Getting Down to FACTS

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High School as a Launch Point: Opportunity, Development, and Redesign in California

Michal Kurlaender, Linda Darling-Hammond, Kramer Dykeman, Alexandria Hurtt, Mary Helen Immordino-Yang, Jacob Jackson, Douglas Knecht, Beryl Larson, Susanna Loeb, Julia Perlmutter, Sean Reardon, Sherrie Reed, Lauren Ziegler

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Introduction

High schools shape young people's pathways into college, careers, civic life, and adulthood. The experiences students have during these years, academically, socially, and civically, influence the opportunities available to them after graduation and the ways they come to understand themselves, their communities, and their possible futures.

Adolescence is a sensitive and generative developmental period. During these years, young people build identity, purpose, moral reasoning, civic commitments, and the capacity to connect their own experiences to larger social questions. High school therefore serves as both a transition point to postsecondary education and a developmental setting with lasting consequences for students' intellectual growth, belonging, agency, and participation in society.

California high schools are expected to prepare students for college and career while also supporting broader developmental goals. The evidence reviewed in this brief shows that the state's high schools do not yet provide these opportunities consistently. Access to college-preparatory and advanced coursework varies substantially across schools and student groups. Many students report low levels of engagement and connectedness, and chronic absenteeism remains well above pre-pandemic levels. Developmental research and examples of high school redesign also point to ways schools can create stronger relationships, more meaningful learning, and clearer pathways into adulthood.

This brief synthesizes evidence from Getting Down to Facts III studies on adolescent development, high school course-taking, postsecondary preparation, chronic absenteeism, student experience, and high school redesign. Across these areas, the findings point to a central challenge: how California can make high school a stronger launch point for opportunity, development, and civic participation for all students.

Key Findings

1	**Adolescence is a developmental window in which secondary schools can shape identity, purpose, and civic reasoning.**

Developmental research shows that adolescence is a period of heightened neuroplasticity, social sensitivity, and expanding capacity for abstract and systems-level thinking. High schools can support deeper learning when they provide strong relationships, safety, meaningful inquiry, and opportunities for students to connect academic work to larger questions about themselves and society.

2 **High school designs shape opportunities for strong relationships and deeper learning opportunities.**

High schools that have redesigned to create small learning communities, teaching teams, and advisory systems support stronger attachment and belonging and higher graduation rates. Those that incorporate community-connected, project-based learning and civic engagement opportunities develop transcendent thinking, agency, a sense of purpose, and perseverance.

3 **High school course-taking structures students' postsecondary opportunities.**

Advanced math, A-G completion, AP, dual enrollment, and CTE pathways are associated with college enrollment and other postsecondary outcomes. These pathways shape students' access to college and career options, and they are also key ways that high schools organize academic opportunity.

4 **Access to college and career preparatory coursework remains uneven across schools and student groups.**

California students' course-taking opportunities vary by school context, socioeconomic status, race and ethnicity, gender, English learner status, prior achievement, and local course offerings. Structural barriers within and across schools shape both which courses are available, which students enroll in them, and their likelihood of succeeding.

5 **Course pathway decisions can have lasting consequences for students' later opportunities.**

California's post-Common Core math pathway changes show how district decisions about acceleration and course sequencing can reshape access to advanced coursework. The rollback of eighth-grade algebra access reduced later enrollment in advanced math, especially precalculus and calculus, without clear evidence of improved achievement.

6 **Many high schools are not consistently organized around the developmental conditions adolescents need.**

High levels of disengagement, absenteeism, and weak connectedness point to a mismatch between many students' experiences and the conditions that support adolescent learning. Redesigned high school models, strategic staffing, and new technologies may help schools create stronger relationships, more meaningful learning, and more flexible supports, but these approaches remain unevenly available.

The Evidence Behind These Findings

Adolescence is a developmental window in which secondary schools can shape identity, purpose, and civic reasoning

Adolescence is a stage of heightened neuroplasticity, social sensitivity, and expanding capacity for abstract thinking (Immordino-Yang, Darling-Hammond, and Knecht). During this time, the brain undergoes significant experience-dependent reorganization, enabling young people to better integrate emotion and cognition and fueling curiosity, identity formation, systems-level thinking, and deeper understanding. Adolescence represents a critical window of developmental opportunity in which individuals build the capacities to act purposefully in their lives and communities (Immordino-Yang, Darling-Hammond, and Knecht).

Research from neuroscience shows that adolescents demonstrate a "capacity for what has been termed *transcendent thinking*—the disposition to move beyond the immediate and concrete toward reflections on broader systems, ethical principles, and long-term implications," (Immordino-Yang, Darling-Hammond, and Knecht). This capacity is foundational for identity development, civic reasoning, and sense of purpose. Transcendent thinking involves coordinated activity across multiple regions of the brain, and with repeated engagement, can foster both cognitive flexibility and psychosocial growth (Gotlieb et al., 2024).

These findings suggest that adolescents benefit from "curated opportunities to engage with big ideas as well as with here-and-now activity, within the course of their scholarly and civic activities" (Immordino-Yang, Darling-Hammond, and Knecht). Prior research in education, neuroscience, and developmental psychology further indicates that classroom and school environments can be designed to support these processes—promoting autonomy, belonging, and meaningful engagement through instructional and organizational practices (Darling-Hammond et al., 2020; Hantzopoulos, 2016; Patall and Zambrano, 2019; Spencer et al., 2020).

This evidence positions high schools as developmental environments that can shape students' identity formation, sense of purpose, and capacity for civic reasoning while supporting academic learning.

High school designs shape opportunities for strong relationships and deeper learning opportunities

High school redesign research shows that school structures shape students' opportunities for relationships, engagement, and deeper learning. Traditional high schools often organize students into short class periods, fragmented curricula, and large student loads for teachers. These structures make it

difficult for adults to know students well over time or to support students as whole people and developing intellects (Immordino-Yang, Darling-Hammond, and Knecht).

Redesigned high school models organize time, staffing, and learning experiences differently. Small learning communities, advisory systems, teaching teams, and block schedules create more consistent relationships between students and adults. These structures help students become known well, give families clearer points of contact, and give educators more time to plan around students' needs and interests (Immordino-Yang, Darling-Hammond, and Knecht).

Redesigned school models also create stronger opportunities for deeper learning by using a project-based, community-connected curriculum that encourages sustained inquiry, reflection, and authentic demonstration of understanding around meaningful questions that are connected to real-world concerns. As students engage in experiential learning embedded in the community through internships and applications of their academic work to local concerns, they also develop civic reasoning and develop a sense of identity, agency, and purpose, preparing them for college, careers, and democratic participation.

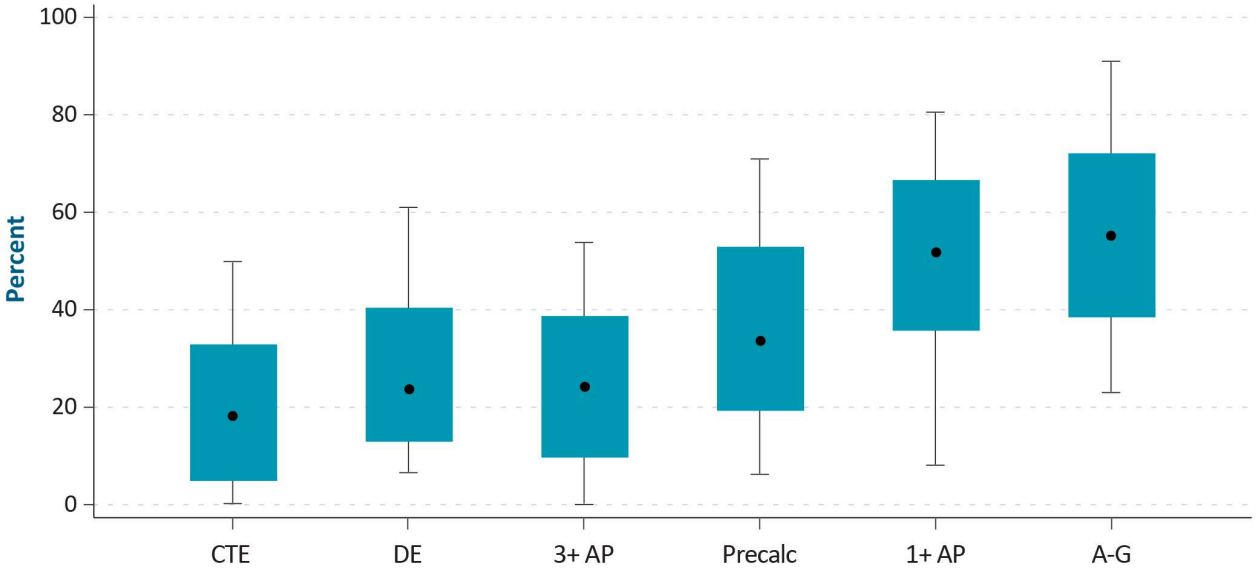
In Oakland, for example, high school redesign has combined the student-centered supports of community schools with the career pathways and internships offered by Linked Learning academies, and project-based learning capstone projects that allow students to show what they know through authentic, rigorous exhibitions of performance that deepen their understanding. Since Oakland Unified began redesigning its high schools, suspension rates have dropped, graduation rates have increased especially for Black and Latine students, and college preparedness and state test performance have improved, though these descriptive trends do not establish the causal effects of community schools or high school redesign (Immordino-Yang, Darling-Hammond, and Knecht).

High school course-taking structures students' postsecondary opportunities

In recent years, approximately half of all California high school graduates have completed the sequence of courses required for eligibility to the state's four-year public universities, a rate that has increased since the early 2000s, when fewer than 40 percent of high school graduates met this eligibility. The majority of students (81 percent) reached Algebra 2, but less than half (40 percent) took Precalculus or more. Many high school students have taken college-level coursework while in high school: 53 percent took at least one AP course and 25 percent participated in at least one dual enrollment course through a Community College. About one in five students completed a CTE pathway, a rate that has remained fairly stable over time (Kurlaender et al.).

The distribution of postsecondary preparation varies considerably across California high schools. **Figure 1** shows that participation in college and career preparatory coursework differs widely across schools, with some schools demonstrating low levels of participation and others approaching nearly universal college preparation coursework. This variation illustrates how high schools help structure which academic opportunities are available and attainable for different students.

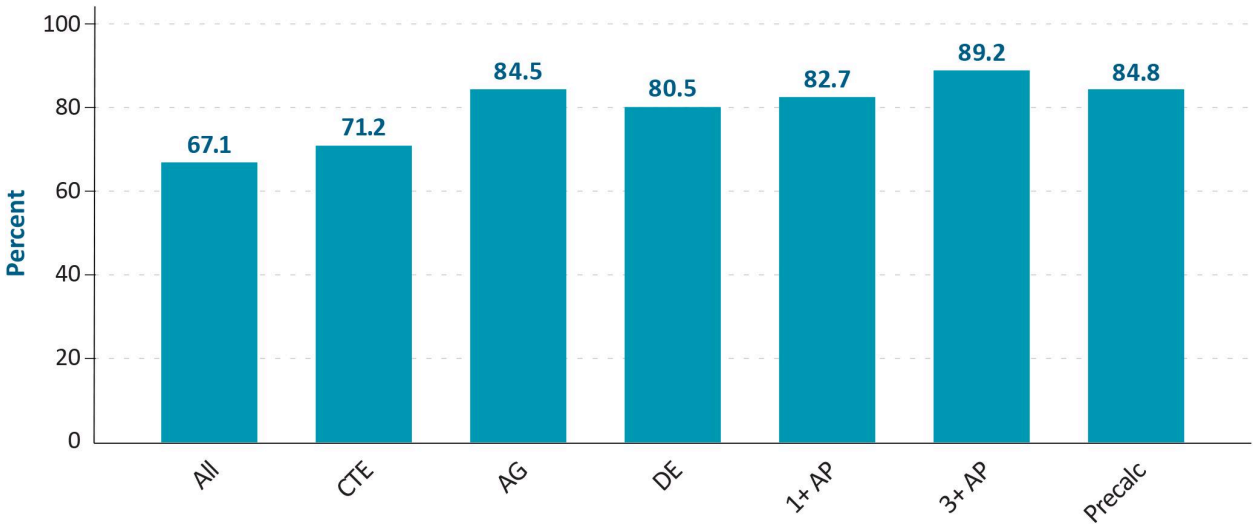
Figure 1: College and Career Preparation Varies Widely Across California High Schools



Note. Distribution of school-level participation and completion rates. Boxes represent the interquartile range. Bars represent the range of rates for schools between the 10th and 25th percentile and 75th and 90th percentile, respectively. Includes schools with SOC codes of 65, 66, 67 in the California Department of Education's *Public Schools and Districts* data files. Excludes schools with fewer than 15 seniors enrolled on April 15, 2022.

The probability that the average California public school student enrolls in college within 16 months of high school completion is 67 percent. As shown in **Figure 2**, students who completed A-G requirements or participated in college-level coursework, including dual enrollment, AP, and advanced math, enrolled in college at rates above 80 percent. These descriptive patterns do not establish causality, but they show a strong association between college and career preparatory coursework and later college enrollment (Kurlaender et al.).

Figure 2: Conditional probability of college enrollment given participation in college and career preparatory coursework



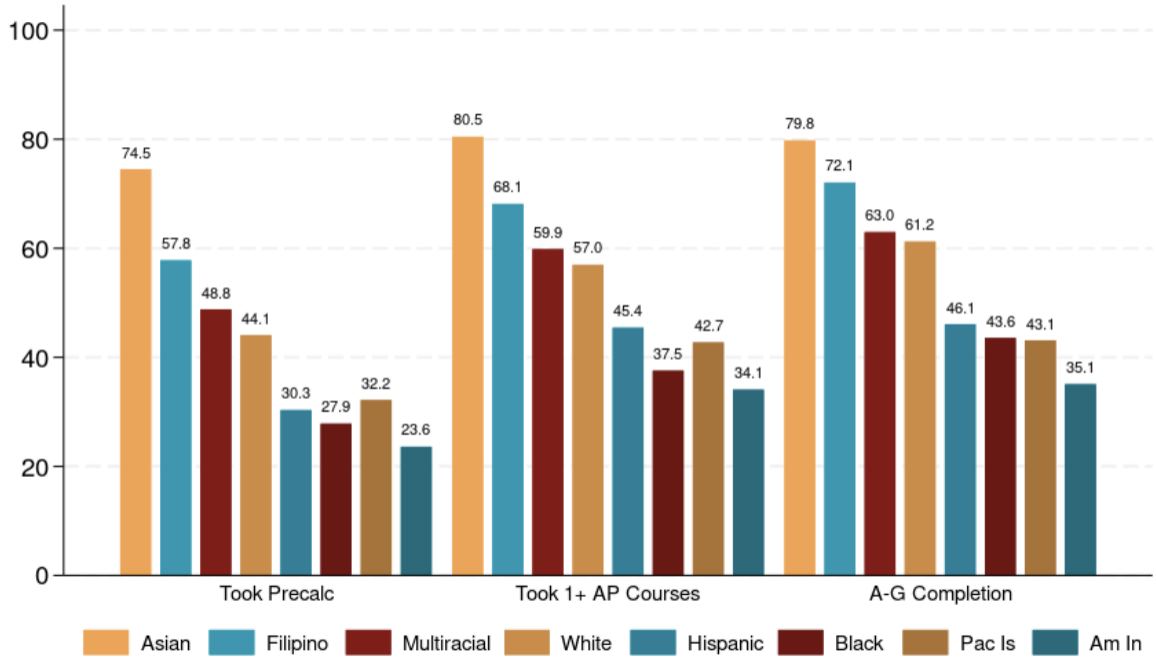
Note. Rates represent the probability of participation among high school seniors enrolled in a California public high school on April 15, 2022 and who completed high school that same year; are included in the CCI accountability cohort in 2021, 2022, or 2023; and for whom 4 years of high school coursetaking data is available.

Access to college and career preparatory coursework remains uneven across schools and student groups

High school achievement and course-taking demonstrate persistent inequalities by student background (Kurlaender et al.; Dykeman et al.). Asian, Filipino, white, and multiracial students are generally more likely than their Black/African American and Latine peers to enroll in advanced college preparatory courses. Male students and students from socioeconomically disadvantaged backgrounds also have lower rates of advanced college preparatory course-taking than female students or more affluent peers (Kurlaender et al.).

These patterns reflect both differences in course access across schools and differences in course enrollment within schools. College and career preparatory opportunities are shaped by which courses schools offer, how students are placed into those courses, how schedules are organized, and how students and families receive information about available pathways. As shown in **Figure 3**, participation in advanced coursework varies substantially across race/ethnicity (other student groups available in Kurlaender et al.). These inequitable rates of course-taking signal structural barriers to college preparatory courses and access to college.

Figure 3. Participation in Advanced College Preparatory Coursework Varies Across Student Groups



Note. Rates represent the percent of high school seniors enrolled in a California public high school on April 15. 2022 and who completed high school that same year; are included in the CCI accountability cohort in 2021, 2022, or 2023; and for whom 4 years of high school coursetaking data is available. N = 381,385. Bars are sorted by A-G Completion percentages. Racial/ethnic subgroups defined by the California Department of Education.

Course pathway decisions can have lasting consequences for students' later opportunities

District decisions about course sequencing and placement shape students' access to later academic opportunities. Huffaker's analysis of California's math pathways during the transition to Common Core illustrates how these decisions unfold over time. Prior to the transition, approximately 60 percent of California students took Algebra I in eighth grade. Following policy shifts that emphasized delaying acceleration, enrollment in eighth grade algebra fell to below 20 percent.

These changes altered students' trajectories through high school mathematics. Huffaker finds that districts reducing middle school access to high school math also saw later declines in advanced math course-taking, including precalculus and calculus, without corresponding improvements in student achievement. Kurlaender and colleagues show why these pathway changes matter: advanced math course-taking is associated with higher rates of college enrollment and other postsecondary outcomes.

These patterns show how early decisions about course placement and sequencing can shape access to later opportunities. Pathway structures influence which courses students are positioned to take, how far they can progress, and which postsecondary options remain available. Effects of these decisions often emerge over multiple years, making them difficult to observe at the point when policies are adopted.

Many high schools are not consistently organized around the developmental conditions adolescents need

Beyond coursework, evidence points to broader challenges in students' experience of high school. Chronic absenteeism continues to be nearly double pre-pandemic rates: 19.4 percent in 2024-25 compared with 12.1 percent in 2018-19 (Gee and Yu). Chronic absence rates for disadvantaged student groups remain elevated relative to all students, including students classified as socioeconomically disadvantaged, students with disabilities, English learners, foster youth, and students experiencing homelessness. Based on reports from more than 2.5 million California 9th and 11th graders from 2015-16 to 2023-24, illness and lack of sleep were the two most common reasons for missing a day of school in the past 30 days (Gee and Yu).

Student survey evidence also raises concerns about engagement, belonging, and safety. California high school students are by and large disengaged in school, and only about half report feeling a sense of connectedness in school (California Healthy Kids Survey, 2023). A recent national survey of more than 21,000 high school students found that 75 percent had largely negative feelings about their school experience, with the most frequent adjectives being "stressed," "tired," and "bored" (Moeller et al., 2020). Drawing on a large-scale survey of California high school seniors, Hurtt and colleagues find that LGBTQ+ students report less positive experiences overall and substantially higher rates of identity-based bullying.

Developmental and educational research provides a framework for interpreting these patterns. The convergence of research suggests that many conventional high school structures are poorly aligned with adolescents' developmental capacities. The traditional "factory model" of schooling, characterized by fragmented curricula, short instructional periods, and limited opportunities for sustained relationships, often constrains opportunities for reflective inquiry and civic engagement. Immordino-Yang, Darling-Hammond, and Knecht highlight three conditions that are particularly important starting points for adolescent learning and development: developmentally attuned relationships with adults and peers that support intellectual risk-taking, belonging, and identity exploration; psychological and physical safety, which enables reflective cognition and deeper learning by reducing the effects of chronic stress or social threat; and recognition of individual developmental variability, including differences in timing, experiences, and learning trajectories.

These developmental conditions show that learning in adolescence is shaped by the social and institutional environments in which development occurs. Pockets of innovation in California illustrate possible pathways by which high schools can be redesigned to better align with adolescents' developmental needs and capacities. Institutional innovations such as community schools, Linked Learning, New Tech High, and High Tech High networks have redesigned high schools for deeper learning and relationships. Strategic staffing models may also help schools organize adult roles, time, and expertise in ways that support stronger relationships and more responsive instruction (Laski et al.). AI may offer some promise for strengthening these developmental conditions and addressing structural barriers that limit innovation in high schools, particularly when used as infrastructure to support flexible grouping, targeted support, communication, and more meaningful learning opportunities (Barnard et al.).

Implications for California

Making opportunity structures in high school more visible

High school course-taking plays a central role in shaping students' postsecondary opportunities. More than two-thirds of California high school seniors matriculate to college in the year following graduation, though only about one-third enter a four-year institution. Given the role that advanced coursework plays in these trajectories, patterns of course access and completion are an important part of how opportunity is organized within and across schools. The evidence highlights the value of using course-taking data to better understand how opportunities are distributed across students and where gaps persist.

Course pathways as a mechanism shaping long-term opportunity

Course sequencing and placement decisions influence how far students progress academically and which postsecondary options remain available. The evidence on mathematics pathways illustrates how changes in early course access can affect later enrollment in advanced coursework without corresponding gains in achievement. These patterns bring attention to how pathway structures shape opportunity over time and how decisions made earlier in students' academic careers can have lasting consequences.

Unequal access to preparatory coursework

Persistent differences in course-taking across student groups indicate that access to college and career preparatory opportunities remains uneven. Variation across schools and student populations reflects differences in course availability, placement practices, and access to information about pathways.

These patterns point to the importance of understanding how structural features of high schools shape which opportunities are available and attainable for different students.

Developmental conditions in high school environments

Adolescent development research highlights the importance of relationships, safety, belonging, and opportunities for meaningful engagement. Evidence on absenteeism, disengagement, and school connectedness suggests that these conditions are not consistently present across California high schools. High school structures, including schedules, instructional organization, and student supports, influence the extent to which these developmental conditions are realized in practice.

Expanding access to redesigned high school models

Over the past 30 years, redesigned secondary schools have shown that high schools can be organized to support stronger outcomes for young people, including students who have historically had less access to rich learning opportunities. Examples from California and nationally show that high schools can be organized in ways that support both academic preparation and adolescent development. Models such as Linked Learning, community schools, New Tech High, High Tech High, and Early College programs illustrate how coursework, relationships, and real-world learning can be integrated. The state has encouraged development of these new models through investments in a Golden State Pathways program and a new Secondary School Redesign pilot program, along with support for dual enrollment. Despite this progress, these models remain unevenly available across the state, and traditional structures continue to shape most students' experiences.

Conclusion

High school is a critical period for both adolescent development and postsecondary preparation. Students who engage in more advanced coursework in high school have stronger postsecondary outcomes, and developmental research shows that these years also shape identity, purpose, belonging, and civic reasoning. The evidence reviewed in this brief points to a dual challenge: ensuring more consistent access to college and career preparatory opportunities while also aligning high school environments more closely with adolescents' developmental needs.

Across California, many high schools are incorporating approaches that center safe relationships, meaningful learning opportunities, and opportunities for reflection on complex, real-world questions. Redesigned high schools, including those in Deeper Learning networks, offer examples of structures that align curriculum, assessment, educator roles, and school organization with what research suggests adolescents need to learn and develop.

One central issue is how widely these opportunities are available. Current high school structures continue to produce uneven access to advanced coursework, uneven engagement, and uneven developmental supports. The studies reviewed here point toward high school designs that connect academic preparation with relationships, purpose, and deeper learning, making high school a stronger launch point for college, career, civic life, and productive adulthood.

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