

**Getting Back on-Track:  
Early Warning Indicator Analysis of  
High School & Post-Secondary  
Outcomes  
San Jose Unified School District**

***Some students can beat the odds***

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## EXECUTIVE SUMMARY

This study was conducted by the Everyone Graduates Center (EGC) of the School of Education, Johns Hopkins University, with support from the Annenberg Institute for School Reform (AISR) of Brown University through the Bill & Melinda Gates Foundation and the College and Career Readiness Indicator (CRIS) effort which it sponsored. The study was carried out on behalf of the San Jose Unified School District (SJUSD), one of the four districts participating in the CRIS initiative.

The intent of the study was that findings would assist SJUSD in understanding the characteristics of students who were and were not successful in graduating high school, and that it would inform future efforts to reduce the number of off-track students, increase promotion and graduation rates and lay the foundation for students' post-secondary success, all goals outlined in the district's strategic plan.

The study began by examining six years of longitudinal data for the cohort of SJUSD students who began ninth grade for the first time in fall 2007, who were expected to graduate in 2010-2011, and who might have attended college in 2011-2013. The intent was to:

- Establish the ninth-grade Early Warning Indicators, or EWI that were most predictive of high school graduation in SJUSD for this cohort. Prior research (see Research Summary and also the References) has established that the most efficient and effective EWI are typically attendance, behavior and course-passing, or the ABCs.

The study then looked at the subgroup of students (about 5 percent) who despite having off-track ninth-grade EWI succeeded in earning a high school diploma four years later. Key focuses were to:

- Discover the characteristics and behaviors of SJUSD ninth-graders who succeeded and who did not succeed in graduating from high school on-time, and
- Relate these ninth-grade characteristics and behaviors to post-secondary enrollment in the first two years of college.
- Delve more deeply into different college enrollment patterns.

The study found that:

- The students who got back on track largely resembled dropouts in terms of their demographic characteristics, attendance rates, and disciplinary issues.
- What set these students apart was higher academic achievement levels, reflected in test scores and students' ability to progressively pass courses and earn the credits required for a diploma in the years after ninth grade.

- This group of students overcame the challenges raised by poor attendance and poor behavior that in combination with poor academics are generally predictive of student outcomes, absent interventions, years before the outcome event occurs.

The study also examined college-going patterns for students from different demographic subgroups as well as for students with different academic and behavioral indicators. Clear differences were noted among students with different demographics, largely reflective of recently observed California patterns, e.g. that the percentage of Hispanic/Latino students who successfully graduate from high school and enroll in college is increasing, yet for various reasons these students are primarily enrolling in two-year rather than four-year colleges.

Last, the study examined Limited English Students (LEP) and their progress in high school from ninth grade on. Hispanic/Latino students make up 51 percent of the SJUSD cohort and Asian students 16 percent. Against this background, LEP students make up approximately 13 percent of this SJUSD ninth-grade cohort and their success or lack thereof can be a significant driver in improving district-wide graduation rates and post-secondary entry as a precursor to post-secondary and career success.

- The 15 percent of the SJUSD cohort who exited LEP status prior to ninth grade, e.g. in elementary or middle school, had success rates that outstripped those of their LEP and non-LEP peers. These LEP students succeeded in graduating from high school and enrolling in post-secondary school at rates far higher than those of students who remained in LEP status into ninth grade and equal to or better than those of students who were never in LEP status. Qualitative data were not available to explore possible reasons.
- This group of students overcame the difficulties presented by being non-English speakers in an English-speaking school environment. National data consistently show that LEP students typically achieve graduation at rates considerably lower than non-LEP students.

**Recommendations (DRAFT):** What was learned about SJUSD students in general, and the subsets of students who by and large managed to achieve academic success despite facing significant roadblocks can help to shape the district's deployment of resources and interventions to efficiently and effectively raise students' outcomes in high school and better prepare them for postsecondary success and graduation not only from two-year but also from four-year colleges. Our recommendations to achieve these goals:

- Repeat this study with a second longitudinal cohort, particularly exploring the category of students with learning disabilities who, for reasons that are unclear, are underrepresented in the cohort examined in this study. The correlations in the present study suggest that the category of students with disabilities does not impact study conclusions; previous Johns Hopkins studies in other states and districts confirm this, yet given the national and state disparities in graduation rates between regular students and students with disabilities it may be advisable to confirm this with additional cohort data.

- Learn more about the contributing factors that enable some students to overcome ninth-grade indicators, re-channel their energies, beat the odds and experience high school and postsecondary success, using qualitative data obtained through interviews, focus groups and if possible/available, surveys of both students and adults.
- Obtain qualitative data from the sixth grade, where outcomes have been shown in other studies to be an inflection point for eventual student success/failure without interventions
- Develop an early warning indicator and intervention system that in addition to identifying students who are challenged by the ABCs (attendance, behavior and course-passing/credit accrual) and supplying interventions in an organized manner, enables schools to identify and nurture potential “beat the odds” students early on – with the goal of creating and supporting more “beat the odds” students.
- Work with school leadership to set benchmarks or targets for growth in identification and support of all students and of “beat the odds” students and for these students’ success.
- Through the early warning indicator and intervention system, target those students who most need additional supports to graduate, including all students and “beat the odds” students, and address the specific areas in which students need support to stay on-track and earn a high school diploma – and to bolster their college readiness.
- Examine district and school policies and practices related to attendance, discipline, grading that can influence student success positively or negatively.
- Refine and re-develop and implement policies and practices that encourage and support all students and those who are beating the odds to aim higher than high school graduation and two-year colleges in preparing for and enrolling in post-secondary schooling.
- Based on all these recommendations, redesign as necessary district, school and classroom policies and practices to further student success.

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## **RESEARCH BACKGROUND**

This study was evidence-driven, building on prior research on the predictors of high school dropout as an outcome. While dropout rates are considerably higher among some demographic groups (e.g., high poverty, Hispanic/Latino and Black, those with parents who did not complete high school, those with siblings who have dropped out), Gleason and Dynarski (2002) have shown that demographic factors do not efficiently predict which students will drop out. A more promising focus for developing early indicators relies on the theoretical construct of student engagement in schooling (e.g., Fredricks, Blumenfeld, & Paris, 2004) that has guided much of the research on dropping out. Engagement has emotional, behavioral, and cognitive components, which are sometimes classified as social and academic engagement (e.g., Wehlage, et al., 1989). Engagement is itself influenced by individual student background, as well as by the institutions (family and community, as well as the school itself) within which the individual student is placed (Rumberger & Lim, 2008).

A variety of factors may influence the student to begin a process of disengagement with schooling, a psychological process that generally manifests itself behaviorally in absenteeism, failure to complete assignments, and failure to pass courses. While many of the factors leading to student disengagement are not school-related, the behavioral indicators of student disengagement leading to dropping out, such as attendance and course failure, manifest themselves directly at school and can be more readily influenced by school practitioners. In the nation's "dropout factories" (Balfanz & Legters, 2004). These are mostly minority student U.S. high schools where 50 percent or more of students do not make it from ninth to twelfth grade on time, and average daily attendance rates of 80 percent or less are an overwhelming reality. Low levels of attendance are a strong predictor of course failure, and course failure in ninth grade is a strong predictor of dropping out (Allensworth & Easton, 2007; Finn, 1989; Lan & Lanthier, 2003; Lee & Burkham, 2003; Neild & Balfanz, 2006a, 2006b; Neild, 2009; Roderick & Camburn, 1999; Schargel & Smink, 2001).

Early indicators of dropout are powerful tools at the K-12 level because they can potentially alert educators to students who need some level of intervention to stay on track to graduation. Identifying the relevant indicators is just a first step, and the step that is arguably the easiest. Indicators do no good if they are not followed up by action and further assessment to see whether the actions taken have helped to keep students on-track to graduation. However, appropriate action depends in part on a robust set of early warning indicators.

A strong indicator set has several characteristics:

**They are empirically created.** Powerful indicators are identified based on analysis of longitudinal data that tracks individual student progress over time. In essence, indicators use the experience of previous cohorts to intervene when students in subsequent cohorts begin to show behaviors associated with dropout among their elders.

**They are simple and easily collected.** Early warning indicators use readily available data that are typically maintained by schools – variables such as grades, attendance, and behavior in the classroom. They do not necessarily require complex statistical modeling techniques or access to data from surveys or interviews.

**The set of indicators has been refined to include a few key variables.** In indicator systems, a few key indicators are easier for teachers to monitor than a large set of predictors. K-12 analyses have demonstrated that although the underlying issues that produced the poor grade or weak attendance may be complex and may vary from student to student, there are a small number of flags that alerts educators to a student potentially falling off-track. By extension, a good indicator system also identifies variables that are not the strongest predictors of eventual dropout.

**They capture the majority of students who eventually become dropouts.** A good indicator system avoids the “1 percent problem,” or indicators that are highly predictive but only identify a small percentage of dropouts.

## **ANALYTIC METHODOLOGY AND DATA SAMPLE**

The analyses began by establishing a traditional set of early warning indicators (EWI). The majority of students with these ninth-grade indicators dropped out by twelfth grade. Then, we examined more closely those students with multiple EWI who succeeded in earning a high school diploma. The analysis compared these students to students with multiple indicators who did not graduate in order to identify distinguishing characteristics between the two groups.

**Guiding research questions:** For the group of students who exhibited several early signs of disengagement from school, what were the key factors that allowed some at-risk students to stay on-track and achieve a high school diploma despite the odds against them? Was there a relationship to their college access and enrollment?

### **Methodology -- Establishing the cohort:**

The initial longitudinal data sample consisted of 2,488 students who were first-time ninth-graders in the San Jose Unified School District during the 2007-08 school year. The study followed these students forward to the expected year of graduation (2010-11) for high school outcomes, and forward another two years to 2012-13 for post-secondary enrollment. The data used were provided through the SJUSD data warehouse and included data from the National Student Clearinghouse.

- By the end of the 2010-2011 school year, 13 percent of students in the initial 2007-08 ninth-grade cohort (311 out of 2,488 students) had transferred out of the San Jose Unified School District, reducing the cohort to 2,177. As educational attainment cannot be tracked for these students once they leave the school system, they were dropped from the remainder of this analysis<sup>1</sup>. Removing transfer-out students from the calculation of a district or state's graduation rates is a standard procedure, codified in the federal regulations for Adjusted Cohort Graduation Rates (ACGR) that have been in place since 2010-2011 school year. (However, differing from the ACGR calculation, students who transferred into SJUSD in ninth grade and later were not added to the cohort.) Removing transfer-out students has the potential to inflate the graduation rate by a few percentage points.

**Methodology:** Descriptive analyses were conducted using data for the longitudinal cohort of students, following them from ninth grade to high school graduation and beyond to see which of their ninth-grade academic and other behaviours correlated mostly strongly with later high school outcomes (graduation, still active in high school, and dropped out) and post-secondary outcomes (enrollment in either two- or four-year degree granting institutions). Possible indicators from students' ninth grade year included demographic and status characteristics (ethnicity, gender, special education, limited-English proficiency, free/reduced lunch program participation, age), academic and other behaviours (attendance, discipline, course passing data), and achievement test scores (CST, CAHSEE, ACT).

Students' characteristics were compared with a range of academic and other variables at different cut points, showing dropout, graduation, and post-secondary enrollment rates for students with each particular characteristic in order to determine which student characteristics or academic or other behaviors had the strongest power in terms of predicting later outcomes. The strongest predictors were then combined into a set of EWI which taken together identified a large proportion of all dropouts. A small group of students (five percent) had multiple EWI

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<sup>1</sup> The 311 students who transferred out of the San Jose Unified School District, thus leaving the cohort, were as a group from more disadvantaged backgrounds as on average more students were from minority and high-poverty backgrounds. Students who transferred out also experienced far more academic challenges in the ninth grade with more than double the rates of students with attendance below 90 percent, one or more suspensions, and course failures, as compared to students who remained in the district/cohort.

factors but did not drop out and graduated, and the study in turn identified their characteristics. The study further examined LEP students.

## EARLY WARNING INDICATORS OF HIGH SCHOOL & POST-SECONDARY OUTCOMES

**Outcomes for the cohort:** Among the 2,177 2007-2008 new ninth-graders who did not transfer out from SJUSD, four years later four-fifths (80 percent) had graduated on-time, 10 percent had dropped out, and 10 percent were still listed as being enrolled in the school district. Averages are deceiving; there were substantial differences in outcomes by ethnicity and status.

**Table 1** below shows the percent of all students in the cohort in various demographic and status categories. It also shows, for each category, various academic outcomes, high school outcomes and post-secondary enrollment rates.

**Table 1: Academic Outcomes by Student Demographic Characteristics and Educational Statuses four years after high school entry**

Characteristic	% of Cohort	Dropped Out	Still Active	Graduated HS	Enrolled in PS*	Enrolled in 2-Year	Enrolled in 4-Year
<i>Hispanic</i>	51%	14%	12%	74%	47%	40%	14%
<i>Native</i>	3%	37%	5%	58%	25%	15%	14%
<i>Asian</i>	16%	4%	6%	90%	78%	43%	62%
<i>Black</i>	4%	7%	13%	80%	62%	51%	28%
<i>White</i>	27%	5%	7%	88%	70%	41%	43%
<i>Female</i>	48%	8%	9%	83%	64%	43%	37%
<i>Male</i>	52%	12%	11%	77%	53%	38%	25%
<i>Over-age</i>	11%	23%	18%	59%	34%	26%	13%
<i>FRL Eligible</i>	42%	16%	14%	70%	45%	39%	14%
<i>Spec. Ed. Status</i>	2%	23%	19%	58%	26%	23%	6%
<i>LEP</i>	13%	20%	4%	76%	40%	38%	8%
<b>ENTIRE COHORT</b>	100%	10%	10%	80%	59%	40%	31%

\* - The percent of students that enrolled in some form of post-secondary schooling is less than the sum of those that enrolled in both 2-year and 4-year institutions, as some students had enrolled in both types of institutions.

### High School Outcomes and Post-secondary Enrollments

- Asian and White students had the lowest dropout rates (4 percent and 5 percent, respectively), and the highest graduation rates (90 percent and 88 percent). Black students were close to Asian and White students, with dropout rates of 7 percent and

graduation rates of 80 percent. Roughly three-quarters of Asian and White graduates enrolled in some form of post-secondary schooling, as did more than 60 percent of Black students.

- Native students, special education students, overage students and LEP students had the highest dropout rates (37 percent, 23 percent, 23 percent and 20 percent, respectively, with free- and reduced price lunch eligible students not far behind, at 14 percent).
- For this subset of students, graduation rates revealed that Native, special education and overage students' graduation rates were very low (58 to 59 percent, more than 20 percentage points below the cohort average). By contrast, graduation rates for LEP students, Hispanic/Latino students and students with free- or reduced-price lunch status were 70 percent and higher. Yet only 47 percent of Hispanic/Latino students, 45 percent of free- and reduced-price lunch eligible students, 40 percent of LEP students, 34 percent of overage students, 26 percent of special education students and 25 percent of Native students enrolled in post-secondary schooling, with enrollment skewed toward two-year rather than four-year colleges.

**Significance for SJUSD:** Several of the low-graduating, low post-secondary enrollment populations represent small percentages of the SJUSD cohort that was examined, including Black students, Native students and seemingly, special education students (4, 3 and 2<sup>2</sup> percent of the cohort, respectively). Given this distribution, improving these subsets of students' outcomes is not likely to significantly affect SJUSD's graduation and postsecondary enrollment rates (an exception is special education students, see footnote 5). By contrast, underperforming subsets of students such as LEP and overage students have substantial representation in the SJUSD cohort (13 and 11 percent respectively) and improvement in their outcomes can significantly raise the graduation rates. And of course, the variables are often not separable but found in combination, although the data available to the study did not permit examination at this level. As experience in other districts has shown, specialized supports for different subgroups – for instance, overage students – can have profound positive results.

**Significance for individual students and the community:** Clearly, continued improvement in outcomes for all students is of the essence. At the same time, Hispanic students are half of the cohort, with a graduation rate that is slightly lower than the last reported national graduation rate for Hispanic/Latino students (76 percent) and with a post-secondary enrollment rate (47 percent) that remains closer to those of the lowest performing groups. Improving

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<sup>2,2</sup> There is some discrepancy between the cohort representation of special education and federally reported rate, which put the percentage of special education students in San Jose Unified School District at between 9-12 percent, and the percentage of Limited-English-Proficiency students at around 23 percent. The lower rates in our sample of students are due to the limitations on historical records in SJUSD's current student information system data base. However, these differences should not affect the relationships between students' other demographic and academic factors and the likelihood of their dropping out of high school. Thus we would expect no bias in the results which are the focus of this report.

Hispanic/Latino graduation rates (and later, enrollment in college, particularly four-year college) will be instrumental in enriching the quality of life and economic well-being of individuals, families and the community.

**Malleability and role of the district and schools in affecting improvement:** Some factors – gender, race and ethnicity come to mind immediately, followed by free and reduced-price lunch eligibility – are not influenced by the educational environment in the short term (although a major goal of education is a long-term reduction in poverty). **Hence, in the remainder of this brief we concentrate on malleable factors that can be modified by the appropriate educational environment<sup>3</sup> and which are within the power of educators and policy makers to influence in the short time in which students are enrolled in K-12 schooling, for the betterment of the individual, of the district, and of the community as a whole.**

**Table 2** shows outcomes, this time re-organized by students’ academic and behavioral performances in ninth grade. In comparison to the demographic and status characteristics presented in Table 1, malleable academic and behavioral indicators are seen to be useful to the task of identifying students who eventually dropped out versus graduated, with rates substantially different from those of the overall cohort. They provide a window into what schools and districts can do differently to affect improvement. Of the various cut-off points examined below, students with attendance rates below 90 percent, those who received one or more suspensions, and those who failed four or more semester courses (the equivalent of two year-long courses), had particularly low graduation rates and high dropout rates. Of students who fell into one of those categories during ninth grade, only half managed to earn a high school diploma while more than one-quarter dropped out.

**Table 2: Academic Outcomes by 9<sup>th</sup> Grade Academic and Other Behaviors**

Characteristic	% of Cohort	Dropped Out	Still Active	Graduated HS	Enrolled in PS*	Enrolled in 2-Year	Enrolled in 4-Year
<b>Attendance &lt;90%</b>	17%	28%	19%	53%	31%	28%	8%
<b>1 or More Suspensions</b>	18%	28%	19%	53%	30%	27%	6%
<b>Failed Math</b>	24%	24%	17%	60%	32%	31%	3%
<b>Failed R/ELA</b>	20%	26%	19%	56%	28%	27%	2%
<b>Failed 1 or More Courses</b>	37%	19%	16%	65%	36%	35%	4%

<sup>3</sup> Evidence from national graduation rates for special education students organized by state show nearly a 60 percentage point difference in special education students’ graduation rates across the country. Evidently, special education outcomes are highly dependent on educational environment.

<b>Failed 2 or More Courses</b>	28%	23%	16%	61%	33%	32%	3%
<b>Failed 3 or More Courses</b>	21%	27%	17%	57%	28%	28%	1%
<b>Failed 4 or More Courses</b>	17%	29%	19%	51%	25%	25%	1%
<b>GPA of 'D' or Below Average</b>	20%	29%	21%	50%	25%	24%	1%
<b>Below Basic or lower – CST Math</b>	34%	19%	15%	67%	38%	36%	6%
<b>Far Below Basic – CST Math</b>	10%	20%	20%	60%	31%	30%	3%
<b>Below Basic or lower – CST R/ELA</b>	18%	23%	19%	58%	28%	27%	3%
<b>Far Below Basic – CST R/ELA</b>	5%	32%	20%	48%	18%	18%	0%
<b>ENTIRE COHORT</b>	100%	10%	10%	80%	59%	40%	31%

\* - The percent of students that enrolled in some form of post-secondary schooling is less than the sum of those that enrolled in both 2-year and 4-year institutions, as some students had enrolled in both types of institutions.

**Which academic and behavioral indicators may best serve as levers for change?** While students who scored in the Far Below Basic category on the English Language Arts component of the California Standardized Testing (CST) had particularly high dropout rates and low graduation rates (32 percent and 48 percent, respectively) they comprised only 5 percent of the entire student sample. Hence, this indicator would not serve well as a tool for identifying a large proportion of eventual dropouts. The various measures of attendance, school behavior (discipline), and course grades (the ABCs) are the most effective in that the actual numbers of potential dropouts identified by these ninth-grade indicators represent a substantial proportion of the cohort's total number of dropouts. And, unlike demographic and some status variables, these indicators are something that adults can work with students to do something about and change outcome trajectories.

For each of the three primary early warning indicators identified above, **Table 3** below shows the share of all students in the cohort with each indicator, the share of dropouts with each indicator, and the share of graduates with that indicator. The table then also presents the percentages of all students, dropouts, and graduates with different numbers of indicators when they are combined into a set as would be used in an Early Warning System.

**While roughly one out of every two dropouts had attendance rates of under 90 percent, one or more suspensions, or failed four or more semester courses, only about one of every 10 graduates had such indicators. The vast majority of students in the cohort (69 percent), and more than three-quarters of graduates (77 percent), had none of the three major indicators, while – in contrast – about three-quarters of all dropouts (73 percent) had at least one of the academic or behavioral warning signs in ninth grade.**

**Table 3: Distribution of Students with Academic and Other Indicators (ABCs)**

	<b>% of All Students (N=2,177) with...</b>	<b>% of Dropouts (N=223) with...</b>	<b>% of Graduates (N=1,743) with...</b>	<b>% of PS Enrollees (N=1,274) with...</b>
<b>Data on Each Indicator</b>				
<b>&lt;90% Attendance</b>	15%	41%	10%	8%
<b>&gt;=1 Suspensions</b>	16%	44%	10%	8%
<b>Fail &gt;=4 Courses</b>	15%	52%	9%	6%
<b>Number of Indicators</b>				
<b>0 Indicators</b>	69%	27%	77%	82%
<b>1 Indicators</b>	20%	29%	17%	14%
<b>2 Indicators</b>	9%	33%	5%	3%
<b>3 Indicators</b>	2%	10%	1%	1%
<b>1 or more</b>	31%	73%	23%	16%
<b>2 or more</b>	11%	43%	6%	4%

**Table 4** (below) shows the dropout, graduation and post-secondary enrollment rates for students with different numbers of indicators. Approximately 90 percent of the students with none of the indicators succeeded in graduating and more than two-thirds (70 percent) enrolled in some form of post-secondary schooling. However, for students who had even one indicator, the chances of graduating plummeted to under 60 percent and only one-third had enrolled in post-secondary. For students who had two or more indicators, the graduation rate was 40 percent, less than half, with only 20 percent, or one-fifth, managing to enroll in post-secondary.

**Table 4: High School and Post-Secondary Outcomes, by Number of Indicators**

	<b>% Dropped out</b>	<b>% Graduated</b>	<b>% Enrolled PS</b>	<b>Number of Students</b>
<i>0 Indicators</i>	4%	90%	70%	1,492
<i>1 Indicator</i>	15%	69%	41%	432
<i>2 Indicators</i>	37%	44%	22%	201
<i>3 Indicators</i>	44%	27%	13%	52
<i>1 or more</i>	24%	59%	33%	685
<i>2 or more</i>	38%	40%	20%	253

**Choosing targets for interventions.** From the perspective of using Table 4 and associated indicators to identify students for effective and efficient dropout interventions, two options are most apparent: First, target students with two or more of the above indicators or second, target students with one or more indicators.

**Option 1: Students with two or more indicators:** Of these 253 students fewer than half succeeded in graduating (40 percent), with an equal amount dropping out. A remaining 20 percent remained actively enrolled in the SJUSD system two years past their expected graduation. Prior research in other districts has found that students with this number of indicators who remain enrolled are more likely to drop out than to graduate. Thus at best, for students with two or more of these flags, the odds of eventually receiving a high school diploma without interventions are only 50 percent. Why would this group of students be identified for interventions?

From a practical point of view in terms of resources and the feasibility of interventions, the identified group of 253 students represents 12 percent of the entire cohort. This is a group that is not too large a proportion of all students to realistically target for intervention in terms of staff time and expenditure, while it is also still a large enough group to achieve a sizeable reduction in the district’s overall dropout problem. The identified group of students represents only 6 percent of the cohort’s total number of graduates, while capturing almost half (44 percent) of the cohort’s eventual dropouts. The need is great. For this study, data on high school outcomes ran only until 2010-11, the expected year of graduation. With two more years of data to obtain final outcomes for those students who still remain enrolled past their fourth year of high school, these numbers would be even more efficient and effective in terms of identifying and targeting dropouts.

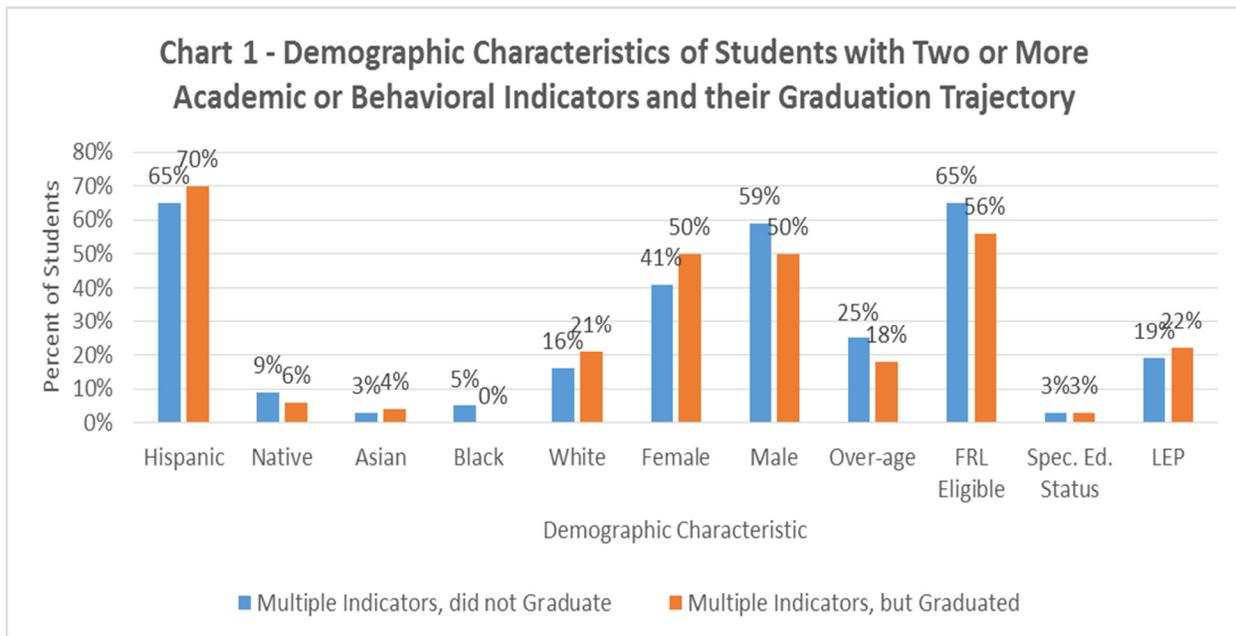
**Option 2: Students with one indicator.** These 432 students represent 20 percent of the cohort. Nearly 70 percent graduate and slightly more than 40 percent enroll in college. While the numbers are large, these students are likely among the most amenable to interventions.

**Resolution:** Districts and schools face choices in optimizing and targeting interventions to reduce dropouts and increase graduation rates. In this case, a reasonable resolution of competing student needs would be to develop one set of moderately comprehensive interventions for

students with one indicator, and a more deeply intensive set of interventions for those with two or more.

## OFF-TRACK STUDENTS WHO EARNED HIGH SCHOOL DIPLOMAS

**Demographics and status are insufficient explanations.** Of the 253 students with two or more early warning indicators (off-track students) 102 succeeded in earning a high school diploma. Chart 1 below shows that for these off-track students, demographic characteristics do not distinguish between those who graduated and those who did not. In terms of ethnicity, gender, age, and educational statuses, the two groups are largely the same. Students’ background characteristics are not adequate to explain why some of the students who exhibited multiple signs of disengagement managed to stay on-track, while others left the school system.

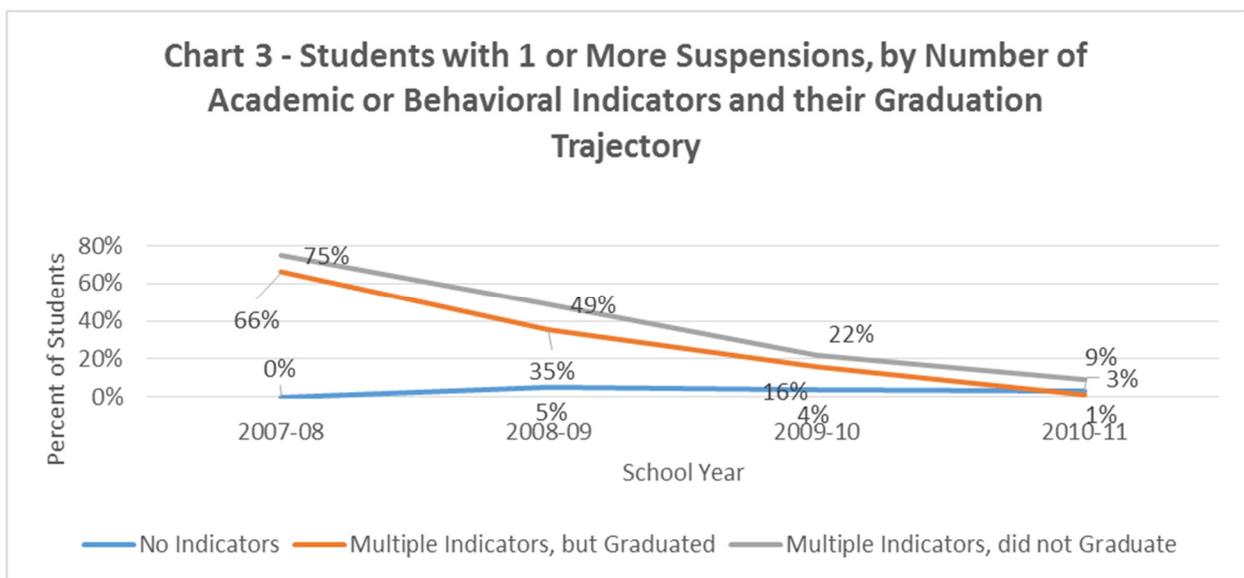
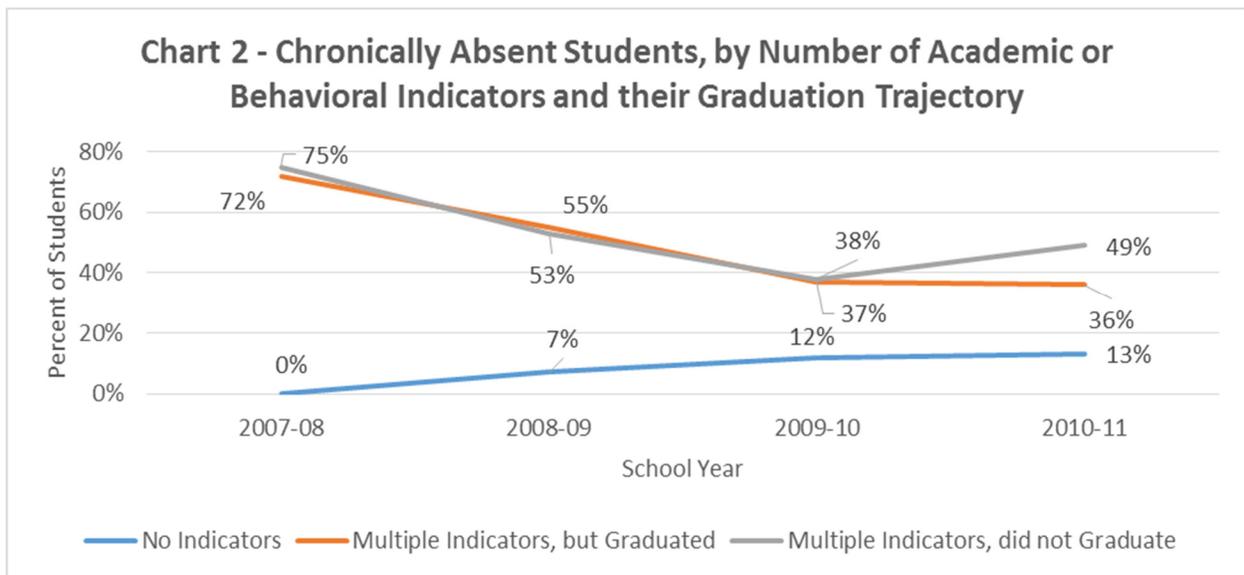


Initial academic and behavioral factors were also not substantially different between the two groups.

Students who had multiple indicators but managed to graduate had initial attendance rates in 2007-08 of 85 percent on average as compared to 81 percent for those who did not graduate. Initial suspension rates in ninth grade were 75 percent compared to 66 percent, respectively. Two-thirds of the graduates (~67 percent) had failed a math or English course in ninth grade as compared to four-fifths of non-graduates (~80 percent). In terms of grade point average, graduates averaged a “D+” in ninth grade while those who failed to graduate averaged a “D,” again a small difference with both groups exhibiting strong academic warning signals in their freshman year.

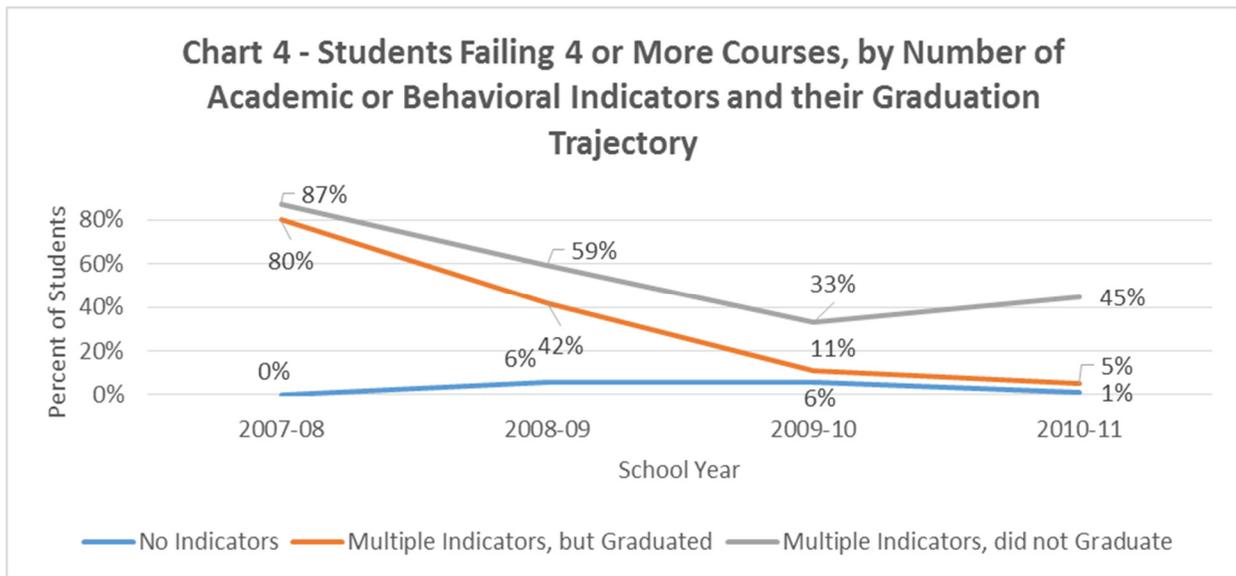
**What happens in tenth grade and higher that may influence graduation or lack of graduation?**

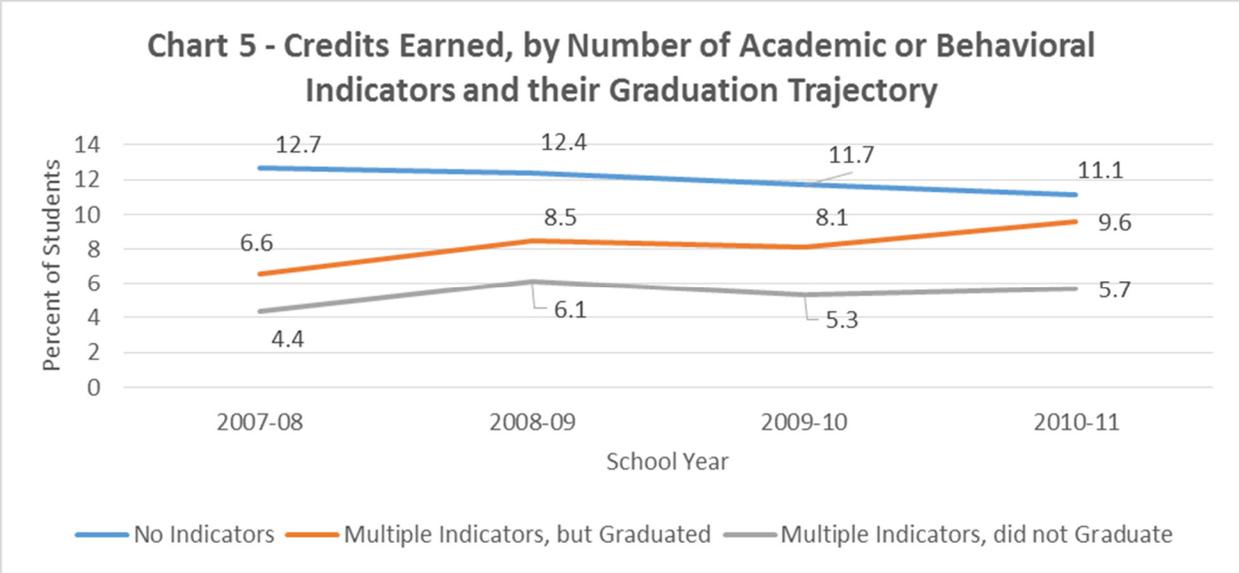
Behavioral factors -- attendance and disciplinary incidents -- do not provide the explanation. Chart 2 shows us that despite remaining in school and earning a high school diploma, those students who had multiple warning signs in the ninth grade but managed to graduate continued to exhibit attendance problems throughout high school. Their rates of chronic absenteeism (attendance below 90 percent) remained high in all four years, following a similar trend and overall rate to those of students who failed to graduate. While their suspension rates are somewhat lower than students who failed to graduate, Chart 3, they are still much more similar to those of dropouts than to those of students who never exhibited any early warning indicators in the ninth grade.



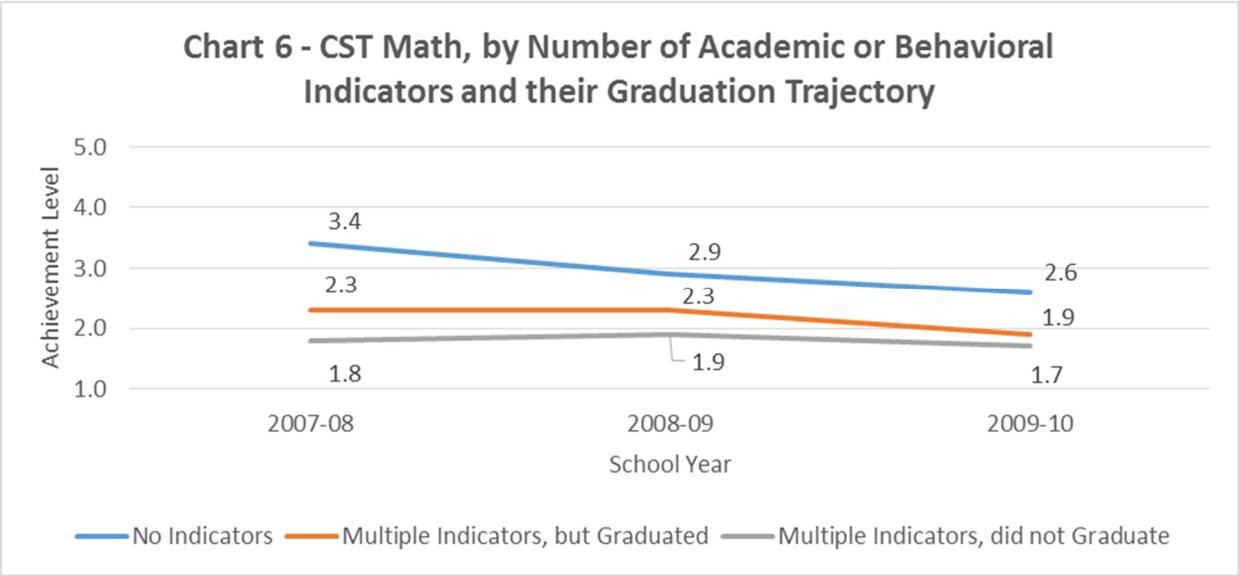
**Academics count:** As evident in the charts to come, academic factors do provide an explanation as to why some of the students managed to graduate while most others dropped out.

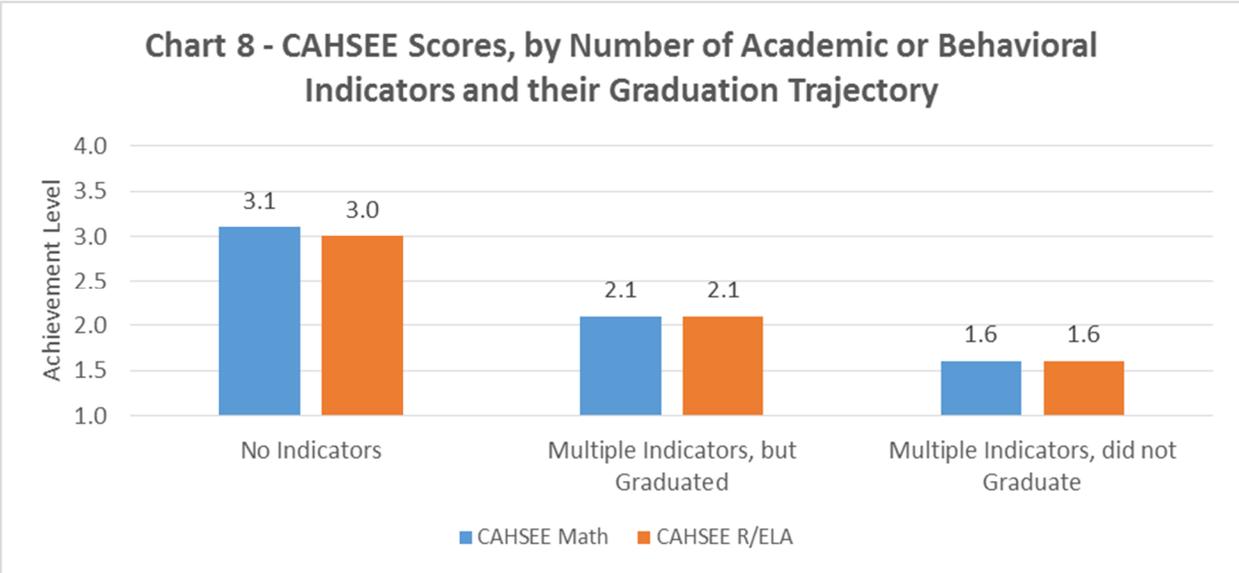
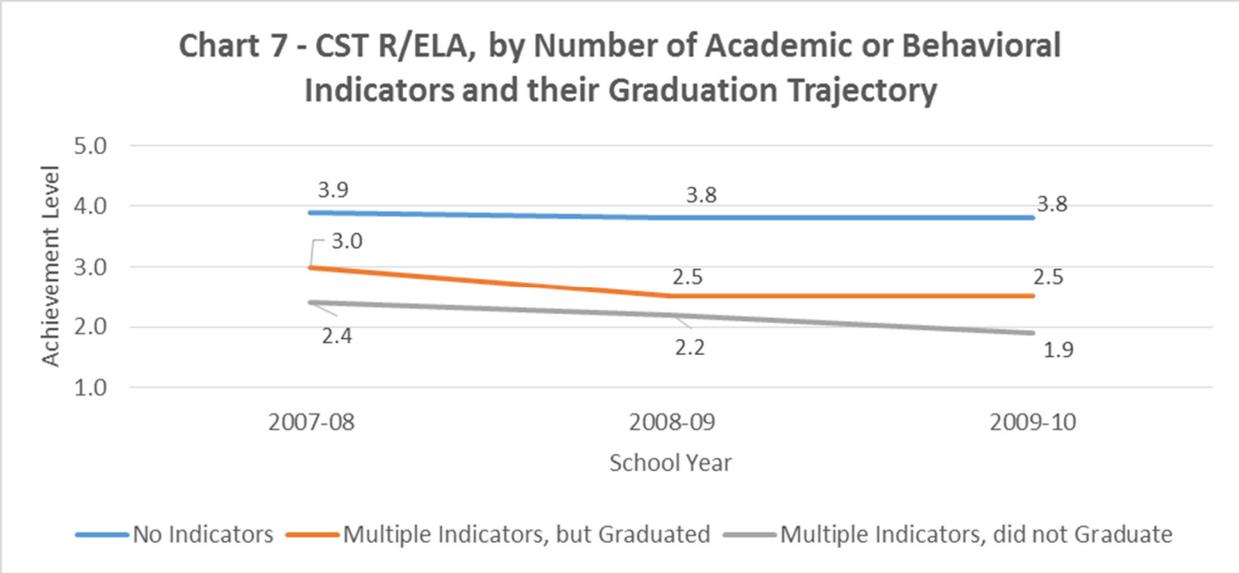
Different patterns in course marks are what distinguishes students who graduated from those who did not. Those students who succeeded in earning a diploma experienced initially high rates of course failure in ninth grade, but rapidly improved their course passing rates in later years (Chart 4). This improvement is also reflected in the number of credits earned on average. While students who failed to graduate passed an average of only six semester courses per year (equivalent to three full-year courses), students who earned a diploma increased their course passing rates to eight and then ten semester courses per year, on average. This is the equivalent to four to five full-year courses, and a rate close to that of students who never exhibited any off-track indicators during ninth grade. Thus, while graduates with multiple early warning signs continued to have poor attendance over the years, and many experienced disciplinary problems, the key difference seems to relate to their ability to master course content, enabling them to complete the homework, pass the tests required to pass courses and earn the necessary credits for grade promotion and a high school diploma.





That academic knowledge is part of the driving force that enabled some students with multiple indicators to earn a diploma is supported when we look at students' achievement levels on the various California standardized exams taken in high school. As seen in Charts 6 and 7 below, students with multiple indicators who succeeded in graduating had achievement levels that were higher than those of students with similar indicators who dropped out. While students who failed to graduate averaged scores closest to the Below Basic achievement ranges on the CST and the California High School Exit Exam (CAHSEE), students who succeeded in graduating despite multiple indicators averaged scores closer to the Basic achievement level range. Though our data include no indicator of tenacity or other socio-emotional-learning indicators, this difference is also a possible indicator of a stronger grit or motivation among these students that enables them to succeed in mastering the academic knowledge while at the same time struggling through attendance and disciplinary issues.





While students with multiple warning signs who succeeded in graduating had higher achievement levels than those who did not, they did not exhibit overall high achievement levels. Their academic knowledge was sufficient to pass their regular high school courses and earn a diploma, but their achievement levels were not as high as those students who never exhibited any early warning indicators (their average scores on the various California standardized exams were closer to the Proficient range.) This limitation is perhaps reflected in the failure of students who had multiple warning signs to complete any advanced course work or to enroll in post-secondary institutions that granted four-year diplomas. Students with multiple indicators who

succeeded in graduating did not take any Advanced Placement or International Baccalaureate courses. They also did not take the ACT standardized post-secondary entrance exam.

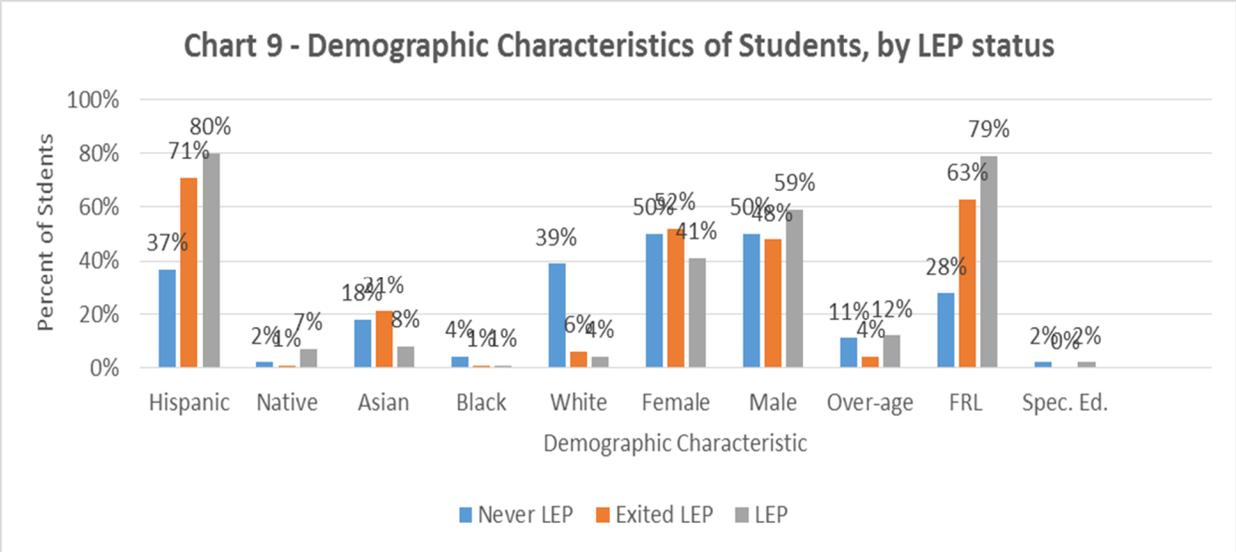
While 50 percent did enroll in post-secondary schooling of some kind (in between the 70 percent enrollment rate of students with no indicators and the 0 percent rate of students who did not graduate high school), only 4 percent did so at post-secondary institutions that granted four-year diplomas, as compared to 42 percent of students who did not exhibit any warning signs in ninth grade. So, while their achievement levels and academic knowledge may have been enough to become a high school graduate, it was not enough alone, aside from their other attendance and behavioral issues, to pursue advanced academic opportunities.

- ***It is also possible that this is a reflection of lower expectations placed on such students by the adults around them or a lack of guidance counseling pressing them to at least try to pursue such opportunities by taking advanced AP or IB courses or the ACT (required for application to California's public four-year colleges and universities.)***

## **ACADEMIC OUTCOMES FOR STUDENTS WHO EXITED LEP STATUS PRIOR TO NINTH GRADE**

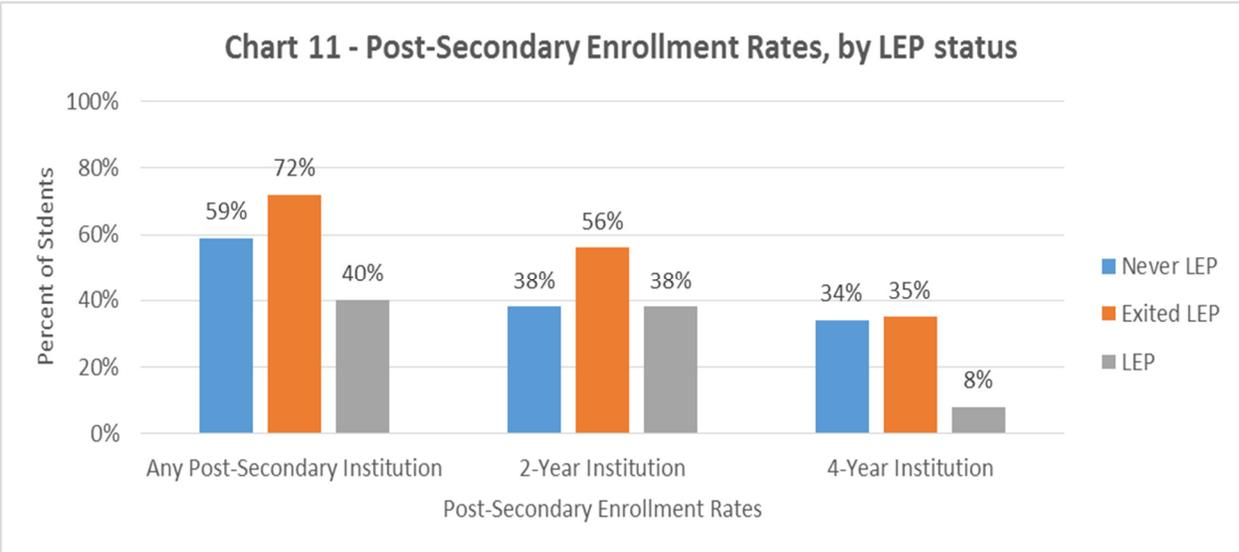
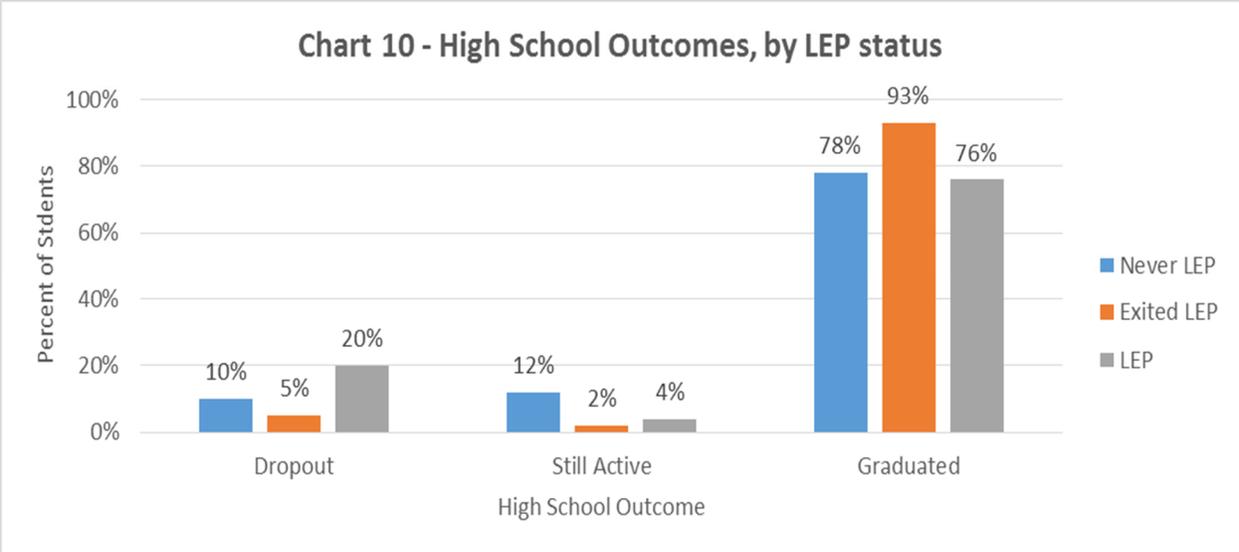
In a supplementary analysis we looked at the 334 students (15 percent) in this cohort who exited Limited-English-Proficiency status before entering the ninth grade. We compared their high school and post-secondary outcomes to those of the 307 students (14 percent) who were still categorized as LEP students in ninth grade, and to those of the 1,536 (70 percent) students who were never LEP status.

Chart 9, below, compares the demographic characteristics of these three groups of students. The group of students who exited LEP status prior to ninth grade had more Asian students and fewer students overage for grade, though for all three groups of students, Asian and overage students made up only a vast minority of the total populations. Otherwise, students who exited LEP status were very similarly matched to those students who remained in LEP as of ninth grade, and as a group both were predominantly Hispanic from high-poverty backgrounds.

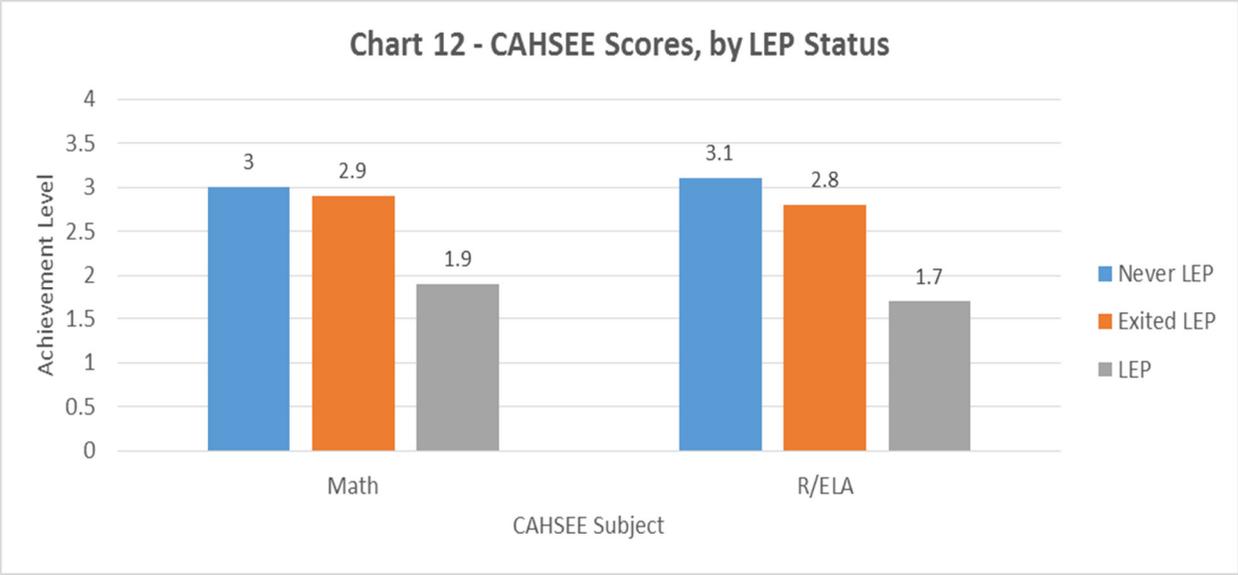


Yet despite being remarkably similar in terms of demographic characteristics, students who exited LEP status before high school experienced far stronger outcomes than students who remained of LEP status in ninth grade, both in high school and post-secondary schooling, as seen in Charts 10 and 11. Even more surprisingly, the outcomes of students who exited LEP status prior to ninth grade were even higher than those of students who were never LEP status. More than 90 percent of students who exited LEP status by the start of high school succeeded in graduating, while almost three-quarters enrolled in some form of post-secondary schooling, with more than half having enrolled at some-point in a four-year degree granting institution. Even excluding Asian students, and looking only at Hispanic students who exited LEP status, the high school and post-secondary outcomes were identical.

When analysed through logistic regression models controlling for students' demographic characteristics, as well as for their ninth-grade academic and behavioral factors (attendance rate, suspensions, and course failures), students who exited LEP status prior to high school were four times as likely to graduate with a diploma as were students who had never been of LEP status, and were twice as likely to enroll in post-secondary schooling.



In terms of academic achievement levels, Chart 12 shows that students who exited LEP status had similar scores on the 10<sup>th</sup> grade CAHSEE to those students who had never been in LEP status. Both groups averaged scores at the Proficient level, in both math and R/ELA, while students who remained in LEP scored on average one proficiency level lower, Basic.



For those students who had exited LEP status before ninth grade, the minimum amount of time spent under LEP status was one month while the maximum was 10 years (119 months), with the average amount of time being roughly 6 years (58 months). The middle half of the students spent between 3.5 and 6.26 years under LEP status. Thus, most of the students who exited LEP status had spent several years developing their English proficiency. However, while students who exited LEP status experienced stronger academic outcomes, the length of time which they spent as LEP students was not correlated to their high school and post-secondary outcomes when statistically modelled along with other factors.

**Recommendations:** What was learned about SJUSD students in general, and the subsets of students which by and large managed to achieve academic success despite facing significant roadblocks can help to shape the district’s deployment of resources and interventions to efficiently and effectively raise students’ outcomes in high school and better prepare them for postsecondary success and graduation not only from two-year but also from four-year colleges. Our recommendations to achieve these goals:

- Repeat this study with a second longitudinal cohort, particularly exploring the category of students with learning disabilities who, for reasons that are unclear, are underrepresented in the cohort examined in this study. The correlations in the present study suggest that the category of students with disabilities does not impact study conclusions; previous Johns Hopkins studies in other states and districts confirm this, yet given the national and state disparities in graduation rates between regular students and students with disabilities it may be advisable to confirm this with additional cohort data.
- Learn more about the contributing factors that enable some students to overcome ninth-grade indicators, re-channel their energies, beat the odds and experience high school and

postsecondary success, using qualitative data obtained through interviews, focus groups and if possible/available, surveys of both students and adults.

- Extend obtaining qualitative data back into the sixth grade, where outcomes have been shown in other studies to be an inflection point for eventual student success/failure without interventions.
- Develop an early warning indicator and intervention system that in addition to identifying students who are challenged by the ABCs (attendance, behavior and course-passing/credit accrual) and supplying interventions in an organized manner, enables schools to identify and nurture potential “beat the odds” students early on – with the goal of creating and supporting more “beat the odds” students.
- Work with school leaders to set benchmarks or targets for growth in identification and support of all students and of “beat the odds” students and for these students’ success.
- Through the early warning indicator and intervention system, target those students who most need additional supports in order to graduate, including all students and “beat the odds” students, and address the specific areas in which students need support to stay on-track and earn a high school diploma – and to bolster their college readiness.
- Examine district and school policies and practices related to attendance, discipline, grading which can influence student success positively or negatively.
- Refine and re-develop and implement policies and practices that encourage and support all students and those who are beating the odds to aim higher than high school graduation and two-year colleges in preparing for and enrolling in post-secondary schooling.
- Based on all these recommendations, redesign as necessary district, school and classroom policies and practices to further student success.

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