



DELIVERING OPPORTUNITIES

How the SAT[®] Is Helping More Colorado Students Get Into College

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Delivering More Opportunities for Students

For more than a century, College Board has dedicated itself to getting young people the education they need and deserve. The pandemic of 2020 has made that mission more crucial—and more difficult. The massive disruption of daily life has affected families and schools, deepened anxieties for students, and created new challenges for parents and teachers.

With so much stress and uncertainty, it's more important than ever that College Board helps students, especially vulnerable students, clear a path to college. And it's vital that everyone in education, from parents to policymakers, has clear insights into how students learn. We can't get better results if we don't measure results. Our goal is to expand student access for all types of postsecondary opportunity, whether it's two-year, four-year, or trade and technical schools.

Our mission is to open more doors for more students, to help everyone find a college or training program that matches their interests and abilities. We believe the best way to help students achieve their goals beyond high school is to give them personalized career advice early, help them understand their potential and their pathways to success, and have them connect their interests to concrete steps they can take in high school.

Through the SAT® Suite, we first connect with students in eighth grade and continue to monitor them every year until they apply, enroll, and graduate from college. For far too long, SAT results revealed that most students weren't prepared for college-level work or workforce training programs. That's why the SAT Suite of Assessments was designed to measure college readiness from grades 8–12, giving students time to prepare for a more promising path beyond high school.

Ideally, our work establishes a student's college readiness baseline in the eighth and/or ninth grade, then offers clear feedback that can be used to diagnose learning gaps and recommend solutions. PSAT/NMSQT® and PSAT™ 10 in the 10th and/or 11th grade give students the chance to check their progress. Results throughout the SAT Suite can be linked to Official SAT Practice on Khan Academy® to create free, personalized practice that has been associated with improved student outcomes. This puts students in a better position to take the SAT in the second half of their junior year, which gives them time to develop a practice plan to strengthen college readiness skills and improve SAT performance by the fall of their senior year. All students, regardless of background, can take steps to strengthen their skills, improve their scores, and increase their likelihood of going to college and earning a degree.

The report summarizing national results of delivering opportunities in 2018-19 can be found at <https://research.collegeboard.org/pdf/college-board-delivering-opportunities-sat-suite-results-2018-19.pdf>.

This report details progress in delivering opportunities to students in Colorado in 2018-19.

Major Findings

Taking college readiness assessments early is associated with improved readiness.

- This was the first year College Board could study a cohort that had access to the full SAT Suite of Assessments, and initial results are promising: Students who regularly take assessments improve their scores and their college readiness rates as shown in the table below for the cohorts who took each of the SAT Suite assessments in 2018-19 in Colorado. The cross-sectional view of performance in the table shows that the average score was 859 for PSAT™ 8/9 test takers in the eighth grade in 2018-19 and 1024 for SAT test takers in the class of 2019, with a similar upward trend in mean scores across sections. Note that the performance of the group taking PSAT/NMSQT in grade 11 in 2018-19 is the highest of all the 2018-19 grade-level cohorts.

TABLE 1 Cross-sectional Performance of 2018-19 Student Cohorts by Program

Assessment/Grade	Test Takers	Total	ERW	Math	
SAT Class of 2019	59,494	1024	518	506	
PSAT/NMSQT Grade 11	19,922	1043	554	539	
or PSAT 10 Grade 10	61,189	940	477	463	
PSAT 8/9	Grade 9	64,857	905	457	448
	Grade 8	3,777	859	435	424

We also see that since 2016-17 the readiness rates of the student cohorts in Colorado who took PSAT 8/9 and met both benchmarks have increased.

TABLE 2 PSAT 8/9 Readiness Rates 2016-17 Compared to 2018-19 in Colorado, by Race/Ethnicity

Race/Ethnicity	2016-17 N-Count	2016-17 % Meeting Both Benchmarks	2018-19 N-Count	2018-19 % Meeting Both Benchmarks
American Indian	26	23%	81	33%
Asian	74	73%	143	73%
Black	45	31%	131	34%
Hispanic	559	21%	950	29%
White	806	55%	1,649	57%
Two or More Races	93	51%	183	53%
All Test Takers	1,869	42%	3,777	46%

Note: Some groups couldn't be reported due to low n-counts.

The percentage of Colorado 11th-grade PSAT/NMSQT test takers on track for college and career readiness increases noticeably compared to 10th-grade test takers.

- The college readiness rates of 11th-grade students compared to their 10th-grade cohort counterparts in 2018-19 are higher overall and for all underrepresented minority student cohorts in Colorado.

TABLE 3 Comparison of Readiness Rates for 10th and 11th Grade 2018-19 Cohorts in Colorado, by Race/Ethnicity

Race/Ethnicity	2018-19 10th-Grade Colorado Test Takers: Met Benchmarks	2018-19 11th-Grade Colorado Test Takers: Met Benchmarks
American Indian	17%	35%
Asian	59%	75%
Black	21%	32%
Hispanic	21%	37%
White	50%	68%
Two or More Races	47%	68%
All Colorado	38%	60%

Note: Some groups couldn't be reported due to low n-counts.

More Colorado students are increasing their readiness for college and career training programs.

- The average score of the 2019 cohort of Colorado students who took the SAT Suite in 2016-17 (i.e., PSAT 10 or PSAT/NMSQT) was 970. The average score for this cohort increased to 1024 two years later. We also see average score increases for all racial/ethnic groups during this period.

TABLE 4 Longitudinal Performance of Colorado Students 2016-17 and 2018-19, by Race/Ethnicity

Racial/Ethnic Group	2016-17 PSAT/NMSQT or PSAT 10 N-Count	2016-17 PSAT/NMSQT or PSAT 10 Average Score	2018-19 SAT Cohort N-Count	2018-19 SAT Cohort Average Score
American Indian/Alaska Native	428	881	607	898
Asian	1,747	1055	2,151	1131
Black/African American	1,686	881	2,433	917
Hispanic/Latino	14,697	886	18,930	929
White	26,021	1019	31,744	1084
Two or More Races	2,004	1001	2,410	1071
Total	47,575	970	59,494	1024

Note: Some groups couldn't be reported due to low n-counts.

Students take different combinations of assessments to monitor their college readiness.

- Sixty percent of SAT test takers in Colorado in the class of 2019 took the PSAT 10 before taking the SAT. Twenty-six percent of all SAT test takers in Colorado’s class of 2019 took PSAT-related assessments in the 10th and 11th grades before taking the SAT, but not in the 9th grade. These were the two most popular assessment pathways taken by Colorado students. Overall, 9% of SAT test takers in the class of 2019 had no previous PSAT-related assessment experience.

TABLE 5 Participation in Assessment Pathways for Colorado Students, by Race/Ethnicity

PSAT-related History:	Total Group	American Indian or Alaska Native	Asian (including Indian subcontinent and Philippines origin)	Black or African American	Hispanic or Latino (including Spanish origin)	Native Hawaiian or Other Pacific Islander	Two or more races, non-Hispanic	White (including Middle Eastern origin)
All	1%	1%	3%	0%	1%	2%	1%	2%
Took 10 and 11	26%	16%	40%	15%	17%	15%	30%	32%
Took 10 only	60%	69%	45%	67%	69%	69%	58%	55%
Took 11 only	2%	1%	3%	2%	2%	0%	2%	2%
Took 9 and 10	1%	0%	1%	1%	1%	1%	1%	1%
Took 9 and 11	0%	0%	0%	0%	0%	0%	0%	0%
Took 9 only	1%	0%	0%	1%	1%	0%	1%	1%
Took none	9%	12%	8%	14%	10%	13%	7%	7%
	59,494	607	2,151	2,433	18,930	143	2,410	31,744

While there are multiple assessment paths available to students, Colorado students who took any of the SAT Suite of Assessments alone or in combination before taking the SAT tended to score higher than students who didn't take any PSAT-related assessment.

TABLE 6 Performance of Colorado Students by Assessment Pathway

PSAT-related History	SAT Test Takers		Average SAT Suite Score			
	N	%	9th	10th	11th	SAT
All Assessments	840	1%	1026	1121	1166	1233
Took 10 and 11	15,599	26%		1070	1110	1168
Took 10 only	35,435	60%		916		974
Took 11 only	1,124	2%			1007	1051
Took 9 and 10	559	1%	921	990		1061
Took 9 and 11	33	0%	928		1015	1070
Took 9 only	357	1%	899			967
Took No Assessment	5,547	9%				903
Colorado Total	59,494					1024

More low-income students are taking the SAT than ever before.

- The primary goal of SAT School Day is to get lower-income and underrepresented students into the college-going pipeline earlier, connect them to higher education options sooner, and give them more time to develop their college readiness skills. Through spring 2019, over 3.7 million students in more than 3,000 school districts and 9,000 schools nationally had participated in SAT School Day.
- In Colorado, the number of students participating in SAT School Day in 2015-16 was 21; three years later, 57,693 students participated. The SAT School Day not only made it possible for more students to test, it also made the pool a more socioeconomically diverse group.

State and district policies have expanded the use of the SAT Suite of Assessments in the U.S.

- The use of the SAT Suite of Assessments has dramatically increased across the U.S. The SAT Suite is used as accountability assessments, as college readiness measures, as college and career readiness indicators in accountability, as an alternative for high school graduation, and to help more students identify and then clear their paths to higher education opportunities.

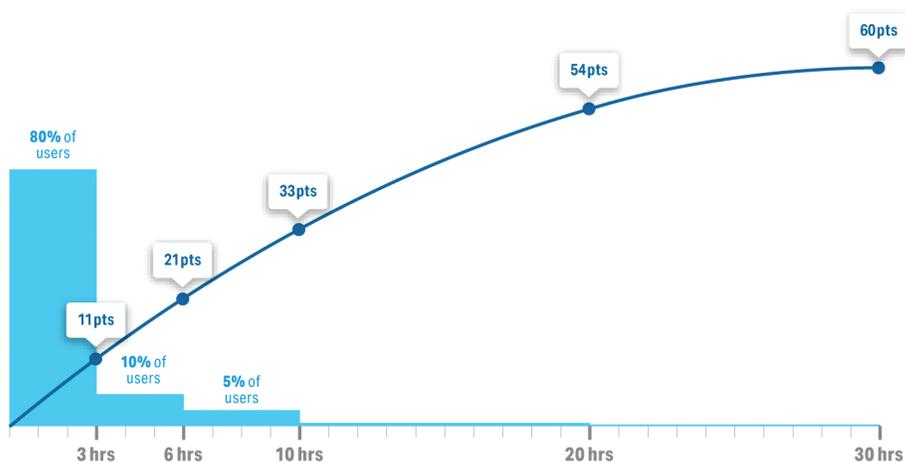
When a college entrance examination is given to all students, we see increases in four-year college-going rates and enrollment in institutions with higher BA completion rates. Students from underrepresented backgrounds benefit the most.

- Four independent research studies show that after the introduction of college entrance examinations administered to all students, four-year college-going rates increased as much as 10%, students were more likely to attend colleges with higher completion rates, and underrepresented students, particularly lower-income and students from rural areas, tended to benefit the most—with higher college enrollment rates, for example.

There is a positive association between time spent on Official SAT Practice (OSP) and composite SAT scores. Six hours of practice is associated with an additional 21 points on the SAT, regardless of demographics, based on a national sample of SAT test takers.

- The figure below shows the additional SAT score points associated with OSP time in hours when we control for gender, race/ethnicity, PSAT/NMSQT scores, and parental education. Students who linked their College Board account to OSP but spent no time practicing earned a mean SAT score of 1099, compared to students who didn't link their account, who scored an average SAT score of 1053. The average SAT score associated with spending six hours on practice was 1120, a 21-point improvement. Unfortunately, only 10% of students in the model spent more than six hours on OSP. These findings hold true regardless of student demographics.

FIGURE 1 Additional SAT Points Associated with Hours of Practice, Including Percentage of Sample



Note: The percentages in the figure do not add up to 100 due to rounding.

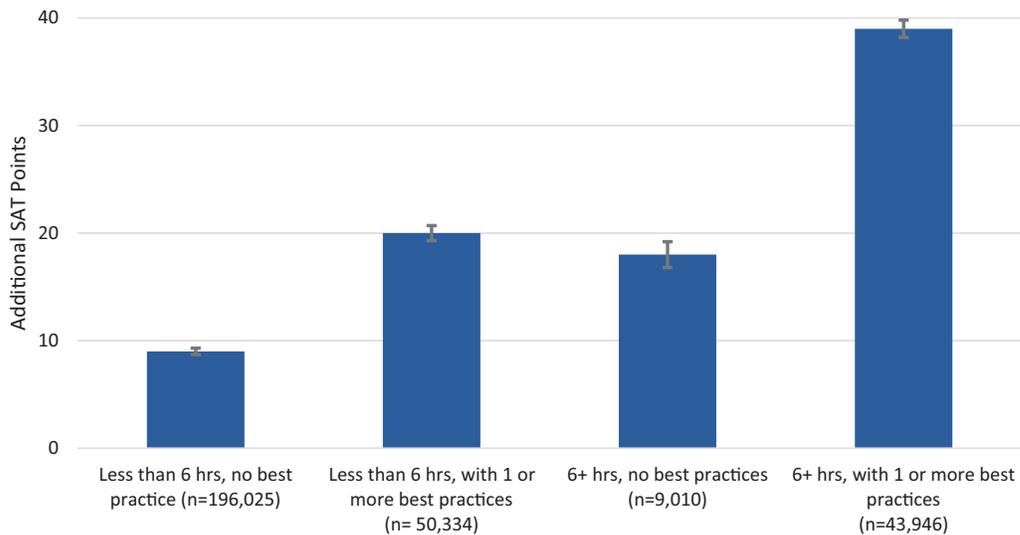
- In Colorado, 19,734 SAT test takers in 2019 linked their College Board and OSP accounts, which is approximately one-third of the total group. Of the total cohort, 16,092—27%—linked their accounts and practiced for six hours on OSP. A total of 3,649—6% of the cohort—linked their accounts and took at least one full-length practice test. The national and state data suggest that too few students are engaging in higher levels of practice despite the advantages that could accrue to them if they did. More needs to be done to help Colorado students engage in best practices so that they can maximize the benefits of free, world-class practice.

Research says three best practices help students get the most from time spent in Official SAT Practice.

- We see from research on students nationally that at least three best practice behaviors can help students get the most out of their practice: (1) following skill recommendations; (2) completing a full-length practice test, especially between taking the PSAT/NMSQT and their first SAT; and (3) leveling up skills through practice in 15 or more skills.
- We examined whether students who engaged in these best practices attained better outcomes on the SAT than students who didn't when we control for student attributes and PSAT/NMSQT test scores. The figure below shows the additional SAT

points associated with each of four categories: Students who spent less than six hours on OSP but didn't do a best practice behavior; students who spent less than six hours and did at least one best practice; students who spent at least six hours but didn't do a best practice; and students who spent at least six hours on OSP and did at least one best practice. Students who spent at least six hours on OSP and did a best practice scored an average of 39 points higher on the SAT than students who didn't spend any time on OSP. These findings hold true regardless of student demographics. In spite of what the data show as beneficial practices, far too few students nationally are engaging in them.

FIGURE 2 Association Between OSP Usage and Composite SAT Achievement, Controlling for Student Attributes and PSAT/NMSQT Scores



Note: The "I" at the top of the bar graphs represents the standard error of estimate.

About 91% of the nearly 200,000 students nationally who used our career exploration tool completed their interest road map, with 27% discovering at least one career of interest to them. The most popular career is registered nurse, followed by surgeon and pediatrician.

- Five of the top 10 careers identified by students nationally are healthcare related, and fewer than 4% of all careers of interest were nursing jobs. In a survey, we found that students have a strong interest in learning more about different college- and career-related goals and majors, as well as understanding which training programs and employers might be a good fit for them.
- In Colorado, the 5,844 students who have used the career exploration tool, Career Finder™, since its launch in May 2019 selected the following careers as most popular: surgeons, lawyers, registered nurses, pediatricians, and writers.

Retaking the SAT increases college access, especially for low-income and underrepresented students nationally.

- In a national study, students who retake the SAT tend to have substantial increases in scores. They also see up to a 33 percentage point increase in four-year college enrollment, thereby reducing the four-year college enrollment gap 10% by race/ethnicity and 20% by income.

More students are finding more scholarship opportunities through the SAT Suite of Assessments.

- College Board has greatly expanded awareness of the many scholarships available to low-income students through our 19 scholarship partners, including our longstanding partner National Merit Scholarship Corporation, the College Board Opportunity Scholarships (CBOS), and College Board National Recognition Programs. In 2019, over \$74M was awarded to students through our scholarship partners, \$4.6 M was awarded through CBOS, and, in 2020, three new recognition programs, in addition to the National Hispanic Recognition Program, were launched. The message is being heard.
- In 2019, there were 521 applicants for these scholarships from Colorado, with 60 students receiving awards, for a total award amount of \$1,166,919.

Fee waivers improve college access for low-income students nationally.

- Nearly all students granted fee waiver benefits use one or more of them. That's good news, but not good enough, because too many students aren't taking full advantage of the opportunities available to them. College Board reached many more eligible students this year, thanks in large part to greater connections through School Day. The overall percentage of the past 10 public school graduating classes who had access to one or more SAT tests at no cost to them has risen steadily from 23% in the class of 2010 to roughly 60% in the past three years. Despite these increases, we can't rest until every student uses all the fee waivers available to them.

AP courses are a valuable tool for students that strengthen college readiness.

- AP[®] and Pre-AP[®] courses help students develop skills and routines that allow them to tackle college-level work. In a recent study in West Virginia, students who take at least one AP Exam score higher on all three components of the SAT Essay, particularly on the analysis component, compared to students who take no AP Exams. This indicates that the skills students acquire while engaging in an AP curriculum are highly transferable to the type of writing skills they will need in college.

Small nudges can change students' trajectories by encouraging students with potential to take AP courses and assessments in a national randomized controlled study.

- Yet another barrier is coming down: in a randomized controlled study, teachers and students across the U.S. received letters, emails, and other communications encouraging students to take AP courses for which they had potential. Students in urban high schools who received one of those messages were 5%–6% more likely to take a matched AP Exam, compared to students who didn't receive outreach.

What These Results Mean for Colorado

We continue to be encouraged by the results of our efforts with the state of Colorado to deliver more opportunities through the SAT Suite. While we have a lot more research to do, we think the results to date show our efforts have helped more students in Colorado prepare for college and workforce training programs.

- College readiness can be improved for students in all groups. We know instruction can improve readiness, but we also know that earlier assessments can guide instructional interventions, which increase student readiness. We can see this progress from early high school through graduation.

- Access to School Day testing has expanded access to college for all Colorado students.
- More low-income students in Colorado are taking the SAT than ever before.
- Research has shown that when a college entrance exam is given to all students, we see four-year college-going rates increase, higher enrollment in institutions with higher BA completion rates, and students from underrepresented backgrounds benefitting the most.
- Practice matters, and practice focused on completing one or more best practices that research has shown to increase readiness matters most.
- Encouraging Colorado students to retake the SAT can increase their opportunities for college access, especially for low-income and underrepresented students.
- Students tell us that they have a strong interest in learning more about different college- and career-related goals and majors, and about training programs and employers who might be a good fit for them. Colorado students could benefit from more assistance from counselors, mentors, and others to help them connect their educational goals to careers and local employment.
- Colorado students should be strongly encouraged to apply for all the many scholarship opportunities available to them through the SAT Suite. Too few Colorado students are applying for these scholarships.
- Colorado students with the potential to take AP should be encouraged to do so. Nudges work and students who receive that encouragement are 5%–6% more likely to take AP courses and AP Exams, which open doors for college access and credit.

What's Next?

The COVID-19 pandemic is deepening the longstanding inequities that College Board was founded to combat. Vulnerable students are at heightened risks of missing the opportunities they've earned, and our society is at risk of losing valuable talent we will badly need in the years to come. College Board will continue to work with educators, state departments of education, and higher education officials in Colorado to better understand how student actions and strategies—whether they be testing behaviors, quality and frequency of practice, career planning, use of fee waivers, and applying for scholarships—can help clear a path to college. The research results in this report provide tangible steps that can be taken to more effectively deliver opportunities to more Colorado students, an effort that calls for our full commitment.

About College Board

College Board is a mission-driven not-for-profit organization that connects students to college success and opportunity. Founded in 1900, College Board was created to expand access to higher education. Today, the membership association is made up of over 6,000 of the world's leading educational institutions and is dedicated to promoting excellence and equity in education. Each year, College Board helps more than seven million students prepare for a successful transition to college through programs and services in college readiness and college success—including the SAT[®] and the Advanced Placement[®] Program. The organization also serves the education community through research and advocacy on behalf of students, educators, and schools.

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