

# THE HIDDEN COSTS OF CALIFORNIA'S HARSH SCHOOL DISCIPLINE: And the Localized Economic Benefits From Suspending Fewer High School Students

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# INTRODUCTION

Economists have found that high school graduates accrue many benefits from earning a diploma that non-graduates do not (Belfied & Levin, 2007; Carroll & Erkut, 2009). The benefits are large, even for those diploma recipients whose reading achievement is in the bottom quartile (Belfield, 2014a, 2014b). Economists also have calculated the economic burden of failing to earn a diploma, on both individuals and on society as a whole (Ibid). Based on predicted differences in outcomes between those who earn a diploma and those who do not, this burden includes increased crime, and the related costs associated with adult incarceration. The burden also includes non-graduates' lower earnings, the lower state and federal tax revenues resulting from these lower earnings, and higher health and welfare costs. It stands to reason that if we can identify and address some of the causes of students' failure to graduate—at least those that schools can have some influence over—we can improve graduation rates and reap the economic benefits (and avoid the costs).

One cause of failure to graduate is being suspended from school (Balfanz, Byrnes, & Fox, 2015). Perhaps this is why Republican legislators in Texas, such as state senate education committee chair Senator Shapiro, supported extensive research on school discipline by the Council of State Governments Justice Center. The Justice Center, which tracked every Texas middle school student for more than six years, found that being suspended from school was a strong predictor of involvement with the juvenile justice system in the same year, and of failing to graduate high school (Fabelo et al., 2011). The researchers showed that most Texas middle school students are suspended

at least once between grades 7 and 12. This fine-grained analysis isolated the impact of suspension, finding that it predicted lower high school graduation rates, even when controlling for prior student behavior, poverty, achievement, and 80 other variables. Most important, the Texas study concluded that factors schools controlled largely explained much of the wide range of suspension rate differences between Texas' schools. In a follow-up study, the researchers estimated that Texans could avoid billions of dollars in lost tax revenue, and in social welfare costs, as well as costs associated with repeating a grade, by suspending fewer students. (Marchbanks III et al., 2015).

This California study, which is based on a dataset similar to that used for the Texas study, focuses on the economic impact of school suspensions at the district level. Every 10<sup>th</sup> grade student in California was tracked for three years to determine the degree to which suspensions predicted lower graduation rates at the state and district level. This estimated impact on graduation was then used to calculate the economic costs of suspension for the state, and for every district.

In the first phase of the California analysis, as shown in Figure 1, students across the state of who had never been suspended between grades 10 and 12 had an 83% graduation rate, whereas the graduation rate for students with at least one suspension was just 60%. While this 23-point difference is large, the difference was larger for 107 districts. Of course, suspended and non-suspended students differ from one another in other ways, so we cannot assume that the observed difference in graduation

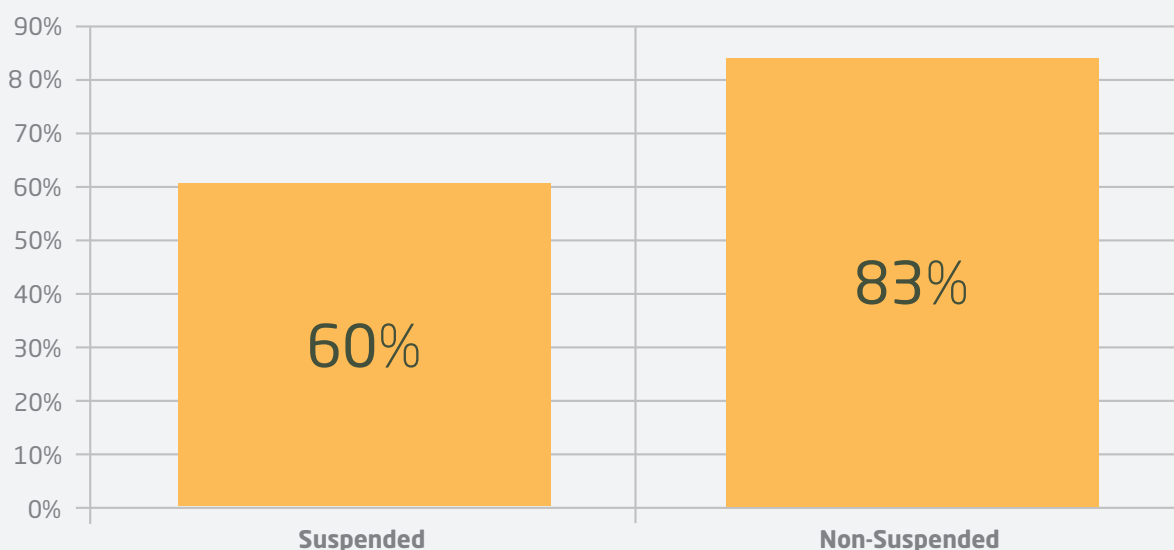
rates is due solely to being suspended. However, the extensive detailed data on individual students enabled us to use statistical models to estimate how much being suspended lowered graduation rates, which we did by controlling for most of the other common predictors of dropping out of high school. We found that, in California, being suspended predicted a 6.5 percentage-point decrease in the graduation rate. Therefore, although most of the observed differences in graduation rates can be attributed to factors that influence both suspensions and graduation, such as low grades, we estimate that suspensions themselves directly reduce the graduation rates of suspended students.

The negative impact of suspension on graduation rates in California translates into a statewide economic burden of \$2.7 billion dollars in lifetime costs from just one graduating class. Using sources on the economic costs of

not graduating in California, we conservatively estimate that, if the three-year cohort suspension rate were lowered by just one percentage point, \$180 million of those economic losses would be averted. Greater reductions in suspension rates are predicted to yield larger cost savings. Although these savings are calculated over the cohort members' lifetime, a multitude of cohorts is contributing to the burdens and benefits at the same time. Although calculating the annual costs and benefits are beyond the scope of this study, each year suspensions send into motion a future lifetime's impact for multiple cohorts of students. Therefore, improvements to current school discipline policy and practice can likely avert much of the high cost from suspensions in future years.

To provide locally specific economic estimates, we calculated the economic impact separately for each of the 15 largest districts in the California. The decline in the

**Figure 1. GRADUATION RATES OF SUSPENDED AND NON-SUSPENDED STUDENTS**



graduation rate caused by suspensions ranged between 2.2 and 14.8 percentage points across these 15 districts.

The potential savings from lowering the three-year suspension rate by one percentage point was similarly broad, ranging from \$25 million in Los Angeles Unified School District to \$600,000 in San Juan Unified. There may be several reasons why the varied impact from suspensions is broad. Most important is that we controlled for the variables that research has identified as the best predictors of dropping out (Allensworth, et al., 2007, 2014; Balfanz, Herzog, & MacIver, 2007; Rumberger, 2011). Several possible contributing factors were not controlled for: average length of suspension and number of days of lost instruction and whether a student was an English learner or had changed schools often. The variables unaccounted for may have been generally less predictive than those we included in our model, although they could have been important in particular districts.

Another reason the impact of suspension on graduation rates might vary is that particular district policies could drive estimates of the causal impact up or down. Our district-level analysis focused on the last district a student attended, which was not necessarily the original one. In other words, if a district sends its “at risk” suspended students to an alternative school run by the County Office of Education, or a County Department of Education (each are distinct districts) the impact would not be counted against the sending district. For example, we observed that of the 5,813 cohort students last enrolled in the Orange County Department of Education (see Table 1) only 2,054 of those students were first enrolled there in the 10<sup>th</sup> grade. In other words, nearly two-thirds of the students that made up the Orange County Department of

Education cohort, began their 10<sup>th</sup> grade year in another district. Moreover, 23 percent of the students transferring in had been suspended compared to only 7 percent of the students who were enrolled continuously in the Orange County Department of Education district.<sup>1</sup> Finally, only 45 percent of the students who transferred into the district graduated, compared to 69 percent of the students who were enrolled in the district when they began 10<sup>th</sup> grade. These same patterns are evident statewide, as students who transfer districts between 10<sup>th</sup> and 12<sup>th</sup> grade (about 14 percent of all students) are more likely to have been suspended and are less likely to graduate.

A finding more important than the widely varied impact of suspensions detected by our statistical modeling is that, when we applied our statewide estimate to each district, we found that suspensions produced an economic burden that could have been avoided in nearly every district that suspended students.<sup>2</sup>

This localized economic impact study of suspensions—the first ever to produce district level estimates—comes at an important time. As the state of California, pursuant to federal law, plans to include discipline rates among the several new metrics that will be used to evaluate school and district performance, every district should be aware of the subsequent negative economic impact of suspending students.<sup>3</sup> Equally important is that, as districts revise their goals and their budget for the next school year they should understand the tremendous local cost savings that can be reaped locally by lowering suspension rates.<sup>4</sup> Although these estimated cost savings accrue over a lifetime and benefit the community where the district is located, rather than the school district budget, some benefits not included in our estimates will occur sooner

through a reduction in juvenile delinquency (Belfield & Levin, 2009).

When discipline reform proponents suggest that suspension rates should be lower and racial disproportionality in discipline addressed (National Association of School Psychologists, 2013),<sup>5</sup> they do so in part because suspension from school is regarded as a measure of last resort, and not a behavioral intervention that research recommends using with high frequency (American Psychological Association, 2008). Therefore, even if students who live in poverty enter school with more behavioral issues, there is no research that suggests suspending them more often for minor behaviors is an educationally sound response. Still, some districts assert that they have little control over their suspension rate because they have a very high percentage of students from poor families or because their population is highly mobile. To explore this assertion, as part of our initial analysis, we analyzed the three-year cohort suspension rate of every district in California after controlling for the demographic student factors that were most predictive of being suspended. We found that districts serving similar students varied widely in their use of suspension, with some districts suspending far more, and others far less than one could predict based on demographics (See Appendix). These California findings are consistent with other studies that found that even accounting for demographic differences, the factors that educators can control are strong predictors of whether suspension rates are high or low (Fabelo et al., 2011; Skiba, 2014, 2015). In other words, because school and district-controlled factors do predict suspension rates, they can also determine whether or not economic benefits from reducing suspensions are realized.

The remainder of this report describes our data sources, methods, limitations, and findings in greater detail, with additional analyses in the appendix. We first provide our statewide findings, and then feature our findings for the state's 15 largest districts. In the discussion section we explore how this report could help inform the development of school climate indicators, and make recommendations for Local Control and Accountability Plan (LCAP) budgets as well as encourage the use of a school discipline indicator as part of California's school accountability system this year and for many years to come. Toward this end, as a companion to this report, we have published the estimated economic costs for nearly every district in California in a spreadsheet available on our website at [www.civilrightsproject.ucla.edu](http://www.civilrightsproject.ucla.edu).

# METHODS

**Data.** The primary data from this study comes from the California Longitudinal Student Achievement Data System (CALPADS). CALPADS collects student-level records from every school and district in the state. The data contain information on: school enrollment and dates of entry and exit, reason for exit and completion status (including dropout and graduation), course enrollment and grades, suspensions and expulsions. The California Department of Education (CDE) provided CALPADS data for three academic years: 2011-12, 2012-13, and 2013-14.

For this study we constructed a three-year longitudinal cohort file of all students who were enrolled in the 10<sup>th</sup> grade in 2011-12. The initial sample size was 505,425 students.<sup>6</sup> We then eliminated students who, according to CDE guidelines, left the cohort for a number of valid reasons: died; transferred to a private school; transferred to a school outside California; transferred outside the US; transferred to adult education; transferred to college; transferred to a health facility; transferred to a state institution that awards high school diplomas; or transferred to home schooling. The remaining sample size was 477,833 students.<sup>7</sup>

For each student in the cohort, we merged a number of CALPADS files to construct an enrollment history for each of the school years they were enrolled.<sup>8</sup> The enrollment history included the name of each school the student was enrolled in, the dates enrolled, the number of courses the student failed, the student's GPA, and whether the student was suspended during that period. We then constructed a variable indicating whether the student had ever been suspended over

the three-year period and identified whether the student graduated based on their completion status in their last year of enrollment.<sup>9</sup> Finally, we created a series of student-level variables that were used in the statistical modeling (see Appendix for variable descriptions and descriptive statistics for all the variables used in the analysis).

**Analysis.** The analysis was done in three steps. At each step we conducted the analysis at the state level and at the district level based on the last district the student was enrolled in.

First, we generated descriptive statistics on the number of students in the cohort and the percentage of students who had ever been suspended (in school or out of school) between the start of 10th grade and the end of 12th.<sup>10</sup>

Next, we estimated the causal impact of suspensions on graduation rates using treatment effects models (STATA, 2013). The causal impact of suspensions cannot be estimated by simply comparing the graduation rates between suspended and non-suspended students because the two groups of students differ on characteristics that are related to both being suspended and graduation. For example, suspended students have lower academic achievement (see Appendix Table A.1), which also influences graduation (Allensworth, et al., 2007, 2014; Balfanz et al., 2007; Rumberger, 2011).<sup>11</sup> Treatment effects models can be used to estimate the causal impact of a treatment on an outcome by controlling for a set of covariates that are related to both the treatment and the outcome. In this case, we estimated the causal impact

of being suspended (the treatment) on graduation (the outcome) controlling for four covariates related to both being suspended and graduation (see Appendix).

We used the regression adjustment method to estimate the treatment effects of being suspended on the 10<sup>th</sup>-grade cohort (N=477,833). Treatment effects were estimated using two regression models, one to predict the effects of the control variables on graduation rates for the subset of all suspended students (N=71,087) and another to predict the effects of the control variables on graduation rates for a subsample of all non-suspended students (N=406,746). The results of the two models were then used to compute a predicted graduation rate for each student based on their values of the covariates assuming he or she was (model one) or was not (model two) suspended. The mean difference between the two rates for the subsample of suspended students represents the estimated causal impact of suspensions.

Finally, we applied a separate analysis of the cost of not earning a high school diploma specific to California to produce estimates of the economic losses resulting from the number of students who failed to graduate due to suspension. The economic model is based on one that has been used previously to estimate the economic impact of high school dropouts in the United States and California (Belfield & Levin, 2007a, 2007b). It compares the economic outcomes of high school dropouts and high school graduates over their working adult lifetimes, from age 18 to 65, in four areas: earnings, crime, health, and welfare. The economic impacts are measured from two perspectives: a fiscal perspective that considers the economic impact on local, state, and federal taxpayers;

and a social perspective that considers the economic impact on the larger society: the latter includes the former. As Belfield describes, “Using a standard economic model, along with state-specific data and up-to-date research evidence, we calculate the social and fiscal consequences of high school failure...The perspective is that of an 18-year-old student in 2014 with a lifetime of future work. The consequences are expressed as the lifetime differences between dropouts and graduates in: incomes; taxes paid; government spending on health, crime, and welfare; tax distortions; and productivity gains.” (Belfield, 2014a, p.1). Although the fiscal and social costs are related, the social costs include the aggregate losses incurred by non-graduates personally such as their lower income, diminished productivity, and higher expenditures on health care due to poorer health.<sup>12</sup> The fiscal costs are a subset of the social costs and cover only the losses experienced by federal, state and local governments due to lower income tax revenues and higher government expenditures on health and social services, and on the criminal justice system. These same estimates were used in a previous report on the economic impact of suspensions in California (Rumberger & Losen, 2016). More detailed information on the methods and data can be found in Belfield (2014a, 2014b).

This report also does not factor in the cost to the taxpayer of keeping more students in school. Some of the costs associated with keeping more students in school and on track to graduate would be offset by fewer students repeating a grade and/or the reduced cost of adjudicating youth in the juvenile justice system. Additionally, districts in some states (including Texas and California) lose state funds if students drop out or withdraw during the school

year, or because of low average daily attendance, so there may be offsetting financial costs at the local level that also were not factored in.

The local analysis predicts the suspension-induced decrease in the graduation rates for 15 of California's largest districts, and the district level costs of suspension. For the remaining California districts we paired the statewide average suspension-induced decrease in graduation rates (6.5 points) with the district-specific suspension rates of the cohort to drive the estimate of the local costs. The report thus features the largest districts while also providing a conservative estimate of the cost of suspension for every district in the state. If a district reported no suspensions or had a 100 percent graduation rate we did not supply a cost estimate.

We note that the impact we report suspensions having on dropping out is not proven to the extent that a randomly controlled study can prove a causal relationship. However, besides controlling for several common causes of dropping out, the findings are based on well-established treatment effects statistical models that yield reasonable causal estimates (Nichols, 2007; StataCorp, 2013).

# RESULTS

We first examine overall suspension rates of the cohort students during the three-year period. Among the 477,833 10<sup>th</sup>-grade students in the statewide cohort, 71,087 students were suspended (in-school or out-of-school) at least once in that time. This represents a student suspension rate of 14.9 percent.<sup>13</sup> Readers are reminded that rates have been declining in California and that this is an unduplicated three-year cumulative rate for the members of this cohort, thus it cannot be fairly compared to the rates reported annually by the state.

We also computed the three-year cohort suspension rate for all 554 school districts in the state that enrolled 10<sup>th</sup>-grade students and found that the suspension rate varied greatly across the districts. Of the 15 districts with highest suspension rates and at least 100 cohort students, 14 were districts run by County Offices of Education that generally serve the most disadvantaged and at-risk students, while the lowest suspension rates were generally found in very small districts, including elementary districts that serve very few secondary

**Table 1.** THREE-YEAR COHORT SUSPENSION RATES FOR CALIFORNIA'S 15 LARGEST DISTRICTS

County	District	10th grade cohort	Number suspended	Suspension rate (%)
	<b>STATE</b>	<b>477,833</b>	<b>71,087</b>	<b>14.9</b>
Los Angeles	Los Angeles Unified	47,662	2,835	5.9
San Diego	San Diego Unified	9,250	1,075	11.6
Kern	Kern High	8,208	1,107	13.5
San Diego	Sweetwater Union High	6,915	864	12.5
Los Angeles	Long Beach Unified	6,281	912	14.5
Santa Clara	East Side Union High	5,979	690	11.5
Orange	Orange County Department of Education	5,813	1,130	19.4
San Bernardino	Chaffey Joint Union High	5,736	784	13.7
Los Angeles	Baldwin Park Unified	5,402	673	12.5
Los Angeles	Antelope Valley Union High	5,234	1,135	21.7
San Diego	Grossmont Union High	5,106	393	7.7
Fresno	Fresno Unified	4,949	655	13.2
Los Angeles	William S. Hart Union High	4,788	604	12.6
San Francisco	San Francisco Unified	4,635	320	6.9
Sacramento	San Juan Unified	4,492	1,024	22.8

students. We further investigated variation in suspension rates across districts, accounting for differences in demographics and still found substantial variation (see Appendix).

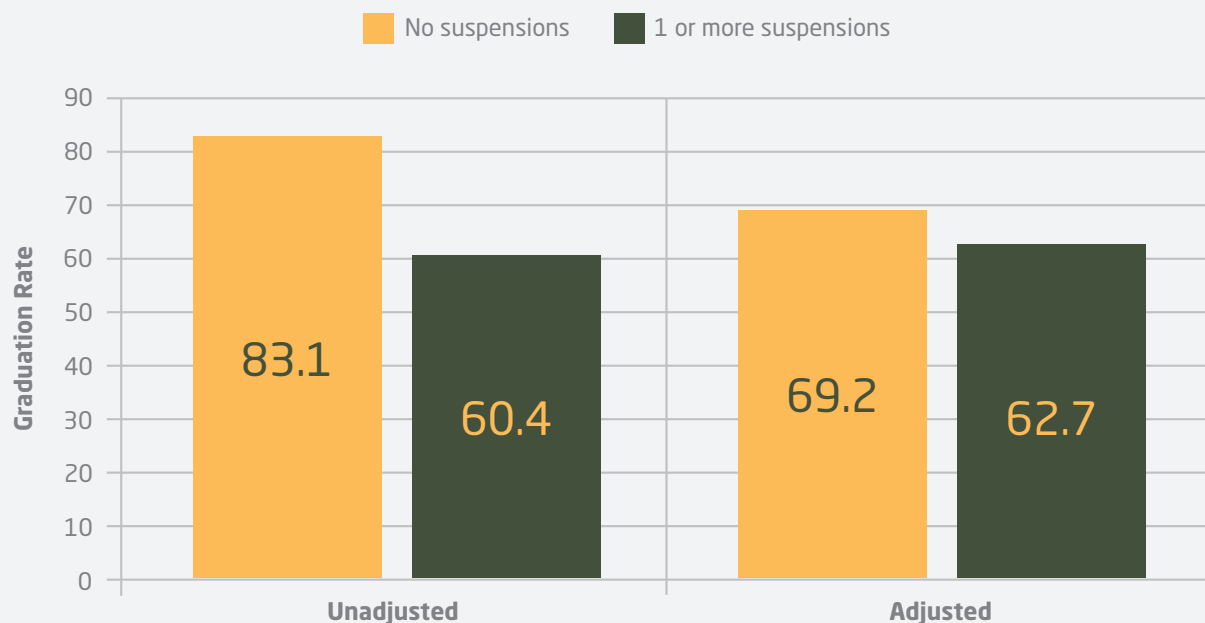
The three-year suspension rates for the 15 largest districts are shown in Table 1. The suspension rates vary widely, even among these districts, from a low of 5.9 percent in Los Angeles Unified to a high of 22.8 percent in San Juan Unified. These figures represent the percentage of students in these districts that had a least one suspension anytime since the beginning of 10<sup>th</sup> grade, even if the student was attending a different district when the suspension was meted out. This is particularly relevant for districts known as the County Office (or Department) of Education, which often receive a large number of students who transfer from other districts. For example, of the 5,813 cohort students in the Orange County Department

of Education, only 2,054 of those students were enrolled there when that cohort started in 10<sup>th</sup> grade. In other words, fully 65 percent of the students who were last enrolled in the Orange County Department of Education in their last year of high school (the 12<sup>th</sup> grade for most but not all students) were enrolled in another district while in the 10<sup>th</sup> grade.

District suspension rates, and the estimated economic costs they predict for the cohort, are available in a companion spreadsheet for nearly all the districts attended by students in the 10<sup>th</sup> grade cohort on the CRP website at: [www.civilrightsproject.ucla.edu](http://www.civilrightsproject.ucla.edu).

The next phase of this study examined the relationship between suspensions and the failure to graduate from high school. Our data reveal that only 60 percent of 10<sup>th</sup>

**Figure 2. UNADJUSTED AND ADJUSTED GRADE-10 COHORT GRADUATION RATES SHOW IMPACT OF BEING SUSPENDED**



graders who received a suspension graduated from high school, compared to 83 percent of 10th graders who did not receive a suspension (Figure 2). In other words, being suspended is associated with a 23 percentage-point decrease in the likelihood of graduating. The pair of columns on the left side of Figure 2, labeled “Unadjusted” show the actual difference in graduation rates. The “Adjusted” rates in the pair of columns on the right side reflect the difference in graduation rates generated by our statistical model, which accounts for the many other common reasons students fail to graduate.

Other reasons for lower graduation rates are that students who are suspended may also have poorer attendance and lower grades and be more likely to be retained than students who are not suspended—all factors associated with failure to graduate from high school (Rumberger, 2011). Consequently, observed differences in graduation rates between students who were or were not suspended should not be regarded as the causal impact suspension has on graduation—that is, whether suspending a student who may already be at risk for dropping out anyway actually increases the likelihood that a student will drop out.

To estimate the causal impact of suspensions more accurately, we used statistical models that controlled for the following series of variables associated with both being suspended and dropping out: the number of failed classes, GPA, low socio-economic status, and being over-age (for the grade). As explained earlier in the methods section, the results of these models were used to estimate the causal impact of suspension on graduation rates for suspended students.

Estimates are shown in the pair of columns on the right side of Figure 2 labeled “Adjusted.” The higher bar in the right pair represents the estimated graduation rate for all suspended students assuming they had not been suspended. Note that, even if suspended students had not received a suspension, their estimated graduation rate is much less than the observed graduation rate for all non-suspended students, 69 percent versus 83 percent. This illustrates that students who are suspended from school are more likely to have other risk factors associated with not graduating. Specifically, when we compare the suspended students to their non-suspended peers, they are more likely to have poor academic performance (course failures and low grades) and come from disadvantaged backgrounds (See Appendix Table A.1). This is why our analysis controlled for those other contributing factors. The pair of bars on the right side show that, with other factors controlled, the estimated graduation rate for suspended students who were suspended is 62.7 percent, which is still 6.5 percentage points less than the estimated rate if they had not been suspended. In other words, this suggests that suspensions increase the risk of not graduating from high school by 6.5 percentage points.

We employed the same procedure to estimate the impact suspensions have on graduation rates at the district level. The findings for the 15 largest districts are shown in Table 2. The estimated reduction in graduation rates among these 15 districts was highly variable, from a high of 14.8 percentage points in Fresno to a low of 2.2 percentage points in San Juan and 3.1 percentage points in William S. Hart (both of which were not statistically different than zero).

One may wonder why our analysis predicts a differing impact on graduation rates in districts with nearly the

same graduation and suspension rates. The overarching reason is that the districts differed in the presence or absence of other factors that were controlled for, such as failing a course. Moreover, important differences in factors that were not controlled for -- including student mobility, placement in an alternative school, arrests and the length of suspensions -- might also have contributed. For example, we can hypothesize that in lower-suspending

districts, the typical suspended student may have committed more serious misconduct and therefore be suspended for a longer period. If there are serious and impactful differences in the length of an average suspension, districts that use suspensions less often might tend to mete out longer suspensions which likely have a greater negative impact.<sup>14</sup>

**Table 2.** ESTIMATED IMPACT OF SUSPENSIONS ON GRADUATION RATES IN THE 15 LARGEST DISTRICTS

District	Graduation rate of non-suspended students (percentage)	Graduation rate of suspended students (percentage)	Graduation rate difference between suspended and non-suspended students (percentage points)	Estimated reduction in graduation rate due to suspensions (percentage points)
<b>STATE</b>	83.1	60.4	22.7	6.5
Los Angeles Unified	72.9	51.6	21.3	9.0
San Diego Unified	84.8	66.2	18.6	6.1
Kern High	88.7	71.1	17.6	8.6
Sweetwater Union High	80.8	54.9	25.9	7.7
Long Beach Unified	83.9	56.7	27.2	6.5
East Side Union High	84.8	44.3	40.5	5.3
Orange County Department of Education	68.1	43.8	24.3	8.9
Chaffey Joint Union High	88.9	67.0	21.9	4.6
Baldwin Park Unified	64.6	51.3	13.3	5.4
Antelope Valley Union High	71.5	50.4	21.1	3.6
Grossmont Union High	78.0	52.7	25.3	10.9
Fresno Unified	75.9	50.5	25.4	14.8
William S. Hart Union High	85.2	69.4	15.8	3.1 *
San Francisco Unified	79.1	48.1	31.0	7.1
San Juan Unified	81.1	59.3	21.8	2.2 *

\* In these districts the estimated impact of suspensions was not statistically significant.

**Estimated Economic Impact:** The last step of our analysis was to use figures on the fiscal and social impact of high school non-graduates to compute the economic losses due to the total number of suspensions, and then to calculate what the economic gains would be if suspension rates were reduced by one percentage point. In an earlier report, we conducted the same analysis based on a sample of California students from a national longitudinal survey of 10<sup>th</sup> grade students known as the Education Longitudinal Survey (ELS). The findings presented here were based on more recent data than the ELS, and covered every 10<sup>th</sup>-grade student in the state data-base rather than just a sample.

To provide some context, it is important to emphasize the substantial economic losses from students not graduating from high school. A single non-graduate generates \$175,120 in fiscal taxpayer losses and \$579,820 in social losses over his or her lifetime. From the 10<sup>th</sup>-grade cohort of 477,833 students, 97,877 failed to graduate from high school three years later. These non-graduates will produce \$17 billion in fiscal losses and \$56 billion in social losses over the rest of their lifetime (Table 3).

From the same cohort, 71,087 students were suspended at least once over the course of three years, and 28,184 of those suspended students failed to graduate. These suspended non-graduates produce over \$4.9 billion in fiscal losses and over \$16 billion in social losses. Importantly, although suspended students make up only 15 percent of the total 10<sup>th</sup> grade cohort (Table 1), they account for 29 percent of the non-graduates and thus 29 percent of all the fiscal and economic losses from students not graduating. Similarly, Latino suspended students were 16% of the total Latino 10<sup>th</sup> grade cohort and 28% of the Latino non-graduates. Black suspended students were

29% of the total Black 10<sup>th</sup> grade cohort and 43% of all Black non-graduates.

Our analysis of the cost of suspensions, as presented in the bottom of Table 3, estimates that 4,621 of the suspended students failed to graduate from high school *because* they were suspended. Those students will generate estimated social losses of \$2.679 billion and fiscal losses to taxpayers of \$809 million over their working lifetimes (from age 18 to 65). Clearly, student suspensions in California cause the state huge economic losses. Conversely, reducing suspensions would generate substantial economic benefits. A one-percentage-point decrease in the suspension rate would generate \$180 million in social benefits and save taxpayers \$54 million.

We carried out the same economic analysis separately for Latinos and for Black students.<sup>15</sup> For both groups, their share of the economic burden is higher than their share of the total enrollment. There were 242,580 Latino students in the 2011-12 10<sup>th</sup>-grade cohort, which represents about half of the 10<sup>th</sup>-grade cohort. Of those, 39,387 or 16.2 percent were suspended, which is slightly higher than the statewide average of 14.9 percent (see Table 1). We estimate that those suspensions led to 2,560 Latino students failing to graduate high school. Those non-graduates generated \$1.5 billion in social losses to the state and to \$448 million in fiscal losses to California taxpayers.

The economic impact on the state and localities from Black student suspensions is smaller due to the lower number of Black students, but proportionally their impact is quite larger. There were 32,981 Black students in the 2011-12 10<sup>th</sup>-grade cohort, which represents 6.9 percent

of the entire 10<sup>th</sup> grade cohort. Of those, 9,618 or 29.2% were suspended, which is twice the statewide average of 14.9%. We estimate that those suspensions led to 721 Black students failing to graduate from high school. Those non-graduates generated \$418 million in social losses to the state and \$126 million in fiscal losses to California taxpayers. Those losses represent 15.6% of all the economic losses in the state. In other words, although

Black students only represent 7% of all 10<sup>th</sup>-grade students, they represent 15.6% of all suspended students and 15.6% of all economic losses from suspension in the state.<sup>16</sup> We carried out the same analysis for each school district in the state in order to get a better idea of the economic impact of suspensions at the local level.<sup>17</sup> The greatest impact of failing to graduate falls on local communities, which suffer from the unemployment, low earnings, and

**Table 3. ECONOMIC IMPACT FROM SUSPENSIONS IN CALIFORNIA**

	All	Latinos	Blacks
<b>a. Economic Losses of Failing to Graduate (any reason)</b>			
Number in 10 <sup>th</sup> -grade cohort	477,833	242,580	32,931
Percent of all students	--	50.8%	6.9%
Number of non-graduates	96,877	60,418	10,299
Fiscal losses (in millions)	\$16,965	\$10,580	\$1,804
Social losses (in millions)	\$56,171	\$35,032	\$5,972
<b>b. Economic Losses of Non-graduates That Were Suspended</b>			
Number of suspended students	<b>71,087</b>	39,387	9,618
Suspension rate	14.9%	16.2%	29.2%
Number of suspended non-graduates	28,184	16,960	4,453
Fiscal losses (in millions)	\$4,936	\$2,970	\$780
Social losses (in millions)	\$16,342	\$9,834	\$2,582
<b>c. Economic Impact Estimated to Have Been Directly Related to Suspension</b>			
Number of non-graduates due to suspensions	4,621	2,560	721
Economic losses due to suspensions			
Fiscal losses (in millions)	\$809	\$448	\$126
Social losses (in millions)	\$2,679	\$1,484	\$418
Percent of economic losses for all students	--	55.4%	15.6%
Economic benefit from one percentage point reduction in suspension rate			
Fiscal benefit (in millions)	\$54.4	\$27.6	\$3.7
Social benefit (in millions)	\$180.1	\$91.4	\$12.4

increased crime rates of high school non-graduates as well as the increased demand on local government for health, welfare, and law enforcement.

First we calculated the economic losses caused by all the students not graduating in the 15 largest California school districts and then the economic losses from suspended students. Those results are shown in Table 4. The results reveal that the economic losses from students failing to graduate are substantial and that suspended students contribute disproportionately to those losses. In Los

Angeles Unified, students who failed to graduate generate an estimated \$2.4 billion in fiscal losses and \$7.8 billion in social losses and that suspended students contribute to 10 percent of those losses. In other districts, where the suspension rate is much higher, suspended students contribute to a greater share of the economic losses from students not graduating. In San Juan, for example, fiscal losses from students not graduating amount to an estimated \$188 million and the social losses amount to \$621 million, with suspended students contributing almost 40 percent of those losses.

**Table 4.** ECONOMIC LOSSES FROM NOT GRADUATING FOR ALL STUDENTS AND FROM SUSPENDED STUDENTS IN THE 15 LARGEST CALIFORNIA SCHOOL DISTRICTS (BY SIZE OF 10TH GRADE COHORT).

District	All Students			Suspended Students			Impact (% of total)
	Number of non-graduates	Fiscal losses (\$M)	Social losses (\$M)	Number of non-graduates	Fiscal losses (\$M)	Social losses (\$M)	
<b>STATE</b>	<b>96,877</b>	<b>16,965</b>	<b>56,171</b>	<b>28,184</b>	<b>4,936</b>	<b>16,342</b>	<b>29.1</b>
Los Angeles Unified	13522	2,368	7,840	1371	240	795	10.1
San Diego Unified	1604	281	930	363	64	210	22.6
Kern High	1124	197	652	320	56	186	28.5
Sweetwater Union High	1549	271	898	390	68	226	25.2
Long Beach Unified	1259	220	730	395	69	229	31.4
East Side Union High	1188	208	689	384	67	223	32.3
Orange County Department of Ed	2128	373	1,234	635	111	368	29.8
Chaffey Joint Union High	810	142	470	259	45	150	32.0
Baldwin Park Unified	2002	351	1,161	328	57	190	16.4
Antelope Valley Union High	1730	303	1,003	563	99	326	32.5
Grossmont Union High	1223	214	709	186	33	108	15.2
Fresno Unified	1357	238	787	324	57	188	23.9
William S. Hart Union High	805	141	467	185	32	107	23.0
San Francisco Unified	1068	187	619	166	29	96	15.5
San Juan Unified	1071	188	621	417	73	242	38.9

Next, we estimated how much of the losses from suspended students not graduating can be attributed directly to suspensions themselves. The results of our analysis for the 15 largest California school districts are shown in Table 5. As described, for each of these 15 districts we applied the model to generate a district-

specific causal effect on the cohort graduation rate (Table 2). In LAUSD, for example, we estimated a reduction in the graduation rate due to suspensions of 9 percentage points (See Table 2). Therefore, we estimated that 255 LAUSD students who were enrolled in the 10<sup>th</sup> grade in 2011-12 failed to graduate from high school because

**Table 5. ECONOMIC IMPACT FROM SUSPENSIONS AND ECONOMIC BENEFITS OF REDUCING SUSPENSIONS IN THE 15 LARGEST CALIFORNIA SCHOOL DISTRICTS**

District	Number of non-graduates due to suspensions	Estimated economic losses from suspensions		Estimated benefit based on a 1 percentage point decline in the cohort suspension rate	
		Fiscal losses (\$M)	Social losses (\$M)	Fiscal benefit (\$M)	Social benefit (\$M)
<b>STATE</b>	<b>4,621</b>	<b>809</b>	<b>2,679</b>	<b>54.4</b>	<b>180.1</b>
Los Angeles Unified	255	45	148	7.5	24.9
San Diego Unified	66	11	38	1.0	3.3
Kern High	95	17	55	1.2	4.1
Sweetwater Union High	67	12	39	0.9	3.1
Long Beach Unified	59	10	34	0.7	2.4
East Side Union High	37	6	21	0.6	1.8
Orange County Department of Ed	101	18	58	0.9	3.0
Chaffey Joint Union High	36	6	21	0.5	1.5
Baldwin Park Unified	36	6	21	0.5	1.7
Antelope Valley Union High	41	7	24	0.3	1.1
Grossmont Union High	43	8	25	1.0	3.2
Fresno Unified	97	17	56	1.3	4.2
William S. Hart Union High	19*	3	11	0.3	0.9
San Francisco Unified	23	4	13	0.6	1.9
San Juan Unified	23*	4	13	0.2	0.6

\* In these districts, the estimated impact of suspensions was not statistically significant.

they were suspended (Table 5). Those students will generate life-time social losses of \$148 million and fiscal losses to California taxpayers of \$45 million. A one-percentage-point decrease in the cohort's suspension rate could generate \$24.9 million in social benefits and save California taxpayers \$7.5 million. The estimated social impact caused by suspension in the remaining 14 districts ranges from \$13 to \$55 million (Table 5).

It is important to acknowledge that this lifetime economic impact is from a single 10<sup>th</sup>-grade cohort and that another cohort could generate the same economic impact each year. At the same time, sustained efforts to reduce suspension rates will generate economic benefits each year.

In the remaining districts we applied the state average impact on the cohort graduation rate which was a decline of 6.5 percentage points to estimate the number of non-graduates for each district caused by suspension. We then calculated each district's losses and estimated benefits from lowering suspension rates by one point. The results for nearly every district in California are found in the aforementioned companion spreadsheet.

# LIMITATIONS

We took several measures to ensure we did not overstate the degree to which suspension rates contributed to lower graduation rates. Our inability to address several limitations may have resulted in understating the impact of suspension on graduation rates. For example, since the cohort we studied started at 10<sup>th</sup> grade, we were not able to factor in the impact of suspensions students may have received in grade 9 or during middle school. Previous research found that more than one-quarter of California students left school before entering 10<sup>th</sup> grade (Rotermund, 2009). Moreover, two factors are sometimes more powerful contributors to a negative outcome when both are present rather than either one in isolation. Our analysis might not have captured the full extent to which getting suspended may have exacerbated the non-graduate risk from other contributing factors. Therefore, we regard our findings to be modest estimate of suspensions' impact on graduation rates. Another limitation is that we did not directly control for the length of suspension. Because suspensions directly impact instructional time it stands to reason that longer suspensions could be especially influential on grade point averages, passing courses, or repeating a grade. However, we did control for poor academic performance.

Also noteworthy is that the predicted economic impact we estimated using the state's data from 2010-2013 was lower than the impact we described in our last report which was based on a California subset of the national Educational Longitudinal Study data from ten years earlier (Rumberger & Losen, 2016). The lower impact on

graduation rates and the lower economic impact for the state reported from this analysis compared to estimates based on data from 2002 may reflect that ongoing reductions in suspensions and efforts to find effective alternatives were already being implemented in some districts and were already helping to improve graduation rates. Another reason for the difference may be that the California subsample from the ELS longitudinal data was a sample of students from a limited number of schools within the state. The data used for this report were from nearly every school and district which all were required to report.

This analysis did not adjust for the fact that graduation rates have been increasing a good deal in recent years. Increasing graduation rates is primarily an excellent sign that more students are completing high school with the credentials they need to earn a decent living. To the extent that graduation rates increase because the standard for graduating high school declines, over time the economic benefits of earning a diploma may also begin to decline.<sup>18</sup> However, this report makes no such assumptions. Similarly, even if standards for graduating do not decline, the apparent economic benefits of earning a diploma might still seem to diminish if the reporting system loses track of the outcomes of students that should be counted as not having earned a diploma. In other words, we may not capture the full cost of not graduating if we lose track of the non-graduates. While our analysis began with data on all the students, we excluded a subset of students whose records were lost, or who transferred out of state, or the country. If a disproportionate segment of the suspended

children who were reported to have “transferred out,” in reality had dropped out, those missing data can impact the accuracy of these estimates.

This report was limited in its scope to revealing the hidden costs of suspension in clear economic terms. Despite the limitations, these findings should dispel this common misconception that suspensions are “cost-free” responses to misbehavior.

# DISCUSSION AND CONCLUSION

Our concern is that the reluctance to devote resources in order to address high and racially disparate suspension rates in some districts, stems in part from a lack of awareness of the local economic impact of suspension from school. Most taxpayers are unaware that by maintaining the status quo, their community will miss out on an important opportunity to lower costs. With this report, and the companion spreadsheet, any person can find the anticipated savings from reducing the use of suspensions in their district.

Although not a limitation, it is also fair to say that this report does not present a cost-benefit analysis. There are costs associated with improving graduation rates as high schools will need the space and the staff to educate growing numbers of students who earn their diploma that would otherwise have dropped out. Moreover, if students have greater behavioral and academic needs, there are likely higher costs associated with providing the supports they need to earn a HS diploma. Also worth noting is that many students that get suspended and fail to graduate wind up repeating a grade or more, and many may linger in school for a fifth year, and our estimates did not adjust for the costs of extra years of schooling. We also did not adjust for students that achieve a certificate of completion, or a GED for good reason, as economists have established that earning a HS diploma is far more beneficial economically than other forms of completion without a diploma. (Heckman, Humphries, & Mader, 2011). This is one reason that California, and also the federal Every Student Succeeds Act, emphasizes cohort graduation rates for school accountability.

In California, there are already policy levers being put into place to reduce the overuse of suspensions and rates of suspension have been declining for several years. (Losen, Keith, Hodson, 2015). Specifically, the local control accountability plan requires that districts describe how they are addressing high rates of suspension. Moreover, as of January 2017, the state does plan on including suspension rates as a stand alone indicator that will be considered alongside federal required academic indicators to evaluate schools and districts across the state. However, there is resistance to these changes from several different sources and some districts have actually increased the use of suspensions in recent years. Some practitioners, policymakers, and parents are concerned that our resources are better spent addressing other issues, while others are not sure that there are viable alternatives to suspending students. Still others may argue that frequently suspending students is necessary to instill order.

One of the reasons for including discipline rates in an accountability system is that the indicators used by states to evaluate schools and districts should be ones that have an academic impact, and that individual schools can influence. School discipline makes a good indicator because in California and elsewhere, the school and district level data shows a very wide range in suspension rates. As noted, this report and other robust studies based on longitudinal data, indicate that factors schools control predict a great deal of the observed differences in suspension rates (Fabelo et al., 2011; Skiba et al., 2014). This analysis applied statistical tools to the data from every student in every school to graphically portray how

the wide distribution of 3-year suspension rates in CA are not predicted by factors such as poverty (see results in appendix). In other words, the underlying analysis used in this report to assess the impact of suspensions on graduation rates also supports the conclusion that local policy and practice could make a tremendous difference in suspension rates.

Some may assert that this report failed to capture the costs on peers, insisting that if we allow disruptive students to stay in school they diminish the learning of their peers and this too would have negative economic costs. This common argument deserves attention, and researchers have demonstrated that we still have much to learn about effective interventions. (Steinberg and Lacke, 2017).

On the other hand, there is no research-based justification for the frequent use of suspensions. There is no evidence to indicate that a three-day suspension, or multiple removals improves classroom behavior or learning conditions. As a practical matter suspensions are punishment by exclusion. They do not involve the school. Researchers have pointed out that many suspended students find school to be challenging and experience suspension from school as a reward (Kohistani, Kougherty, & Klofas, 2015). Suspensions may be reinforcing and even incentivizing the very behavior they are meant to correct.

We also know that there is no research demonstrating that students in lower suspending districts are worse off. To the contrary, our prior correlational analysis of California's data showed that higher suspension rates are correlated with lower levels of achievement, a finding that held for every racial group (Losen, Keith, et. al., 2015).

Most important, a major study in Indiana, found that after race and poverty and other factors were controlled for, higher suspension rates predicted lower achievement scores. (Skiba, 2015). Moreover, a controlled study of the impact of being absent from school demonstrated that missing three or more days of instruction predicted lower reading scores by a full grade level on the 4<sup>th</sup> grade National Assessment of Educational Progress. (Ginsburg & Chundowsky, 2012). Moreover, in addition to the finding that being suspended predicts lower graduation rates, a well known study that tracked every 9<sup>th</sup> grade student in the state of Florida found that "42% of students whose only off-track indicator in 9<sup>th</sup> grade was being suspended became chronically absent." Fifty-nine percent subsequently experienced course failure (Balfanz et al., 2015).

Finally, some who argue against discipline reforms may misconstrue some of the research cited by a recent review regarding what we know about suspension rates and how to reduce them (Steinberg & Lacke, 2017). In particular, the review cites an economic study to support the concern that exposure to disruptive peers can have a lasting negative academic impact and provides an estimate of the negative economic impact of such exposure. (Carrel, Hoekstra and Kuka, 2016). That study looked at the long-term impact on peers of children who were exposed to domestic violence in Alachua County, Florida (Ibid). The study used a child's known exposure to domestic violence in the home as a proxy for the child's disruptive behavior in school. Even if we accept that at face value, the study did not explore whether suspension mitigated the harmful exposure risk on peers. In fact, nothing about the study suggested that the district should have more frequently sent home

the disruptive children. Considering that out of school suspension would likely increase children's time spent exposed to domestic violence, which the study presented as the cause of disruptive behavior in school, the study is best regarded as an example of the external (indirect) costs of domestic violence to society at large. Moreover, the Alachua County school district was among the top quintile in the nation for suspension rates at the elementary and secondary levels in 2011-12 (Losen, et al., 2015).<sup>19</sup>

There is research consensus that the frequent use of suspensions is harmful. It is worth noting that after the release of the Texas study described in the introduction, the non-partisan Council of State Governments organized a three year consensus building project tapping the expertise of over 700 experts and practitioners, including leading researchers, school administrators, child psychologists, police, members of the judiciary, representatives of teachers, parents, and civil and disability rights leaders, to examine the research and explore effective practices. This group, called the Supportive School Discipline Initiative released an extensive consensus report in July, 2015 that "envision[s] a future where leaders at the school, district and state levels routinely produce data demonstrating not just reductions in suspension rates but also correlations between fewer disciplinary actions and improved learning conditions, academic achievement, attendance and other desired outcomes for all students." (P 380) The contributors to the report's consensus included the following conclusions:

- Improving school discipline systems should be a priority for local, state and federal leaders alike (xxiii)
- School administrators and educators should have professional development opportunities to gain the

knowledge and skills needed to create positive conditions for learning (xiii)

- To assess school climate, conditions for learning and student engagement, and to inform the development of school improvement plans, districts should collect and analyze a wide range of data. These include test scores, reading assessments, graduation rates, course completion as well as rates of in and out of school suspensions, expulsions, referrals to alternative placements and transfers to alternative schools among the key indicators. (Table 1 at 358)

Included in the report's policy statement is that "school, district and state leaders collect and analyze school discipline and other related data to diagnose existing needs: inform strategic planning; guide decision making and resource allocation; and measure the effectiveness of policies and practices." (p. 356). We can think of no better way to implement these consensus based recommendations than making school discipline data part of the state's system for evaluating schools pursuant to state law and the Every Student Succeeds Act. We applaud the California Department of Education for doing just that. Our finding that suspensions account for about one quarter of the California students that fail to graduate makes this a powerful indicator. We also hope that more schools will develop early warning indicators for dropping out that include school discipline, now that it is slated to become one of the seven statewide indicators of school performance.

**Recommendations:** States are required by the Every Student Succeeds Act to support district efforts to reduce excessive disciplinary removal. Specifically with regard to

"the overuse of discipline practices that remove students from the classroom...."<sup>20</sup> Therefore, we hope this report will further encourage the California Department of Education (CDE) (and other states) to commit the time, energy and resources to do so, and to maintain this commitment well into the future. As this report demonstrates, there are likely huge economic benefits to be gained if harsh approaches to school discipline that rely on frequent removal of the student can be replaced by those that more effectively prevent or respond to problematic behavior. To some extent, gains are likely being made now, but they can be lost easily. Therefore, the state's accountability system should maintain the proposed accountability incentives for schools to keep reducing suspensions until they are clearly measures of last resort in every school.

Although California has recently required districts to address school discipline as part of their Local Control Accountability Plans (LCAPs), a long-term commitment and additional state oversight and additional state policy changes are warranted. In addition to the review of discipline use and disparities as part of the new statewide accountability system, we offer the following more specific recommendations:

- The state legislature should consider changing school conduct law to eliminate the use of suspension for disruption/defiance at all grade levels, as well as for other minor offenses.
- The state department of education should provide public reporting of discipline for students with disabilities.
- District LCAP budgets should be reviewed to ensure they reflect a commitment to reducing suspension rates and investments in practices that have shown promise in reducing discipline rates such as restorative practices, teacher training to improve engagement and management, and supports for school counselors and staff with knowledge of effective behavioral interventions.
- District accountability plans should include a description of how resources will ensure that the district provides effective supports for teachers and leaders transitioning to non-punitive systems for improving student behavior and school climate.
- The state department of education should add oversight or evaluation of discipline in specialized schools such as those run by California's County Offices of Education.
- Monitoring of graduation rate accountability should extend to schools in districts run by a County Office or Department of Education.
- With clear incentives to improve graduation rates, the state should monitor districts carefully to ensure that they are not transferring excessive numbers of students to disciplinary alternative schools or other out of district placements run by a County Office or Department of Education.

**Research recommendations:** We should all feel an obligation to learn from the available evidence and continuously improve school policies and practices. We

remind readers that the frequent use of suspension for minor behaviors is not (and has never been) based on a proven-effective approach to improving school climate, student behavior, or achievement. However, there is a great deal more to learn about effective disciplinary practices and their economic implications that could shape policy in this area. The limitations of our current study inform the following research recommendations:

- **Days of missed instruction due to discipline:** The state should collect and analyze these data for all offenses as well for each offense category and report them to the public disaggregated by race, gender and disability status.
- **Impact of suspensions on co-dependent variables:** We know that suspensions directly impact graduation rates but they also likely lead to higher risk for outcomes such as failing a core academic course, lower achievement, truancy, or mobility (school transfer). Additional analysis is needed to estimate the direct impact on those factors known to predict higher dropout rates.
- **Costs and benefits:** Programs of intervention to reduce the use of suspension should be evaluated using economic models that estimate the costs as well as projected lifetime benefits. With limited resources, educators and policy makers need to be aware of the most cost efficient approaches.
- **A longitudinal study of suspensions, enrollment patterns and graduation rates in schools run by one of the many County Office of Educations is needed:** Finally, there is a

need for a statewide study of the County Office of Education Schools. Educators must ensure that the many types of alternative schools are successfully serving the needs of the enrolled students. We need more detailed analysis of the reasons students are sent to them, the impact on graduating and future incarceration along with an exploration of whether incentives created by the accountability system contributes to their overuse.

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# APPENDIX

## Descriptive Statistics and Model Estimates

We estimated the causal impact of being suspended on graduation controlling for four covariates related to both being suspended and graduation: the number of failed classes, GPA, low socio-economic status, and being over-age graduation (Allensworth, et al., 2007, 2014; Balfanz et al., 2007; Rumberger, 2011).

Table A1 displays descriptive statistics for the covariates in the treatment effects model. It shows that the average student failed 2.15 courses but that it was 1.71 for nonsuspended students and 4.7 for suspended students. The average GPA was 2.76 for the cohort and 2.86 for non-suspended and 2.17 for suspended students. Sixty-five percent of the students were socioeconomically disadvantaged. Among non-suspended students, 63 percent were socioeconomically disadvantaged, and for suspended students, it was 81 percent. Finally, 15 percent of the students were overage. Thirteen percent of non-suspended students and 15 percent of suspended students were overage.

**Table A1.** Means and (Standard Deviations) for Covariates in Treatment Effects Models

	N	All students	Non-suspended students	Suspended students
Number of total courses failed	456,153	2.15 (.006)	1.71 (.005)	4.70 (.021)
Overall GPA	454,687	2.76 (.001)	2.86 (.001)	2.17 (.003)
Student is Socioeconomically Disadvantaged*	477,833	0.65 (.001)	0.63 (.001)	0.81 (.001)
Student is overage**	477,833	0.15 (.001)	0.13 (.001)	0.15 (.001)

\* Students are socioeconomically disadvantaged if they are enrolled in or identified as any of the following: Migrant Program, National School Lunch Program, Direct Certification, Parent Education, Homeless

\*\*Students are considered overage if they are a year older than their classmates by July 31.

Table A.2 displays the estimated coefficients for the two logistic regression equations in the treatment effects model, one for non-suspended students and one for suspended students. In both equations, an increase in the number of failed courses lowers the odds of graduating from high school, while an increase in the GPA increases the odds of graduating. Students who are socioeconomically disadvantaged or overage are less likely to graduate from high school.

**Table A2.** Estimated Coefficients (and Standard Errors) of Logistic Regression Equations in the Treatment Effects Models

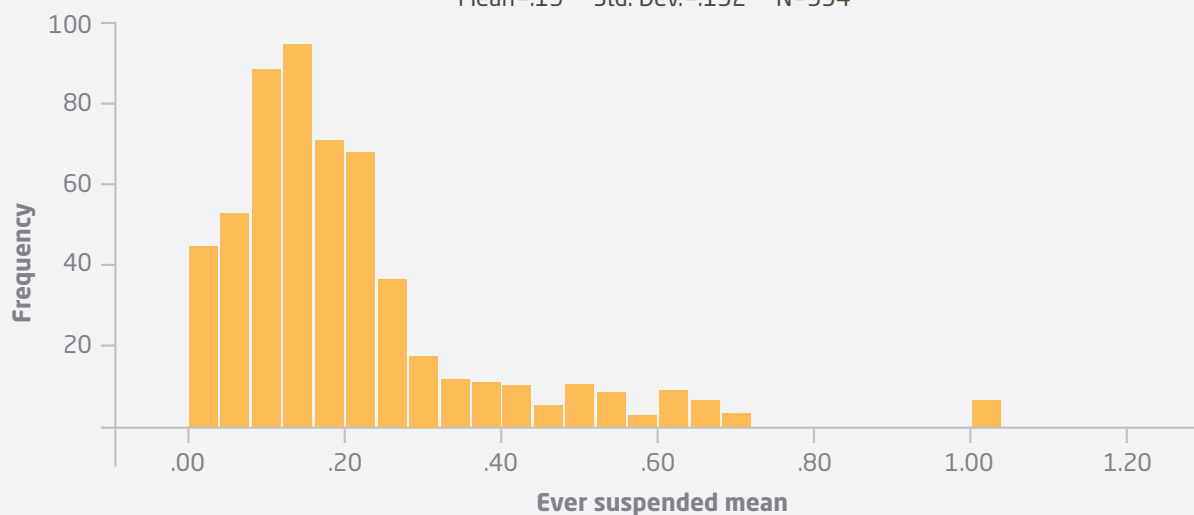
	Non-suspended students	Suspended students
Number of total courses failed	-0.093 (0.002)	-0.048 (0.003)
Overall GPA	1.156 (0.012)	1.371 (0.021)
Student is Socioeconomically Disadvantaged*	-0.723 (0.013)	-0.861 (0.027)
Student is overage**	-0.899 (0.013)	-0.442 (0.026)
Constant	-0.291 (0.037)	-1.324 (0.060)

### An Analysis of District Suspension Rates

We computed the suspension rate for all 554 school districts in the state that enrolled 10<sup>th</sup> grade students. The mean suspension rate across all districts was 19 percent, but the suspension rate varied greatly across the districts (see Figure A1): 24 districts had suspension rates of zero, while 4 districts had suspension rates of 100%. If we exclude very small districts with only one or two students in the cohort, then 17 of the remaining districts had suspension rates of zero and only one district had a suspension rate of 100%.

**Figure A1.** The Distribution of Student Suspension Rates across California Districts

Mean=.19 Std. Dev.=.152 N=554



What accounts for differences in student suspension rates across districts? One explanation is that suspension rates are influenced by the demographic characteristics of the students in the districts. If, for example, low income students generally have higher suspension rates than other students, districts with higher proportions of low income students might be expected to have a higher suspension rates compared to districts with lower proportion of low income students.

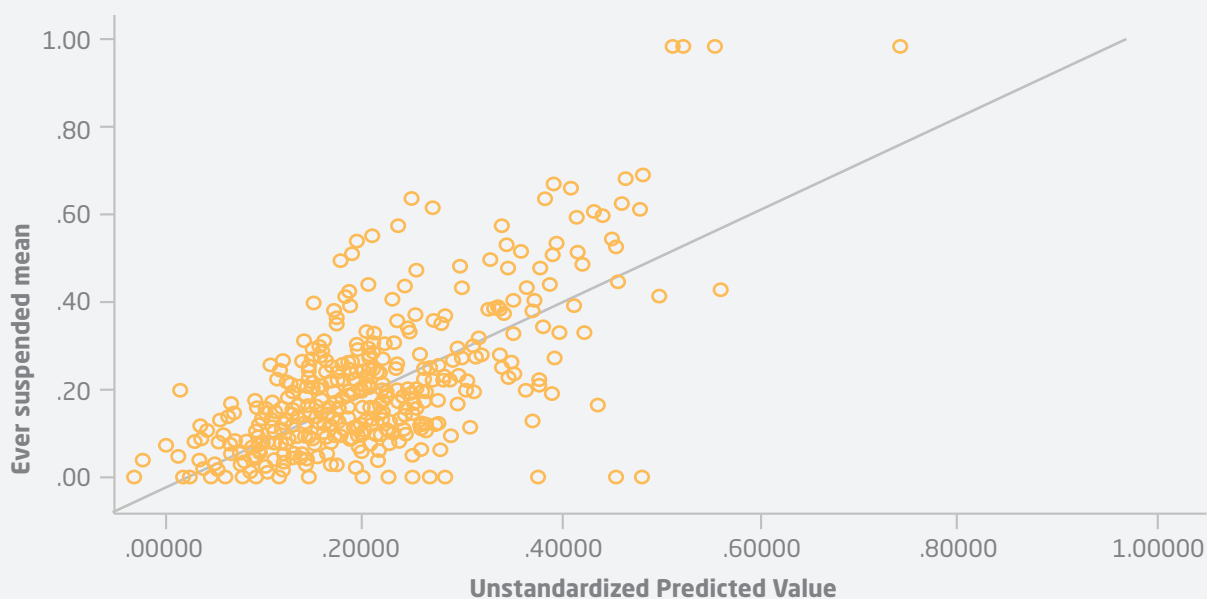
To test out this idea, we created a regression model to predict student suspension rates based on the proportion of students who were: Hispanic, Male, low SES, Overage, and Transfers.<sup>21</sup> The final model was:<sup>22</sup>

$$\text{Suspension rate} = -.204 - .056 \text{ Hispanic} + .515 \text{ Male} + .228 \text{ low SES} - .258 \text{ Overage} + .197 \text{ Transfer}$$

The equation shows that student suspension rates were higher in districts with fewer Hispanics, more males, more low SES students, fewer overage students, and more transfer students. For example, a 10 percentage point increase in the proportion of low SES students increases the percentage of suspended students by two percentage points.

We then created a graph (scatterplot) that compared the actual suspension rates of school districts with the predicted rate based on the regression model (Figure 2). Each dot represents a school district. The line represents the predicted suspension rate.

**Figure A2.** Actual vs. Predicted Suspension Rates across California Districts



Districts below the line have actual suspension rates lower than their predicted suspension rates, while districts above the line have actual suspension rates higher than their predicted rates. What the graph reveals is that some districts have lower proportions of suspended students than predicted given their demographics, and some districts have higher proportions. We can also conclude that the demographic characteristics in California do not account for the large variation in suspension rates across districts. We present this model to illustrate that wide variation exists even after controlling for demographics. (We do not suggest that suspending students at the level predicted by the model is acceptable. To the contrary, the fact that many districts suspension rates fall below the line suggests, and the data presented in Table A2 indicate that lower rates are possible and that demographics are not determinative).

Actual and predicted student suspension rates for selected districts are shown in Table A2. In LAUSD there were 47,662 students in the 2011-12 10<sup>th</sup> grade cohort. Of those, 2,835 had been suspended, which represents 5.9% of the cohort.

**Table A3.** Actual vs. Predicted Student Suspension Rates for Selected California Districts

	Cohort Size	Number suspended	Actual Suspension Rates	Predicted Suspension Rates	Difference: Actual - Predicted
<b>Largest Districts</b>					
Los Angeles Unified	47,662	2,835	5.9	16.2	-10.3
San Diego Unified	9,250	1,075	11.6	17.0	-5.4
Kern High	8,208	1,107	13.5	16.6	-3.1
Sweetwater Union High	6,915	864	12.5	17.4	-4.9
Long Beach Unified	6,281	912	14.5	18.1	-3.6
<b>Districts with Rates Furthest Below the Predicted Value</b>					
Santa Paula Unified	361	46	12.7	36.6	-23.9
Lawndale Elementary	123	0	0.0	22.1	-22.1
Exeter	258	16	6.2	25.4	-19.2
Woodlake Unified	203	19	9.4	28.3	-19.1
Maricopa	145	7	4.8	20.6	-15.8
<b>Districts with Rates Furthest Above the Predicted Value</b>					
Gonzales Unified	197	110	55.8	20.3	35.5
Merced County Office	368	249	67.7	38.8	28.9
Santa Barbara County Office	165	106	64.2	37.9	26.4
Central Union High	913	367	40.2	14.5	25.7
John Swett	136	58	42.6	18.0	24.6

NOTE: Districts with fewer than 100 students in 10<sup>th</sup> grade cohort were excluded.

But the predicted rate for the district was 16.2%, almost three times as high. In other words, student suspension rates are much lower than predicted in LAUSD given the district's demographics. Other large districts also had student suspension rates that were lower than predicted. The table also shows districts that had the lowest difference between actual and predicted student suspension rates and districts that had the highest difference between actual and predicted student suspension rates.

# ABOUT THE AUTHORS

Russell W. Rumberger is a Professor Emeritus in the Department of Education. A faculty member at UC Santa Barbara since 1987, he has published widely in several areas of education: education and work; the schooling of disadvantaged students, particularly school dropouts and linguistic minority students; school effectiveness; and education policy. He has served on three committees of the National Research Council (NRC), including the Committee on Increasing High School Students' Engagement and Motivation to Learn that issued, *Engaging Schools: Fostering High School Students' Motivation to Learn* (2003). He was a member on the U.S. Department of Education, Institute of Education Sciences panel that produced the *Dropout Prevention Practice Guide* (2008). He is author of the highly acclaimed book, *Dropping Out: Why Students Drop Out of High School and What Can Be Done About It* (Harvard University Press, 2011). From 2010-12 he served as the Vice Provost for Education Partnerships, University of California Office of the President. He currently directs the California Dropout Research Project, which is producing a series of reports and policy briefs about the dropout problem in California and a state policy agenda to improve California's high school graduation rate. Professor Rumberger received a Ph.D. in Education and a M.A. in Economics from Stanford University and a B.S. in Electrical Engineering from Carnegie-Mellon University. In 2013 he was made a Fellow of the American Educational Research Association and received the Elizabeth G. Cohen Distinguished Career in Applied Sociology of Education Award, Sociology of Education SIG, American Educational Research Association. In 2016 he was elected to the National Academy of Education.

Daniel J. Losen, J.D., M.Ed. Dan Losen is the Director of the Center for Civil Rights Remedies (CCRR) at UCLA's Civil Rights Project/Proyecto Derechos Civiles, where his work has focused on racial disproportionality in special education, graduation rates and school discipline since 1999. On these and related topics he: conducts law and policy research; publishes books, and articles; has testified before the U.S. Congress and the United Nations; helps draft model legislation; and provides guidance to policymakers, researchers, educators and civil rights advocates. Recently, Losen edited the book *Closing the School Discipline Gap: Equitable Remedies for Excessive Exclusion* (2015) a compilation of peer-reviewed research regarding racial disproportionality in school discipline and what we know about effective remedies. He is also the lead author of several widely cited co-authored empirical reports on disparities in school discipline including: *Are We Closing the School Discipline Gap?* (2015) winner of the "Outstanding Policy Report Award" by the American Educational Research Association; *Closing the School Discipline Gap in California: Signs of Progress*, a report detailing trends in suspension rates at the state and district level (which will be updated when the state releases the data from 2015-16); and *Charter Schools, Civil Rights and School Discipline* (March, 2016). Additional district level discipline data on every district in the nation, analyzed by Losen's Center, are available as part of a user-friendly web-tool maintained by CCRR at [www.schoolsdiscipline.data.org](http://www.schoolsdiscipline.data.org).

# ENDNOTES

<sup>1</sup> Transfer students could have been suspended in their previous district or their last district.

<sup>2</sup> For all the remaining districts, we assume suspensions lowered graduation rates by the statewide average of 6.5 points and then estimate the local economic burden and corresponding local benefit for reducing suspension rates by one point. Findings estimating the cost of suspensions for every district in California with at least 100 students enrolled, are published in the companion spreadsheet.

<sup>3</sup> For more information on California's new accountability model, see: <http://www.cde.ca.gov/ta/ac/cm/index.asp>.

<sup>4</sup> That high suspension rates lead to higher community crime rates is why the Council for a Strong America, representing thousands of law enforcement officers, has been among the leading advocates for school discipline reform. As stated on their website:

*More than 3 million students are suspended out of school each year, and more than 100,000 are expelled. These youth are at an increased risk of crime, and are three times more likely to enter the juvenile justice system than their peers. Recognizing this risk, state and local leaders from Mississippi to California are adopting alternatives to suspensions and expulsions for minor infractions. Council for a Strong America's law enforcement leaders are informing decision-makers about the link between appropriate school discipline policies and crime prevention (<https://www.strongnation.org/topics/school-discipline>).*

The council includes the organization **[Fight Crime: Invest in Kids](#)** - comprised of police chiefs, sheriffs, prosecutors, other law enforcement executives, and violence survivors who promote solutions that reduce crime.

<sup>5</sup> <https://www.nasponline.org/research-and-policy/professional-positions/position-statements>  
file:///Users/losen/Downloads/Racial\_Ethnic\_Disproportionality%20(1).pdf

<sup>6</sup> Our initial sample of 505,425 is similar to the 10<sup>th</sup> grade state-level enrollment figure of 495,009. Our figure is larger because it includes students who enrolled in the 10<sup>th</sup> grade any time during the 2011-12 school year, while the state figure represents the number of 10<sup>th</sup> grade students enrolled at the beginning of the school year (the first Wednesday of October).

<sup>7</sup> Our final sample of 477,833 is similar to the 2013-14 4-year cohort of 492,871 students, of which our sample would be a part. The state figure is larger because it includes students who entered the cohort in grades 11 and 12.

<sup>8</sup> Eighty-six percent of the students were enrolled for all three years.

<sup>9</sup> We used the same procedure to identify graduates that the CDE uses, which includes students who pass the high school proficiency exam.

<sup>10</sup> Because students may have been suspended before enrolling in their final district, the percentage suspended does not represent the suspension rate for the district.

<sup>11</sup> We initially used a more robust model that also included variables for Black, Hispanic, Male, Foreign Born, and English Learner. But this model provided very little improvement in the predictive power of the simpler model, so we elected to use the simpler model.

<sup>12</sup> We focus on a high school diploma because research has shown that other forms of high school completion, such as a GED, provide fewer benefits than a regular diploma (Heckman, Humphries, & Mader, 2011).

<sup>13</sup> We will use the term “student suspension rates” to clarify that this represents the percentage of 10<sup>th</sup> grade cohort students who were suspended sometime during the three years from 2011-12 through 2013-14, not district (or district-initiated) suspension rates.

<sup>14</sup> To explore this hypothesis, we compared the nature of the suspensions in LAUSD, which has a relatively low suspension rate, with the state average. Statewide, 62 percent of all suspensions were for non-violent offences, including defiance, whereas in LAUSD, only 22 percent of all suspensions were for non-violent offences.

<sup>15</sup> We used the same estimates of fiscal and social losses for Blacks and Latinos as for all students even though there are disparities in losses by racial groups and gender (See Belfield, 2014a). The largest disparities are for earnings and tax revenues, with Blacks and Latinos earning less than White students. However, disparities in earnings and tax revenues are greater between males and females than among racial groups. And since two-thirds of suspended students are male, our estimates of fiscal and social losses are biased downward. Moreover, we did not make adjustments for the higher risk of adult incarceration and social costs for Blacks versus White non-graduates and male versus female non-graduates.

<sup>16</sup> Similar disparities exist in school districts with the largest number of Black 10<sup>th</sup> grade students. Although the direct causal analysis did not consistently predict a direct impact from Black student’s suspensions on Black student’s graduation rates, we did find that in LAUSD, Blacks represent 9.3% of all 10<sup>th</sup> grade students (4,477 out of 47,662). But they represent 22.5% of all suspended students and account for more than 17.6% in the economic losses from suspensions. In Long Beach, Blacks represented 16.3% of 10<sup>th</sup> grade students, but accounted for 32.7% of suspended students and 34.3% of the social losses from suspensions. And in Oakland, Blacks represented 31.7% of 10<sup>th</sup> grade students, but accounted for 56.2% of suspended students and 55.6% of the social losses from suspensions.

<sup>17</sup> An Excel file with estimates for every district in the state can be found at: [www.civilrightsproject.ucla.edu](http://www.civilrightsproject.ucla.edu)

<sup>18</sup> [https://www.washingtonpost.com/local/education/why-surging-high-school-graduation-rates-might-be-a-mirage/2017/01/08/d31f9956-d3ac-11e6-a783-cd3fa950f2fd\\_story.html?utm\\_term=.0502e571f39c](https://www.washingtonpost.com/local/education/why-surging-high-school-graduation-rates-might-be-a-mirage/2017/01/08/d31f9956-d3ac-11e6-a783-cd3fa950f2fd_story.html?utm_term=.0502e571f39c)

<sup>19</sup> The ranking of Alachua County school district was found by ranking the out of school secondary level suspension rates for all the districts in the nation and then repeating the process for the elementary level suspension rates. This was done using the companion spreadsheets containing district level elementary and secondary suspension rates that are part of the referenced 2015 report. Alachua County is not described in the text of the report.

<sup>20</sup> Public Law 114-95 in section 1111(g)(1)(C)(ii) (129 STAT 1843-1844) available at <https://www.congress.gov/114/plaws/publ95/PLAW-114publ95.pdf>

<sup>21</sup> Other variables that we initially included, but later dropped because they were insignificant were the proportion of students who were: Black, foreign born, and English learners.

<sup>22</sup> All the coefficients were statistically significant at the .001 level.