importance of examining multiple outcomes beyond test scores, showing that investment can improve school climate even when academic gains are modest. Fourth, I talk about mechanisms using rich student and staff survey data.

2 LAUSD Settlement: Community Coalition v. LAUSD

In July 2015, the Community Coalition of South Los Angeles and Reyna Frias filed a lawsuit against the Los Angeles Unified School District (LAUSD), alleging the district had misspent approximately \$2 billion in funds designated for high-need students. The lawsuit centered on California’s Local Control Funding Formula (LCFF), enacted in 2013, which provides additional funding to districts serving large populations of low-income students, English Language Learners (ELLs), and foster youth. Under LCFF, funding is tied to the number of duplicated students, that is, those who fall into one or more support categories (low-income, English learner, and/or foster youth). Students are counted once for each category they belong to, so a student who is both low-income and an English learner would be counted twice in the duplicated count.

The plaintiffs accused LAUSD of violating state funding requirements by improperly counting prior special education spending as expenditures for high-need students, thereby effectively depriving these vulnerable populations of resources intended explicitly for their educational support. Under LCFF regulations, districts must allocate additional funds to designated high-need students in proportion to the increased funding they receive.

LAUSD settled the lawsuit in July 2017 and finalized the agreement in September 2017 (see a detailed timeline in 1). The district agreed to reallocate \$171.6 million over three years (2017-18 through 2019-20) specifically for high-need student services which they called the “School Innovation funds.” The settlement identified 50 secondary low-performing schools, 20 middle schools and 30 high schools, as the highest-priority recipients based on objective criteria, including unduplicated student percentage (30% weighting), math scores (40%), suspension rates (20%), foster youth rates (5%), and homeless student rates (5%). The settlement established both the selection criteria for recipient schools and the implementation requirements.

Fund Recipients. The 50 identified schools received funding allocated proportionally based on their “duplicated count” of high-need students (low-income, ELL, and foster youth), with a per-pupil rate of approximately \$1,030 per duplicated student per year. This translates to roughly a 6% increase in funds available per duplicated student.⁴

Authorized Expenditures. These additional funds must be spent on a menu of services for high-need students (low-income, English learners, and foster youth).⁵ The six types of services are: (1) significant increased investments in high-need students, including academic support and mental health and social-emotional support; (2) increasing A-G and Advanced Placement course access for high school students; (3) Linked Learning (an approach that incorporates rigorous academics, career and technical education, work-based learning, and student supports); (4) school climate initiatives, including restorative justice; (5) high school graduation and student recovery for drop-out prevention, and (6) parent and community engagement.

Among these required expenditures, there were two that the district made mandatory. The first one was a tiered, integrated team of student support. School tiers were determined by the total funding amount each school received, which was calculated using the school’s duplicated student count and therefore roughly corresponds to enrollment size. These tiered school climate bundles, known as Achievement through Support Teams (ATS), provide wellness, restorative, child welfare

⁴Calculations based on Census data where LAUSD spent USD 21,940 per student in 2022. (<https://www.census.gov/library/stories/2024/04/public-school-spending.html>). USD 1,030 in 2018 are USD 1,231 in 2022.

⁵Source: Superintendent of Schools LAUSD email to the principals

and attendance, dropout prevention, intervention, and recovery, and trauma-informed supports to schools.

Specifically, Tier 1 schools needed to hire one Restorative Justice Teacher Advisor, Tier 2-3 schools needed to get either a Pupil Services and Attendance Counselor or a Psychiatric Social Worker plus a Restorative Justice advisor (with schools choosing the Psychiatric Social Worker also receiving Resilience Classroom Curriculum), and Tier 4 schools were requested to have the most comprehensive support with all three positions (PSA Counselor, Psychiatric Social Worker, and Restorative Justice advisor) plus the mandatory Resilience Classroom Curriculum. The Resilience Classroom Curriculum, implemented in Tier 2-3 schools that select a Psychiatric Social Worker and all Tier 4 schools, includes resiliency screenings, trauma-informed teacher professional development, and after-school family resiliency education.

The second mandatory requirement was that schools allocate at least 10% of their remaining innovation funds to foundational professional development in mathematics or English Language Arts/English Language Development. Schools were allowed to spend the remaining of their funds in items of their choosing, as long as they fall into the six categories described above.

3 Data

My analysis draws on administrative data from the California Department of Education and LAUSD combined with information from the lawsuit settlement agreement. The settlement identified 50 beneficiary schools (20 middle schools and 30 high schools) that received additional funding from 2017-2020.

3.1 Analysis sample

The sample includes schools that were operational in Los Angeles Unified School District in the academic year 2016/17, excluding charter schools.

I impose the following restrictions to improve comparability between treatment and control schools: I exclude continuation and special education schools, retain only secondary schools in the same local districts, and restrict the sample to schools that remained operational throughout 2014/15 to 2019/20. The end date avoids potential confounding from the COVID-19 pandemic, while the start date ensures all schools have pre-treatment data, as two beneficiary schools opened in August 2014. This yields a final sample of 174 schools (125 control, 49 treatment) observed over

6 academic years (2014/15 to 2019/20).⁶

3.2 Outcome data

I examine different outcomes to assess the implementation and the effects of the settlement. First, I analyze expenditure outcomes to understand how schools used the additional funds. Second, I examine student outcomes, focusing on disciplinary, academic measures. Third, I use student and staff answers to a school experience survey. All the data comes from the California Department of Education and the Los Angeles Unified School District.

3.2.1 Expenditure outcomes

For expenditure outcomes, I focus on staff data. Ideally I would have budget but could not access it.⁷

Certified employees. They are school staff required to hold valid teaching credentials or permits, including: (1) teachers who provide direct instruction, (2) administrative personnel in positions requiring certification but not providing direct instruction, and (3) pupil services staff such as counselors, librarians, and psychologists who hold specialized credentials.

Classified staff. They are employees in positions not requiring certification, including: (1) paraprofessionals who provide instructional support under teacher supervision (teaching assistants, aides, translators), (2) office/clerical staff supporting administration and business services, and (3) other support staff including health services, maintenance, food service, security, and transportation personnel.

3.2.2 Student outcomes

Suspensions. I measure suspension rates as the unduplicated count of students suspended divided by cumulative enrollment at the school level.

Test scores. Ideally, I would analyze raw test scores, but the California Department of Education only provides publicly available data in categorical performance levels: Percentage Standard Exceeded, Percentage Standard Met, Percentage Standard Met and Above, Percentage Standard Nearly Met, and Percentage Standard Not Met. I therefore focus on the percentage of students who met or nearly met standards as my primary measure of academic achievement.

⁶The settlement listed 50 schools and I have 49 in my analysis sample, this is because one school merged to another one after the settlement.

⁷Comment on this.

3.2.3 School experience survey outcomes

To measure perceptions on school climate from the students' side, I use data from the Los Angeles Unified School District's School Experience Survey (SES), an annual survey that captures comprehensive feedback from teachers, staff, students, and parents across all LAUSD schools. I examine survey responses for 2014/15 through 2019/20 academic years, focusing specifically on measures of bullying experiences and overall school climate perceptions. The survey has high response rates, spanning 80% across years in my analysis sample, as it is administered during class time and is mandatory for students. The bullying indicators assess four key forms of peer victimization occurring on school property: physical aggression (being pushed, shoved, slapped, hit, or kicked), relational aggression (having mean rumors or lies spread), sexual harassment (experiencing sexual jokes, comments, or gestures), and appearance-based teasing. The school climate measures capture students' perceptions across six dimensions of their school environment, including adult respect and help, feelings of safety and belonging, and overall satisfaction with their school experience.

My analysis also incorporates all school staff members perspectives from the same School Experience Survey (SES) administered annually across LAUSD schools from 2014/15 through 2019/20. The staff questionnaire captures responses from principals, other administrators (such as assistant principals), teachers, school administrative assistants, counselors, and other members of the school staff, providing comprehensive insights into educators' and staff members' experiences and perceptions of school climate, capturing both their preparedness to address climate issues and their assessments of the school environment. The survey has a high response rates of 82% across years in my analysis sample. The survey measures several key dimensions of school climate, including professional development preparedness (specifically regarding anti-bullying training), engagement in addressing bullying incidents, and personal safety perceptions during school hours. Staff members also evaluate the school's disciplinary climate through their perceptions of adult respect toward students, and the fairness and effectiveness of the school's discipline. Additionally, staff assess the prevalence and severity of various climate challenges within their schools, including harassment and bullying among students, physical fighting, general disruptive behavior, racial or ethnic conflicts, and student respect toward staff members.

To analyze these multidimensional survey outcomes systematically, I construct summary indices following the methodology outlined in [Anderson \(2008\)](#). This approach creates weighted averages of related standardized outcomes, with weights calculated to maximize the information

captured in each index. For example, the student bullying index combines responses across the four victimization categories (physical aggression, relational aggression, sexual harassment, and appearance-based teasing), taking the proportion of students reporting each type of incident as "not a problem" and creating a summary measure using the Anderson procedure. Similarly, I construct indices for school climate, staff preparedness to handle bullying, perceptions of disciplinary effectiveness, and overall staff assessments of school climate. This indexing approach addresses multiple testing concerns while providing clear, interpretable measures of treatment effects across conceptually related outcomes.

3.3 Summary statistics

Table 1 compares pre-treatment characteristics between lawsuit beneficiary schools and other LAUSD secondary schools in 2015/16, revealing that beneficiary schools served more disadvantaged student populations, had higher baseline suspension rates, and lower percentages of students who meet or nearly meet the state standards on Math and English Language Arts standardized tests.

4 Empirical Framework

4.1 Estimation Strategy

My empirical approach uses a difference-in-differences design to estimate the causal effect of the funding intervention on school outcomes. The baseline specification is:

$$Y_{it} = \alpha_i + \lambda_t + \beta_1 \cdot \text{Lawsuit}_i + \beta_2 \cdot \text{Post}_t + \delta \cdot (\text{Lawsuit}_i \times \text{Post}_t) + \varepsilon_{it} \quad (1)$$

where Y_{it} is the outcome variable for school i in year t , α_i are school fixed effects, λ_t are year fixed effects, Lawsuit_i is an indicator equal to 1 for schools that benefited from the lawsuit, Post_t is an indicator equal to 1 for years 2018 and after (post-settlement), $\text{Lawsuit}_i \times \text{Post}_t$ is the interaction term capturing the treatment effect, δ is the difference-in-differences estimator, and ε_{it} is the error term. For statistical inference, I cluster standard errors at the school level. This clustering approach is robust to arbitrary forms of correlation in the error terms within schools while maintaining the assumption that errors are independent across schools. The school-level clustering is appropriate given that the treatment assignment occurs at the school level and schools represent the primary

unit of analysis.

The school fixed effects (α_i) control for time-invariant unobserved differences between treated and control schools. The parameter of primary interest is δ , which measures the average treatment effect of lawsuit settlement funding on school outcomes in the post-settlement period.

4.2 Identification Strategy

The validity of this difference-in-differences approach relies on the parallel trends assumption. In this case, it means that in the absence of the lawsuit, schools that benefited from it would have followed similar outcome trajectories compared to the schools that did not benefit from the lawsuit. To provide evidence that this assumption holds, I use an event study specification that estimates:

$$Y_{it} = \alpha_i + \lambda_t + \beta \cdot \text{Lawsuit}_i + \sum_{k=-3}^2 \delta_k \cdot (\text{Lawsuit}_i \times \mathbf{1}_{t=2018+k}) + \varepsilon_{it} \quad (2)$$

where Y_{it} is the outcome variable for school i in year t , α_i are school fixed effects, λ_t are year fixed effects, Lawsuit_i is an indicator equal to 1 for schools that benefited from the lawsuit, $\mathbf{1}_{t=2018+k}$ are indicators for years relative to the 2017/18 settlement (where $k = -1$ is omitted as reference), δ_k are the treatment effect coefficients for each year relative to settlement, and ε_{it} is the error term, clustered at the school level.

The event study specification allows me to provide support for the parallel trends assumption by examining whether treated and control schools exhibited differential pre-treatment trends. Evidence of parallel pre-treatment trends would support the counterfactual assumption that treated schools would have evolved similarly to control schools in the absence of the intervention. The pre-treatment coefficients (δ_{-3} and δ_{-2}) test whether treated and control schools followed parallel trends before the intervention. These should be statistically insignificant, indicating that treated and control schools followed similar trajectories before the intervention.

5 Results

5.1 Effects on school spending

Following the lawsuit settlement, beneficiary schools received substantial funding. While certain expenditure categories were mandated by the settlement terms, schools retained considerable discretion over the allocation of remaining funds.

Table 2 presents the difference-in-differences estimates examining how lawsuit settlement funding affected school spending decisions. The results in Table 2 provide strong evidence that lawsuit settlement schools used their additional funding to expand staffing capacity, confirming that the financial intervention translated into tangible resource improvements. Treated schools increased their certified staff by 3.093 per 1,000 students relative to control schools, an effect that is statistically significant at the 1% level and represents a 4.9% increase relative to the baseline level of 63.56 certified staff per 1,000 students in treated schools. This substantial increase encompasses teachers providing direct instruction, administrative personnel in certified positions, and specialized pupil services staff such as counselors and psychologists, all critical components of school capacity that require specialized credentials. Additionally, treated schools expanded their classified staff by 1.828 per 1,000 students, significant at the 10% level, corresponding to a 4.8% increase from the baseline of 37.8 classified staff per 1,000 students. This category includes paraprofessionals, clerical staff, and other support personnel who do not require certification but provide essential operational and instructional assistance. The event study results presented in Panel (a) and (b) in Figure 2 confirm that treated and control schools followed similar pre-treatment trends for both staffing outcomes, supporting the parallel trends assumption underlying the difference-in-differences design. In summary, schools that received settlement funds meaningfully expanded their human capital resources rather than using the money for other purposes.

5.2 Effects on student outcomes and enrollment

Table 3 presents the estimated effects of lawsuit settlement funding on key measures of school climate and academic achievement. These results rely on the parallel trends assumption fundamental to difference-in-differences estimation, that treated and control schools would have followed similar outcome trajectories absent the intervention. Figures 3 and 4 present event study analyses and provide evidence that this assumption holds, showing no statistically significant differences in pre-treatment trends between treated and control schools across all outcomes examined.

Beginning with school climate, treated schools experienced a significant reduction in suspension rates of 0.750 percentage points, representing a 44% decrease relative to the baseline suspension rate of 1.70% in treated schools.

Turning to academic achievement, the results show mixed evidence of improvement in student performance on state assessments. In mathematics, treated schools increased the percentage of students who nearly met or met standards by 1.5 percentage points, though this effect is not

statistically significant. In English Language Arts (ELA), treated schools achieved a statistically significant increase of 2.8 percentage points in the percentage of students meeting standards, significant at the 1% level and corresponding to a substantial 12.8% improvement from the baseline of 21.90%.

It is possible that the lawsuit settlement and money that schools received affected enrollment and the student body composition, though the direction of the effect is theoretically ambiguous. The settlement may have generated two opposing forces: on one hand, additional resources and potentially improved school quality could attract new students to treated schools, while on the other hand, the fact that a school was identified as needing remedial funding through litigation could signal poor performance and deter enrollment.⁸ Moreover, it is unclear which students may decide to move, if any.

If treated schools are perceived as improving due to additional resources, they could attract students of varying academic abilities, for example, high-achieving students seeking better opportunities, average students drawn to enhanced programs, or struggling students hoping for additional support. Each scenario would have a different effect: more high-achieving students would make outcomes like test scores and suspension rates appear better, while an influx of struggling students could make these same outcomes appear worse than the true treatment effect. Conversely, if the litigation stigma causes treated schools to be perceived as low-quality, high-achieving students might exit to other schools, leaving behind a more disadvantaged student body.

I examine whether the lawsuit settlement affected student enrollment patterns and demographic composition across treated and control schools. As with the main outcomes, event study analyses (Figure 5 and 6) confirm parallel pre-treatment trends in enrollment and demographic composition between treated and control schools, supporting the validity of the difference-in-differences approach for these outcomes as well. Table 4 presents the estimated effects on enrollment and student demographics. The results reveal changes in both the size and composition of student bodies at treated schools. On average, treated schools experienced a decline of 48 students (approximately 5.7% from baseline levels), suggesting that the intervention led to net outflows rather than increased enrollment. In terms of student body composition, treated schools experienced a 0.9 percentage point decrease in Black student enrollment and a 3.6 percentage point increase in students eligible for free lunch, indicating a concentration of economic disadvantage. Additionally, the proportion of English learners increased by 1.8 percentage points, while the share of students from other racial

⁸Add anecdotal evidence on news coverage

categories (representing less than 2% each) increased by 0.5 percentage points. Hispanic, White, and Asian enrollment shares remained statistically unchanged. These patterns suggest that families with greater school choice options, likely those with more resources and flexibility, left treated schools following the settlement, while more economically disadvantaged families remained or were drawn to these schools, possibly due to fewer alternative options or expectations of additional support services.

These shifts in student composition raise important questions about the interpretation of my main findings, particularly the substantial reduction in suspension rates. If families who left treated schools included those with higher-suspension-risk students, the observed decline in disciplinary incidents might partly reflect changes in the student body rather than improvements in school practices alone. To address this concern, I implement a bounding exercise following [Horowitz and Manski \(2000\)](#) that assesses how sensitive my estimates are to different assumptions about the characteristics of students who left.

The bounding approach acknowledges that I cannot observe the counterfactual suspension outcomes for students who exited treated schools, creating a missing data problem that could bias my treatment effect estimates. To establish bounds around the true treatment effect, I consider three scenarios that span the range of plausible assumptions about departing students' suspension propensity.

In Scenario 1, I assume that well-behaved students left, that is, students who would not have been suspended under any circumstance. This represents the most optimistic assumption about student departure and would suggest that my estimated treatment effects understate the true policy impact, as the remaining student body would be more challenging to discipline. In Scenario 2, I assume that departing students had elevated suspension rates reflecting twice their baseline rate by race, with Hispanic students having a 2.19% suspension rate ($2 \times 1.10\%$) and Black students having a 9.34% suspension rate ($2 \times 4.67\%$). Under this assumption, approximately 3 of the 48 students who departed would have been suspended (1 Hispanic and 2 Black students). In Scenario 3, I consider the most conservative assumption that high-suspension-risk students left, that is, a group with a suspension rate five times the overall baseline ($5 \times 1.7\% = 8.5\%$), meaning approximately 4 of the 48 departing students would have been suspended.

For each scenario, I impute counterfactual suspension outcomes for the students who would have remained under the control condition, reconstructing what the treated schools' suspension rates would have looked like with their original student composition. I then recompute the treatment

effects using these adjusted denominators and suspension counts. This exercise provides bounds on the true treatment effect under different assumptions about selection into departure.

The results are robust across all scenarios (see Table 5). The original estimate shows a 0.75 percentage point reduction in suspension rates (significant at the 5% level). Under Scenario 1, where well-behaved students departed, the treatment effect increases to -0.815 percentage points (significant at the 1% level), suggesting even stronger policy impacts than initially estimated. Under Scenario 2, with moderately elevated departure rates among certain racial groups, the treatment effect remains substantial at -0.419 percentage points, though not statistically significant. Even under the most conservative Scenario 3, where the highest-risk students departed, the estimated reduction remains at -0.287 percentage points.

Across all reasonable bounding assumptions, the direction and magnitude of my main results remain unchanged. Even under the most conservative assumption that departing students would have had suspension rates substantially higher than the baseline average, the estimated reduction in suspension rates represents meaningful improvements in disciplinary climate (16.88% relative to treated schools baseline). This robustness suggests that the observed improvements reflect genuine changes in school practices rather than a mechanical result of altered student composition.

6 How are suspensions getting better?

The substantial reduction in suspension rates following the funding intervention calls into question the underlying mechanisms driving this change. While the settlement aimed to improve school environments, the observed decrease in suspensions could reflect several pathways: genuine improvements in student behavior, shifts in how educators respond to disciplinary incidents, or changes in administrative practices around suspension decisions. Understanding these mechanisms is crucial for interpreting the policy’s effectiveness and informing future interventions.

To disentangle these competing explanations, I leverage comprehensive survey data from both students and school staff collected through the Los Angeles Unified School District’s School Experience Survey (SES). This annual survey captures feedback from teachers, staff, students, and parents across all LAUSD schools and provides detailed measures of school climate, bullying experiences, and disciplinary practices. The student survey assesses experiences with four key forms of peer victimization on school property (physical aggression, relational aggression, sexual harassment, and appearance-based teasing), alongside six dimensions of school climate including perceptions of

adult respect, safety, belonging, and overall satisfaction.

The staff component of the survey provides equally comprehensive insights, capturing responses from principals, administrators, teachers, counselors, and support staff. The staff questionnaire measures preparedness to address climate issues through professional development indicators, engagement in addressing bullying incidents, personal safety perceptions, and assessments of disciplinary fairness and effectiveness. Staff also evaluate the prevalence of various climate challenges including harassment, bullying, physical fighting, disruptive behavior, racial conflicts, and student respect toward staff.

To analyze these multidimensional survey outcomes systematically, I construct summary indices following the methodology outlined in [Anderson \(2008\)](#). This approach creates weighted averages of related standardized outcomes, with weights calculated to maximize the information captured in each index. For example, the student bullying index combines responses across the four victimization categories (physical aggression, relational aggression, sexual harassment, and appearance-based teasing), taking the proportion of students reporting each type of incident as "not a problem" and creating a summary measure using the Anderson procedure. Similarly, I construct indices for school climate, staff preparedness to handle bullying, perceptions of disciplinary effectiveness, and overall staff assessments of school climate. This indexing approach addresses multiple testing concerns while providing clear, interpretable measures of treatment effects across conceptually related outcomes.

Tables 6 and 7 present the estimated treatment effects on student and staff survey outcomes, respectively. Event study analyses for these survey-based outcomes (see Figures 8 and 9) confirm parallel pre-treatment trends between treated and control schools, validating the use of difference-in-differences estimation for these measures of school climate and experiences. The results reveal a striking pattern that helps illuminate the underlying mechanisms. From the student perspective, I find no significant changes in reported bullying experiences (coefficient of 0.115, statistically insignificant), suggesting that direct peer-to-peer victimization did not decline measurably following the intervention. However, students did report meaningful improvements in overall school climate (coefficient of 0.147, significant at the 5% level), indicating enhanced perceptions of their school environment despite unchanged bullying experiences.

The staff results point toward substantial changes in educator capacity and approach. Teachers and staff reported significant improvements across all measured dimensions. The bullying index increased by 0.260 standard deviations, indicating that staff perceived bullying as a less signifi-

cant problem in their schools. More importantly, staff reported substantial improvements in their ability to handle bullying incidents (0.381 standard deviations) and received enhanced professional development on these issues. Staff perceptions of disciplinary fairness and effectiveness improved by 0.312 standard deviations, while overall staff assessments of school climate increased by 0.358 standard deviations.

These patterns collectively point toward a story where the intervention primarily operated through enhancing educators' capacity and approaches to discipline, rather than through direct changes in student behavior. The lack of change in student-reported bullying experiences, combined with students' improved perceptions of overall school climate, suggests that while peer interactions remained relatively constant, the broader school environment became more supportive. Meanwhile, the substantial improvements in staff preparedness, confidence in handling disciplinary issues, and perceptions of disciplinary effectiveness indicate that the intervention successfully enhanced educators' tools and approaches for managing student behavior. This interpretation aligns with the settlement's emphasis on restorative justice training and suggests that reduced suspension rates reflect more thoughtful, effective disciplinary practices rather than simply more lenient enforcement or fundamentally different student behavior.

7 Conclusion

This paper provides new evidence on a fundamental question in education policy: can investing in failing schools help them improve? Using a natural experiment from a 2017 lawsuit settlement in Los Angeles Unified School District, I examine the effects of substantial resource increases to the district's 50 lowest-performing secondary schools. The settlement provided approximately \$1,000 per student annually for three years, a 40% budget increase.

The findings reveal a nuanced picture of how investment affects failing schools. On the positive side, schools successfully implemented the required changes and achieved meaningful improvements in disciplinary climate. They increased certified staff by 3.1 per 1,000 students and support staff by 1.8 per 1,000 students, representing 5% increases over baseline levels. More importantly, suspension rates fell by 0.75 percentage points, a remarkable 44% reduction from pre-treatment levels. Survey evidence suggests this improvement reflects genuine changes in educator practices and school climate rather than merely administrative adjustments, with teachers reporting enhanced capacity to address behavioral issues and more effective disciplinary practices.

However, the intervention also triggered unintended consequences that complicate the interpretation of these gains. Treated schools experienced significant demographic sorting, losing 48 students on average while concentrating economic disadvantage. Families with greater school choice options, particularly those from higher socioeconomic backgrounds, departed treated schools, potentially undermining the long-term sustainability of improvements. This demographic shift highlights a fundamental tension in education policy: while targeted investment can improve school practices, the public identification of schools as “failing” may simultaneously induce family responses that work against policy goals.

These findings extend the robust evidence that money matters for schools to the specific context of failing institutions, addressing a critical gap between general school spending research and policy debates about how to improve the lowest-performing schools. While previous studies demonstrate positive effects of increased spending across diverse school populations, this research shows that investment can meaningfully improve practices even in the most challenging educational environments.

The results highlight the importance of examining multiple outcomes beyond test scores when evaluating school interventions. Despite modest and statistically insignificant changes in academic achievement, the substantial improvements in disciplinary climate represent meaningful progress in the non-cognitive dimensions of schooling that matter for students’ long-term development. This finding underscores that school quality encompasses multiple dimensions and that interventions may succeed along some margins while showing limited effects on others.

This study demonstrates how education policies can generate spillover effects through family responses that complicate both evaluation and implementation. The demographic sorting triggered by the intervention reveals that policies targeting failing schools must contend not only with the challenge of improving educational practices but also with managing community perceptions and family choices that may work against intended outcomes.

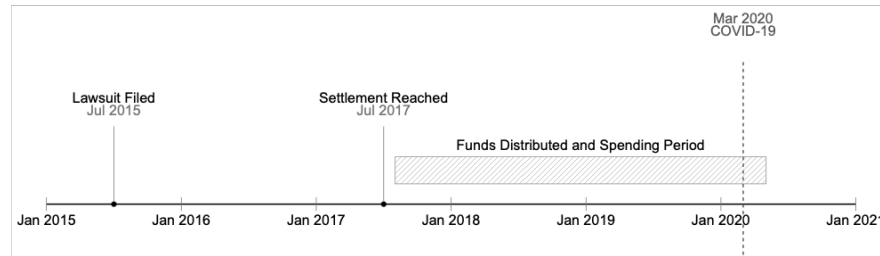
The policy implications are two fold. On one hand, the evidence supports the argument that investment, rather than closure, can meaningfully improve failing schools’ practices and climate. The substantial reductions in suspension rates and improvements in staff-reported school climate suggest that additional resources can help struggling schools address critical challenges around discipline and school culture. On the other hand, the concurrent demographic sorting raises questions about whether these improvements can be sustained if the intervention simultaneously drives away families with resources and school choice options.

These results suggest that successful interventions in failing schools may require careful attention to both resource provision and community engagement. Policymakers considering similar investments should anticipate potential family responses and develop strategies to maintain diverse school communities while implementing improvements. This might involve coupling resource increases with efforts to improve school reputation, enhance communication with families, or implement policies that encourage retention of diverse student populations.

The debate over how to address failing schools will continue to be central to education policy discussions. This research suggests that the answer is not simply a choice between investment and closure, but rather involves understanding how to design interventions that harness the positive effects of additional resources while managing the complex family and community responses they generate. Ultimately, improving failing schools requires not just additional resources, but thoughtful policy design that recognizes the multifaceted nature of school improvement in democratic societies where families retain meaningful educational choices.

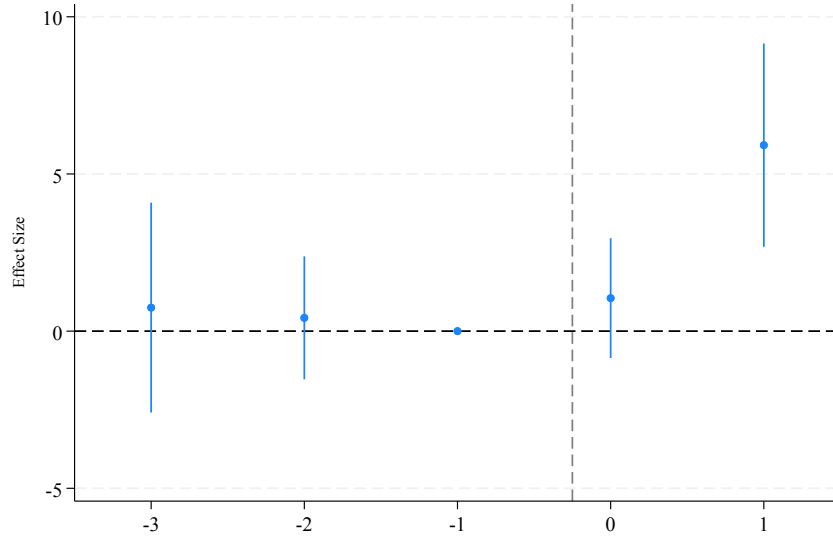
8 Figures and Tables

Figure 1: Community Coalition v. LAUSD Timeline

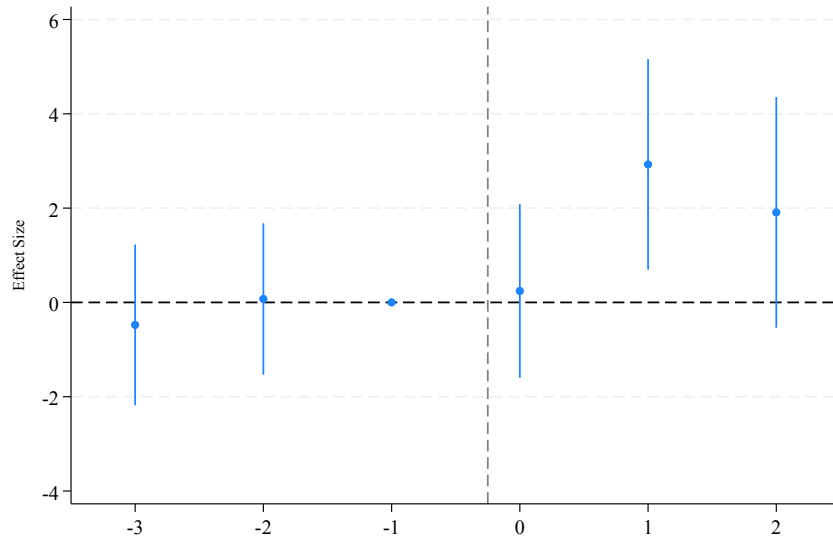


Notes: This figure illustrates the timeline of the LAUSD-ACLU settlement and its implementation. In July 2015, the American Civil Liberties Union (ACLU) and other advocacy organizations filed a lawsuit against the Los Angeles Unified School District (LAUSD) alleging improper use of hundreds of millions of dollars from the Local Control Funding Formula (LCFF). The lawsuit reached settlement in July 2017, with LAUSD agreeing to allocate \$150 million specifically for high-need student services. The settlement funds were distributed over three academic years during the spending period from 2017-2018 through 2019-2020. Following the conclusion of the mandated spending period in 2020, the district retained discretionary authority over any remaining unspent funds. The figure shows the key phases of litigation, settlement negotiation, fund distribution, and post-settlement period that form the basis for the empirical analysis in this study.

Figure 2: Effects on spending outcomes



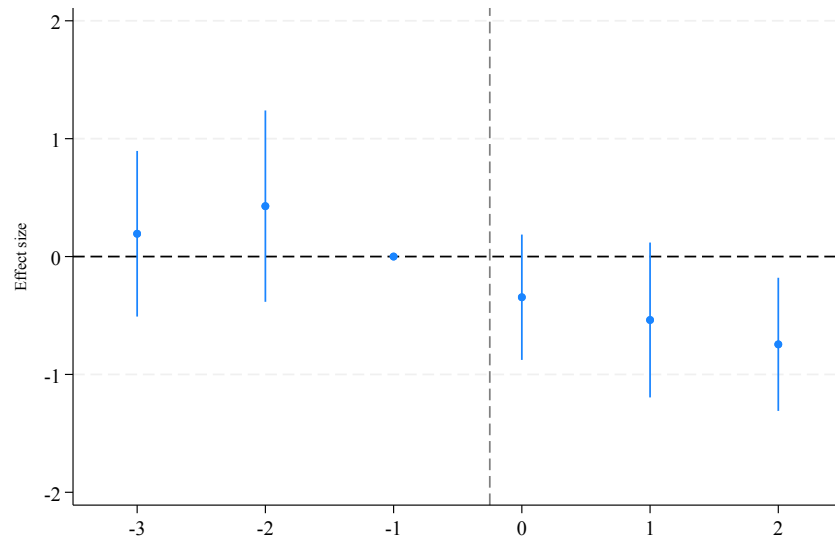
(a) Certified staff



(b) Non certified staff

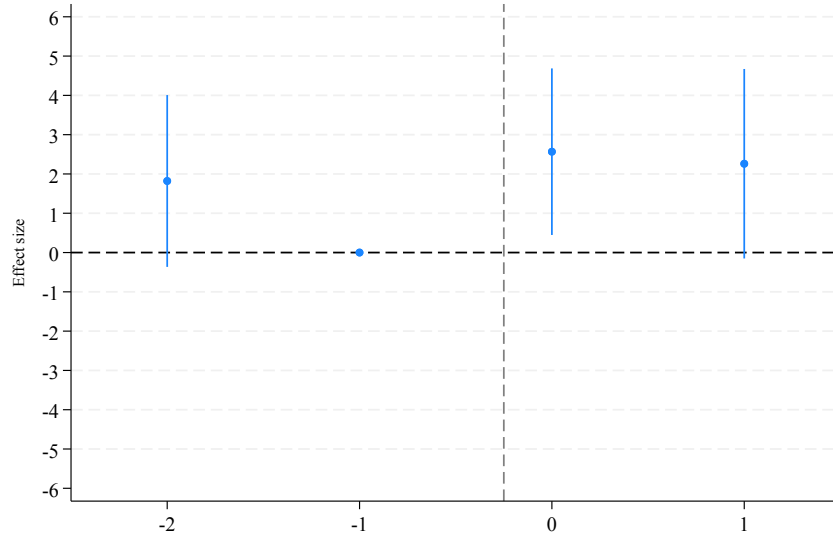
Notes: This figure reports event study estimates of the settlement's effects on school staffing, Panel (a) for certified staff, which includes teachers, administrators, and pupil services personnel requiring credentials; and Panel (b) for non-certified staff, which includes paraprofessionals, clerical, and other support personnel. All regressions include school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period.

Figure 3: Effect on suspension rate

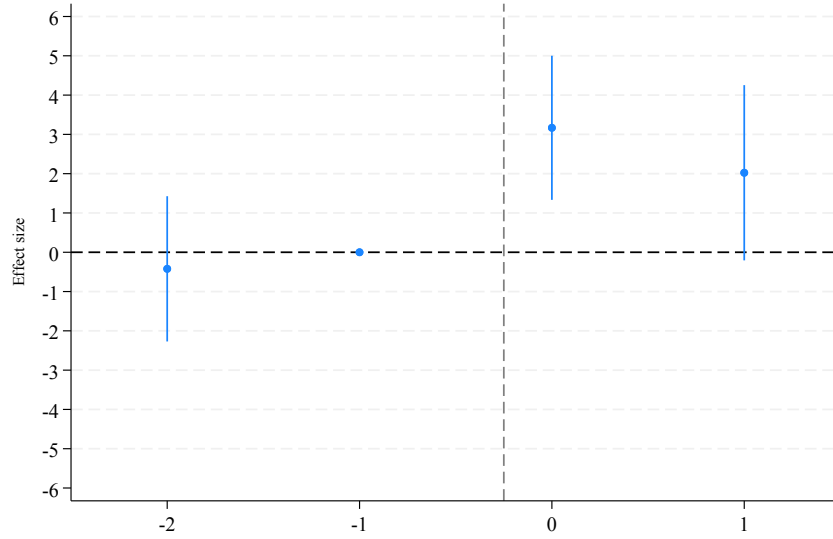


Notes: This figure reports event study estimates of the settlement's effects on student suspension rate. Suspension rate is measured as the percentage of students suspended at least once during the academic year. The regression includes school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period.

Figure 4: Effects on students' performance outcomes



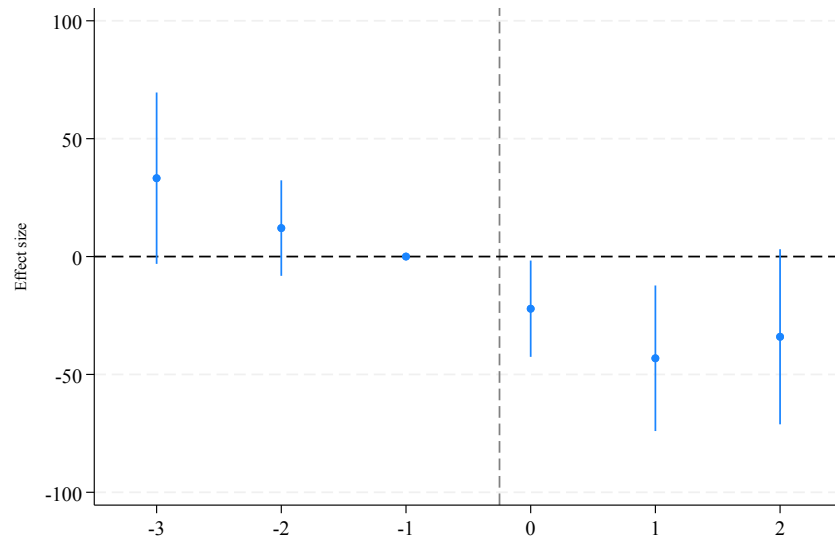
(a) Math



(b) ELA

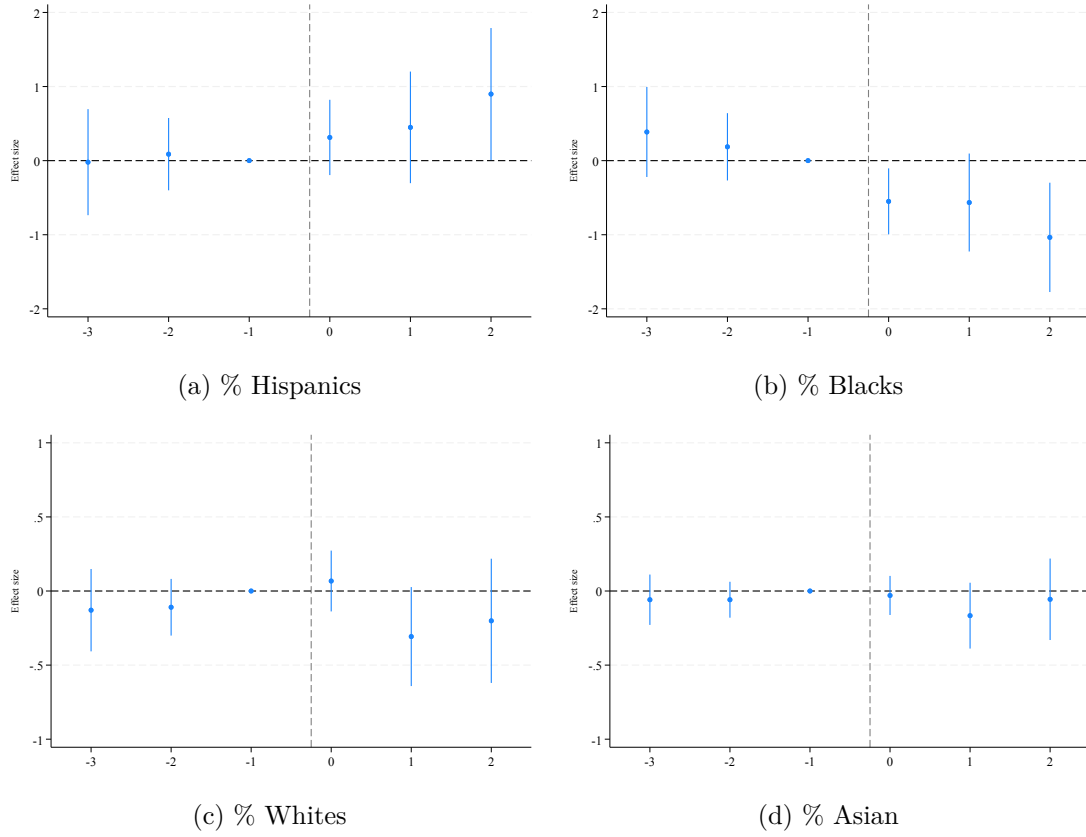
Notes: This figure reports event study estimates of the settlement's effects on students' performance outcomes. The math and ELA outcomes are the percentage of students who met or nearly met the state standards for the math standardized test (Panel a), and the percentage of students who met the state standards for the English Language Arts standardized test (Panel b), respectively. The regressions include school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period.

Figure 5: Effect on enrollment



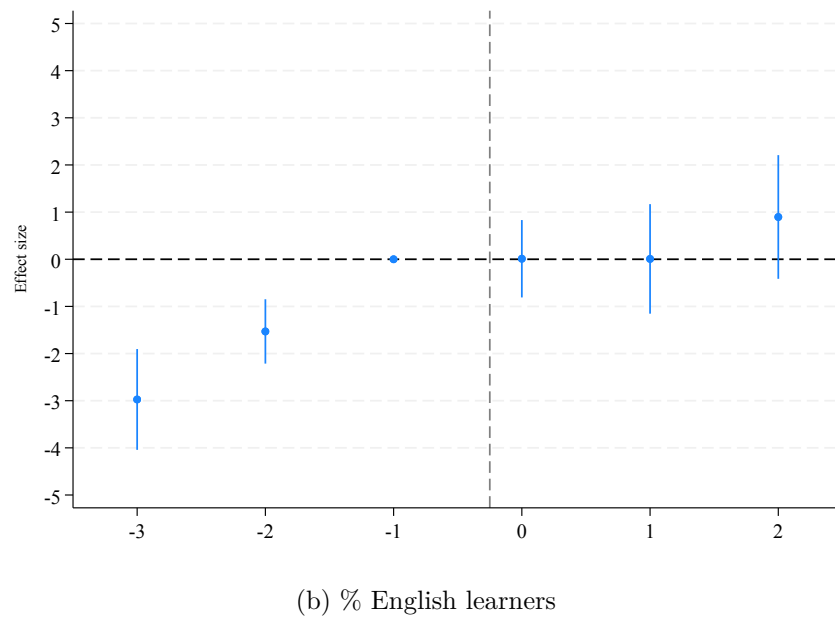
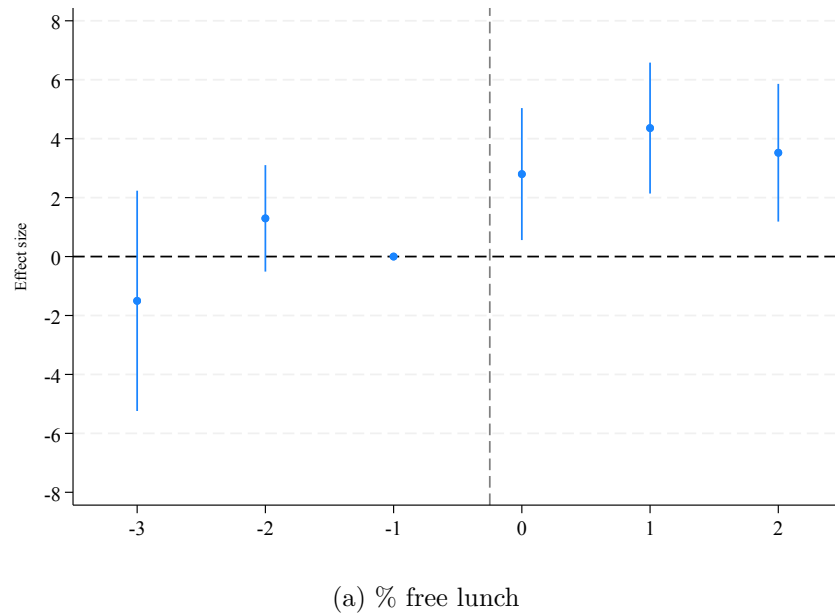
Notes: This figure reports event study estimates of the settlement's effects on school enrollment. The regression includes school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period.

Figure 6: Effects on race composition



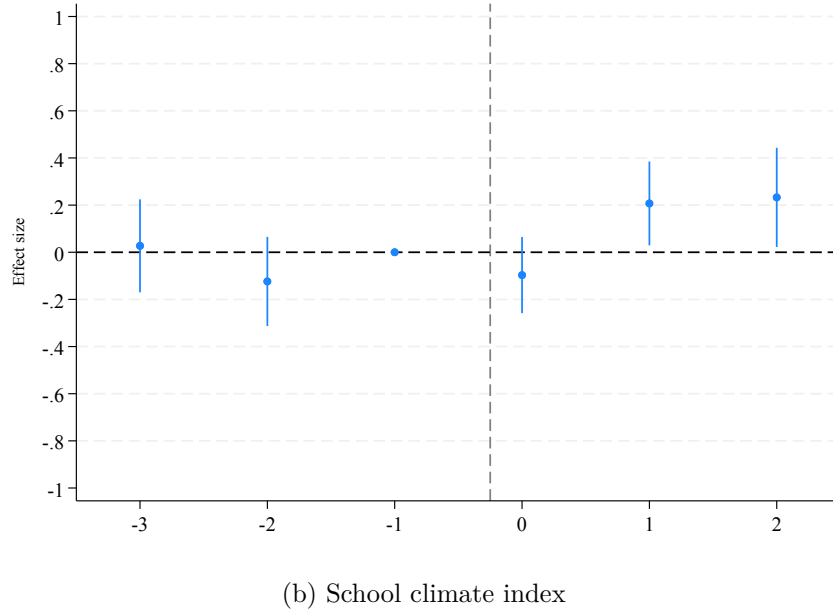
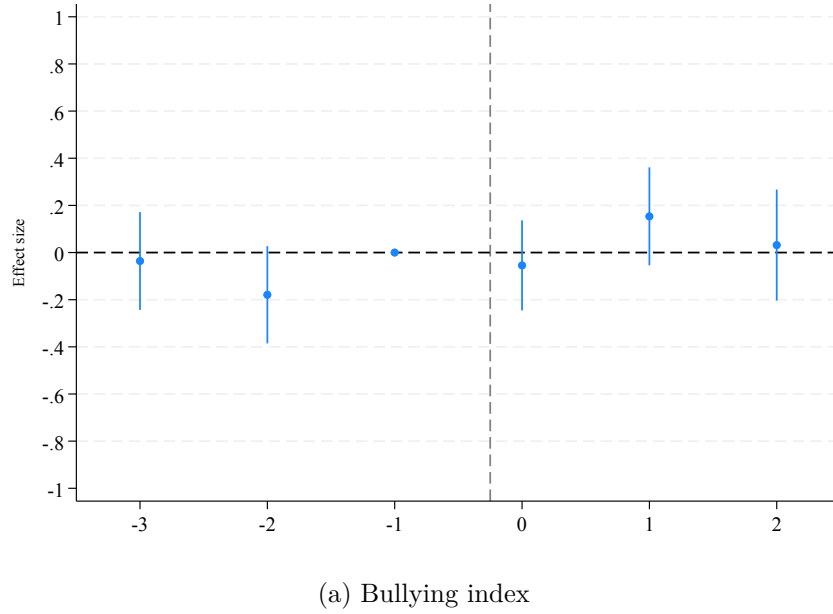
Notes: This figure reports event study estimates of the settlement's effects on racial composition. The regressions include school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period.

Figure 7: Effects on percentage of free lunch and English Learner classified students



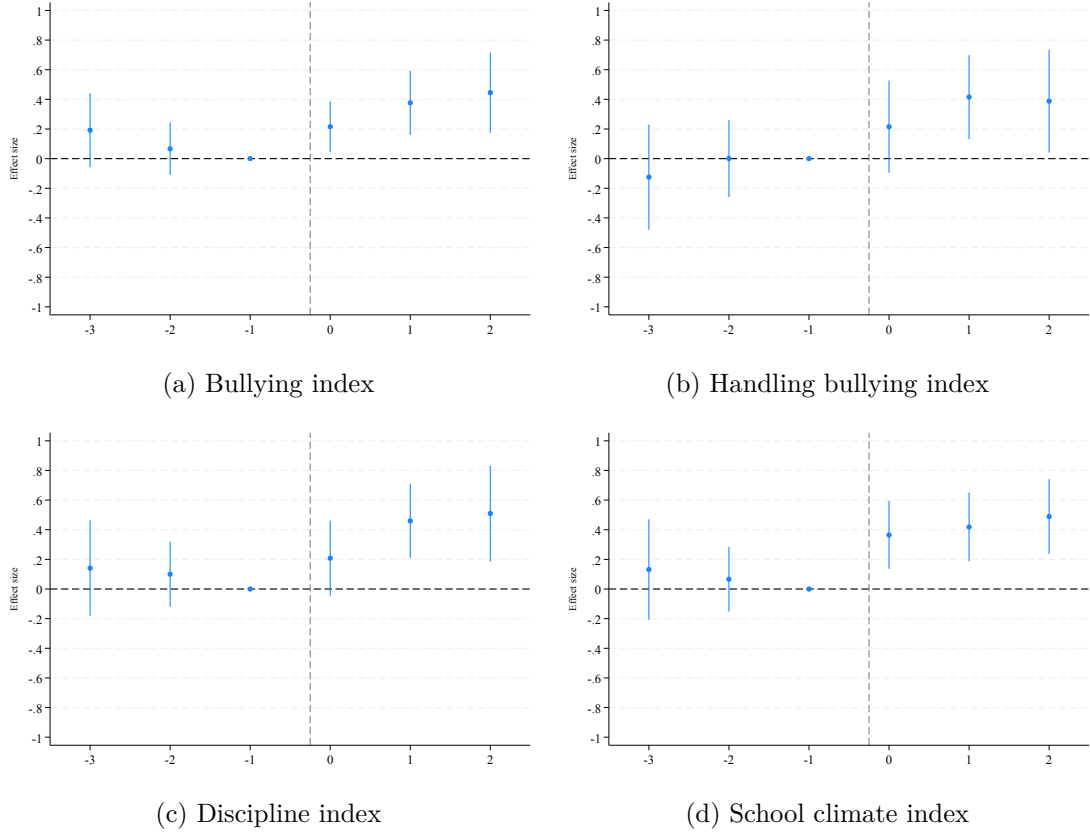
Notes: This figure reports event study estimates of the settlement's effects on student demographic composition. Panel (a) for the percentage of students classified as free lunch and Panel (b) for the percentage of students classified as English Learners. The regressions include school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period.

Figure 8: Effects on students' school experience indexes



Notes: This figure reports event study estimates of the settlement's effects on students' school experience survey outcomes. The regressions include school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period. I construct survey indices following [Anderson \(2008\)](#) and they are normalized to have mean zero and standard deviation one. The bullying index in Panel a combines four survey questions about students' experiences with physical aggression (being pushed, shoved, slapped, hit, or kicked), relational aggression (having mean rumors or lies spread), sexual harassment (experiencing sexual jokes, comments, or gestures), and appearance-based teasing. The school climate index in panel b includes six survey questions on adult respect and help, feelings of safety and belonging at the school, and overall satisfaction with their school experience.

Figure 9: Effects on staff's school experience indexes



Notes: This figure reports event study estimates of the settlement's effects on staff's school experience survey outcomes. The regressions include school and year fixed effects and cluster standard errors at the school level. The x-axis shows years relative to the settlement implementation (year 0). The vertical dashed line indicates the start of the settlement period. I construct survey indices following [Anderson \(2008\)](#) and they are normalized to have mean zero and standard deviation one. In all indexes a higher value means a better outcome. The Bullying index in Panel (a) includes three questions on how much of a problem staff thinks bullying, physical fighting, and discrimination is among students. The Handling bullying index in Panel (b) contains two survey questions related to receiving professional development on preventing bullying and if they address bullying. The Discipline index in Panel (c) includes two questions about the fairness and effectiveness of discipline at school. The school climate index in Panel (d) has four questions on safety, respect, and disruptive behavior. Staff includes teachers, administrators, counselors, and other school personnel.

Table 1: Summary Statistics

	Lawsuit beneficiary					Rest				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
N of students enrolled	833.59	407.55	288	1961	49	1187.20	682.70	189	2953	121
% Hispanic	82.09	16.16	28	99	49	80.42	19.17	20	99	121
% Black	14.42	16.39	0	69	49	7.51	12.19	0	71	121
% White	1.21	0.89	0	5	49	4.98	7.32	0	35	121
% Asian	0.89	2.18	0	14	49	3.20	5.16	0	26	121
% less than 2% races	1.39	1.39	0	5	49	3.90	6.06	0	45	121
% free lunch	87.41	5.42	74	99	49	83.61	7.85	53	97	121
% english learner	26.35	6.93	9	42	49	15.12	8.49	0	41	121
% Homeless	4.21	1.88	1	10	49	3.03	1.98	0	12	121
% Foster	1.29	1.02	0	4	49	0.56	0.40	0	2	121
Certified employees per 1,000 st	63.56	11.90	48	99	49	54.81	6.47	44	77	121
Non certified staff per 1,000 st	37.80	14.54	16	83	49	27.58	9.65	6	61	121
Suspension rate	1.70	2.11	0	12	49	0.64	1.11	0	9	121
% near or met math standard	28.30	8.89	9	48	49	44.64	8.41	25	77	121
% met ELA standard	21.90	8.42	5	41	49	32.48	7.61	18	50	121
% not meet ELA standard	44.37	16.40	8	78	49	25.65	13.03	0	55	121
% not meet math standard	69.56	9.94	45	91	49	46.88	12.40	2	71	121
N Schools			49					121		

Notes: Summary statistics correspond to the academic year 2016/17. The rest of the schools include all public secondary schools in Los Angeles Unified School District outside of North West district. It excludes charter schools.

Table 2: Effects on school spending outcomes

	(1)	N
Certified staff per 1,000 st	3.093** (1.199)	850
Non certified staff per 1,000 st	1.828* (0.942)	1020

Notes: Certified staff includes teachers, administrators, and pupil services personnel requiring credentials. Classified staff includes paraprofessionals, clerical, and other support personnel not requiring certification. All regressions include school and year fixed effects. Standard errors are clustered at the school level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Effects on students' outcomes

	(1)	N
Suspension rate	-0.750** (0.313)	1020
% Math nearly met or met	1.512 (1.033)	679
% ELA met	2.804*** (0.867)	679

Notes: All regressions include school and year fixed effects and cluster standard errors at the school level. Suspension rate is measured as the percentage of students suspended at least once during the academic year. The math and ELA outcomes are the percentage of students who met or nearly met the state standards for the math standardized test, and the percentage of students who met the state standards for the English Language Arts standardized test. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Effects on enrollment and student body composition

	(1)	N
N of students enrolled	-48.203** (19.001)	1020
% Hispanics	0.531 (0.344)	1020
% Blacks	-0.908*** (0.285)	1020
% Whites	-0.067 (0.145)	1020
% Asian	-0.045 (0.116)	1020
% Other less 2% races	0.489*** (0.117)	1020
% Free lunch	3.629*** (0.827)	1020
% English learners	1.806*** (0.529)	1020

Notes: All regressions include school and year fixed effects. Standard errors are clustered at the school level. Demographic variables are measured as percentages of total enrollment. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Robustness of treatment effects to student departure assumptions, bounding exercise results

Variable	Original	Scenario 1	Scenario 2	Scenario 3
Treatment Effect	-0.750** (0.313)	-0.815*** (0.308)	-0.419 (0.307)	-0.287 (0.308)
Observations	1020	1020	1020	1020

Notes: This table presents treatment effect estimates from difference-in-differences regressions under different assumptions about the characteristics of students who departed treated schools. The dependent variable is the suspension rate. Original shows the baseline estimates. Scenario 1 assumes departed students were well-behaved (zero suspension probability). Scenario 2 assumes departed students had suspension rates five times their racial baseline (2.19% for Hispanic, 9.34% for Black students). Scenario 3 assumes departed students were high-risk with suspension rates five times the treated schools baseline (8.5%). All regressions include school and year fixed effects. Standard errors clustered at the school level are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Effects on students' school experience indexes

	(1)	N
Bullying index	0.115 (0.077)	960
School climate index	0.147** (0.071)	960

Notes: All regressions include school and year fixed effects. Standard errors are clustered at the school level. I construct survey indices following [Anderson \(2008\)](#) and they are normalized to have mean zero and standard deviation one. The bullying index in Panel a combines four survey questions about students' experiences with physical aggression (being pushed, shoved, slapped, hit, or kicked), relational aggression (having mean rumors or lies spread), sexual harassment (experiencing sexual jokes, comments, or gestures), and appearance-based teasing. The school climate index in panel b includes six survey questions on adult respect and help, feelings of safety and belonging at the school, and overall satisfaction with their school experience. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Effects on staff's school experience indexes

	(1)	N
Bullying index	0.260*** (0.082)	912
Handling bullying index	0.381*** (0.113)	911
Discipline index	0.312*** (0.106)	912
School climate index	0.358*** (0.095)	912

Notes: All regressions include school and year fixed effects. Standard errors are clustered at the school level. I construct survey indices following [Anderson \(2008\)](#) and they are normalize to have mean zero and standard deviation one. In all indexes a higher value means a better outcome. The Bullying index in Panel (a) includes three questions on how much of a problem staff thinks bullying, physical fighting, and discrimination is among students. The Handling bullying index in Panel (B) contains two survey questions related to receiving professional development on preventing bullying and if they address bullying. The Discipline index in Panel (c) includes two questions about the fairness and effectiveness of discipline at school. The school climate index in Panel (d) has four questions on safety, respect, and disruptive behavior. Staff includes teachers, administrators, counselors, and other school personnel. Staff includes teachers, administrators, counselors, and other school personnel. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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