



Examining independent study high schools in California



NATIONAL CENTER FOR
EDUCATION EVALUATION
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Institute of Education Sciences

U.S. Department of Education



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June 2009

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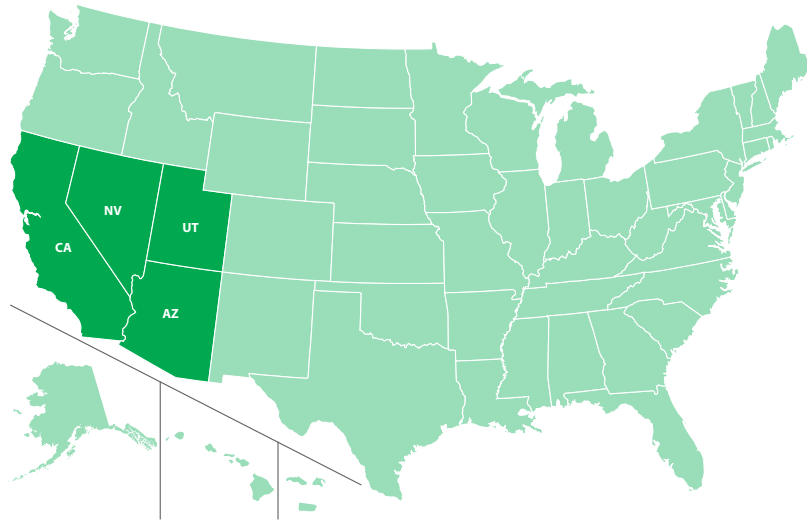
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June 2009

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Barrat, V. X., and Berliner, B. (2009). *Examining independent study high schools in California*. (REL Issues & Answers Report, REL 2009–No. 074). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West. Retrieved from <http://ies.ed.gov/ncee/edlabs>.

This report is available on the regional educational laboratory web site at <http://ies.ed.gov/ncee/edlabs>.

Examining independent study high schools in California

This examination of California’s independent study high schools—alternative schools in which 75 percent or more of students in grades 9–12 are enrolled in full-time independent study—describes enrollment trends since 2001/02 and the number and characteristics of schools and students as well as teacher qualifications in 2006/07.

Independent study is a public education alternative meant to meet students’ needs, interests, and learning styles while ensuring that students can meet their school district’s curriculum and graduation requirements. All independent study students have an individualized learning plan that guides their education, and the students can complete assignments at any time, pace, or place that conforms to the plan.

While the California Education Code does not recognize independent study schools as a school category, California Department of Education staff have defined independent study high schools operationally as those in which 75 percent or more of students in grades 9–12 are enrolled in full-time independent study.

California policymakers and educators have expressed interest in knowing more about independent study high schools. That interest

emanates partly from an acknowledged necessity for more public education alternatives to meet wide-ranging student needs and partly from continuing parent demand for choice in their children’s education. With the current emphasis on accountability under the No Child Left Behind Act of 2001, there is also interest in whether independent study high school students are being taught by highly qualified teachers.

The study addressed six research questions:

- What was the independent study enrollment in California’s independent study high schools and other types of high school in 2006/07, and what was the enrollment trend between 2001/02 and 2006/07?
- Do California’s independent study high schools target specific student populations and, if so, which ones?
- What were the characteristics of students in independent study high schools compared with those of students in other types of high school in 2006/07?
- What were the locations of California’s independent study high schools and their school characteristics compared with

those of other types of high school in 2006/07?

- What were the qualifications of teachers of core classes in independent study high schools compared with those in other types of high school in 2006/07?
- What percentage of core classes were taught by highly qualified teachers in independent study high schools compared with other types of high school in 2006/07?

To report characteristics of schools and students and teacher qualifications of all California public schools enrolling students in grades 9–12, the study used a merged school-level longitudinal dataset for 2001/02–2006/07 to track student enrollment and used school-, teacher-, and course-level datasets for 2006/07. The quantitative analysis contrasts the characteristics of independent study high schools with other nontraditional and traditional high schools. Qualitative data from the latest available School Accountability Report Card for each independent study high school identified targeted student population groups.

The main findings:

- In 2006/07, 58,788 students were enrolled in full-time independent study in grades 9–12 in California’s 231 independent study high schools—up 44.2 percent from 2001/02. In contrast, 25,560 students were enrolled in full-time independent study in grades 9–12 in other types of high school—up 12.1 percent from 2001/02.
- Some 54.9 percent of independent study high schools reported targeting a specific student group, while 20.5 percent reported serving the general student population. (Another 24.6 percent provided no information about targeting.) Of schools targeting a specific student group, 45.5 percent targeted students at risk of school failure, 39.8 percent targeted home-study students, 10.6 percent targeted both, and 4.1 percent targeted other groups.
- In 2006/07 the student population of independent study high schools was less diverse than that of other types of high school, with a larger percentage of White students. Independent study high schools also had higher percentages of female students, although the difference in female and male enrollment was smaller than in other nontraditional high schools. And independent study high schools had lower percentages of socioeconomically disadvantaged students, English language learner students, students with disabilities, and migrant students than did other types of high school.
- In 2006/07 independent study high schools were less likely than other types of high school to be located in urban areas and to have been open before 2001/02. They were also more likely to be charter schools and to offer instruction to students below grade 9. Independent study high schools averaged larger enrollments than other nontraditional high schools and smaller enrollments than traditional high schools. In independent study high schools, enrollment increased from

grade 9 to grade 12; in traditional high schools, it decreased.

- Teachers in independent study high schools were less likely than teachers in other types of high school to hold an advanced academic degree and a secondary subject-specific teaching credential, and they were more likely to hold an elementary (multiple subject) teaching credential. While the majority of core classes in grades 9–12 in independent study high schools were taught by a highly qualified

teacher, these classes were less likely than those in other types of high school to be taught by a highly qualified teacher. In independent study high schools, teachers' subject-matter competence for each class was more likely to have been demonstrated through the High Objective Uniform State Standard Evaluation and less likely to have been demonstrated through advanced education, training, or both.

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This examination of California's independent study high schools—alternative schools in which 75 percent or more of students in grades 9–12 are enrolled in full-time independent study—describes enrollment trends since 2001/02 and the number and characteristics of schools and students as well as teacher qualifications in 2006/07.

WHY THIS STUDY?

While most California high school students pursue a diploma by attending classes Monday through Friday in a school building filled with other students and teachers, some of their peers are taking a different route to graduation: they are enrolled in full-time independent study. Within some broad parameters, the education experience of each of these secondary students is guided by a learning plan tailored to their needs, interests, aptitudes, and abilities (California Department of Education 2000). Based on the plan, a student may or may not attend classes in a school building, receive daily instruction from teachers, follow a standard curriculum scope and sequence, learn with peers, or have set hours for schooling.

To help make public schools more responsive to the varied needs of California's growing and diverse student body, the state has developed several alternatives to traditional classroom instruction, including full-time independent study, which is authorized by the California Education Code as a permissible form of attendance for students in grades K–12 (California Department of Education 2000). Originating in the 1970s, independent study recognizes that some students need an instructional setting without the structures of traditional schools. Among students who choose this alternative are students with scheduling challenges, for example, because of work or family caretaking responsibilities; students pursuing particular talents or interests; students who have fallen behind and need targeted instruction to fill gaps in their learning or to make up credit; students at risk of school failure (including those who have dropped out of school); students who opt for a home-study education; students who are not challenged in their regular classrooms and wish to accelerate their studies; and students with certain types of disabilities or learning styles that can be accommodated with independent study (California Department of Education 2000).

All full-time independent study students are required to do the same amount and quality of study

While the state is aware of independent study high schools, little is known about the schools as a group

and to meet the same curriculum and graduation requirements as other students in their district. But independent study students may do so in a manner and on a schedule better suited to their needs, as detailed in their individualized

learning plan. An individualized learning plan is a written agreement with the student, the student's parents or caregivers, a supervising teacher, and others responsible for assisting the student. It specifies course assignments; learning objectives and instructional methods; manner, frequency, schedule, and place for submitting assignments and reporting progress; methods to evaluate student work; and a schedule for student-teacher conferencing. Students can complete assignments at any time, pace, or location that conforms to their plan.

Regional need

While some research exists about independent study as an instructional strategy, virtually none exists about schools in which most or all students are enrolled in full-time independent study (see appendix A). Even the foundational studies on independent study by Alexander and Hines (1967) and Brown (1968) describe it only as an instructional option for individual students in some traditional high schools. California state policy studies issued in 2007 and 2008 on the topic of alternative schools do not mention independent study high schools,¹ nor does the California Education Code, which identifies various categories of school and defines independent study as an optional instructional strategy for K–12 students (California Department of Education 2000).

Even so, California has a growing number of high schools in which most or all students in grades 9–12 are enrolled in full-time independent study, and the state has developed an operational definition for this type of school.² If at least 75 percent of a school's students in grades 9–12 are enrolled in full-time independent study, California Department of Education staff and the schools themselves

refer to the school as an independent study high school. Such schools may operate in various settings, including brick-and-mortar school buildings, learning centers, community colleges, and other types of community-based settings, as well as on-line (California Department of Education 2000).

While the state is aware of independent study high schools, little is known about the schools as a group. How many students are they serving, and has this number changed over time? Where are they located? What types of student do they enroll? Are these students being taught by highly qualified teachers as defined by the No Child Left Behind Act of 2001?

State legislators, foundation leaders, education policy researchers, California Department of Education staff, and others have been asking these questions in recent years. This interest emanates partly from an acknowledged need for more public education alternatives to meet wide-ranging student needs and partly from continuing parent demand for choice in their children's education (California Legislative Analyst's Office 2007; Aron and Zweig 2003; Lehr, Lanners, and Lange 2003). There is also interest in whether independent study students are being taught by highly qualified teachers, as defined under the No Child Left Behind Act of 2001.

Research questions

This study aims to generate a more detailed picture of California's independent study high schools as a group in 2006/07 (the most recent year for which data are available) using six research questions:

- What was the independent study enrollment in California's independent study high schools and other types of high school in 2006/07, and what was the enrollment trend between 2001/02 and 2006/07?
- Do California's independent study high schools target specific student populations and, if so, which ones?

- What were the characteristics of students in independent study high schools compared with those of students in other types of high school in 2006/07?
- What were the locations of California's independent study high schools and their school characteristics compared with those of other types of high school in 2006/07?
- What were the qualifications of teachers of core classes in independent study high schools compared with those in other types of high school in 2006/07?
- What percentage of core classes were taught by highly qualified teachers in independent study high schools compared with other types of high school in 2006/07?

Box 1 and appendix A provide details on the study data and methodology used to answer these questions.

BOX 1

Data sources and methods

Data sources

Data were collected from public and web-based sources and used to prepare several datasets for analysis: a school-level longitudinal dataset for 2001/02–2006/07 to track student enrollment in grades 9–12 and school-, teacher-, and course-level datasets with characteristics of schools, teacher qualifications, and students of all California public schools that enrolled students in grades 9–12 in 2006/07.

Independent study, other nontraditional, and traditional high schools. All California schools serving grades 9–12 were classified as independent study high schools (75 percent or more of student in grades 9–12 enrolled in full-time independent study), traditional high schools (less than 75 percent of students in grades 9–12 enrolled in full-time independent study), or other non-traditional high schools (schools that are not independent study or traditional high schools, including continuation schools, community

schools, community day schools, and other schools; see table B4 in appendix B). Classifications were based on California Basic Educational Data System enrollment data, independent study enrollment from the Independent Study Database maintained by the Education Options Office of the California Department of Education, and the school type from the California Department of Education's Public Schools Database.

Enrollment trends. A school-level dataset with total enrollment and full-time independent study enrollment by school was constructed using data from the California Basic Educational Data System School Information Form (California Department of Education 2008b) and the Independent Study Database (California Department of Education 2008d).

Targeted student populations. Information from the latest School Accountability Report Cards for independent study high schools was analyzed. (If a school's School Accountability Report Card could not be located, other web-based narrative data were used). Two researchers

read and coded the narrative profiles to determine the student population targeted by each school: at-risk students, home-study students, other specific student populations, or a general student population. Data were available for 224 of the 231 independent study high schools (97.0 percent). The two raters agreed on codings for 95.6 percent of the schools. In cases of disagreement, the investigators reviewed and discussed the data to reach agreement.

Student characteristics. Enrollment data by grade, gender, and race/ethnicity are from the 2006/07 California Basic Educational Data System School Information Form (California Department of Education 2008b), and enrollment by socioeconomically disadvantaged status, English language learner status, disability status, and migrant education status are from California's Growth Academic Performance Index data file for each school (California Department of Education 2008c).

School characteristics. School location was based on physical address, and school year of opening and charter

(CONTINUED)

BOX 1 (CONTINUED)

Data sources and methods

status were from the California Department of Education Public Schools Database (California Department of Education 2008e). Information used included district locale (urban, suburban, rural) from the Common Core of Data of the U.S. Department of Education National Center for Education Statistics (2007), and enrollment by grade from the California Basic Educational Data System School Information Form (California Department of Education 2008b).

Teacher qualifications. To be considered highly qualified, the No Child Left Behind Act of 2001 requires teachers of core secondary classes (English, reading/language arts, mathematics, science, foreign languages, civics/government, economics, arts, history, and geography) to have a bachelor's degree and a state teaching credential and to demonstrate subject-matter competence for each core subject taught (California Department of Education 2004). Teachers in independent study need only one credential of any type,

whereas teachers in traditional high schools need a secondary subject-specific credential in the content area of their teaching assignment. Information on teacher qualification is from the 2006/07 California Basic Educational Data System Professional Assignment Information Form staff characteristics file (California Department of Education 2008a).

Core classes taught by highly qualified teachers. Information on core classes taught by highly qualified teachers is from the 2006/07 California Basic Educational Data System Professional Assignment Information Form course-level dataset, which indicates compliance with the No Child Left Behind Act of 2001 highly qualified teacher requirements and identifies how teachers demonstrated subject-matter competence for that class (California Department of Education 2008a).

Analysis

No tests of statistical significance were conducted because the study covers the full population of California

public schools with grades 9–12.

To allow comparisons with other analyses, counts in each category analyzed are reported in appendix B for categorical variables, and averages, standard deviations, and quartiles are reported for enrollment data.

Study limitations

School demographic data were not available at the student level or separately for students in independent study, so student characteristics cover all students within a school type. Distribution of students by socioeconomically disadvantaged status, English language learner status, disability status, and migrant education status was available at the school level only and not for grades 9–12 separately. In 2006/07 data were not consistently available for classes in which several subjects were taught, so the analysis may underestimate the percentage of core classes taught by highly qualified teachers. Further details about data characteristics, methodology, and study limitations are discussed in appendix A.

WHAT WAS THE INDEPENDENT STUDY ENROLLMENT IN CALIFORNIA'S INDEPENDENT STUDY HIGH SCHOOLS AND OTHER TYPES OF HIGH SCHOOL IN 2006/07, AND WHAT WAS THE ENROLLMENT TREND BETWEEN 2001/02 AND 2006/07?

In 2006/07, 84,348 students (4.2 percent) of California's nearly 2 million high school students were enrolled in full-time independent study (see table B1 in appendix B). Although 907 (36.1 percent) of 2,515 public schools serving grades 9–12 enrolled one or more of these independent study students,

58,788 (69.7 percent) of them attended 231 schools that met the California Department of Education staff's operational definition of an independent study high school. Though the cutoff for the operational definition is 75 percent, on average, 97.4 percent of the students in grades 9–12 at each of these schools were enrolled in full-time independent study.

Independent study enrollment in independent study high schools increased faster than did other types of enrollment from 2001/02 to 2006/07. In 2001/02 California had 63,582 high school

students in full-time independent study, with 40,782 of them attending independent study high schools and 22,800 attending other types of high school. In 2006/07 the number of full-time independent study high school students rose to 84,348, with 58,788 of them attending independent study high schools (up 44.2 percent) and 25,560 attending other types of high school (up 12.1 percent; figure 1). Other full-time high school enrollment (students not in independent study) was 1,708,835 in 2001/02, rising to 1,905,857 in 2006/07 (up 11.5 percent).

DO CALIFORNIA’S INDEPENDENT STUDY HIGH SCHOOLS TARGET SPECIFIC STUDENT POPULATIONS AND, IF SO, WHICH ONES?

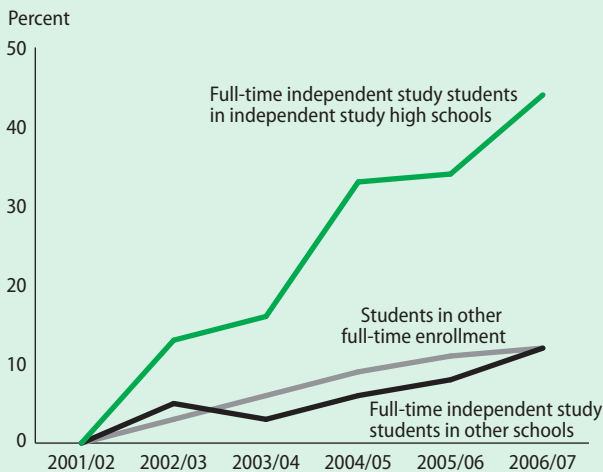
Some 54.9 percent of the 224 independent study high schools with publicly available School Accountability Report Cards reported targeting a specific student group, while 20.5 percent reported serving the general student population (figure 2). (Another 24.6 percent provided no information about targeting a specific student population.) Of schools targeting a specific student group, 45.5

percent targeted students at risk of school failure (for example, students performing below grade level or with credit deficiencies), 39.8 percent targeted home-study students (students pursuing a form of independent study that involves a parent as instructor), and 10.6 percent targeted both. A smaller percentage (4.1 percent) reported targeting other types of student, including gifted students or those pursuing a particular interest (such as acting or competitive sports).

WHAT WERE THE CHARACTERISTICS OF STUDENTS IN INDEPENDENT STUDY HIGH SCHOOLS COMPARED WITH THOSE OF STUDENTS IN OTHER TYPES OF HIGH SCHOOL IN 2006/07?

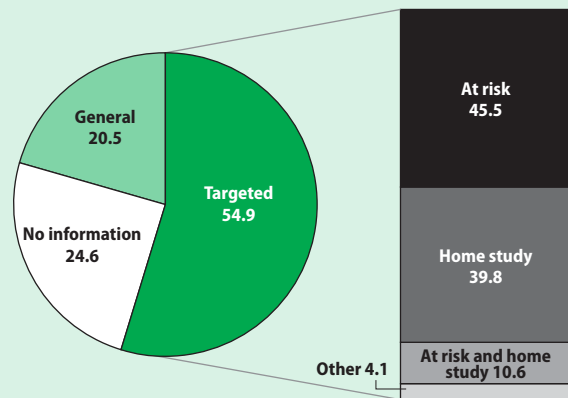
In 2006/07, 44.4 percent of independent study high school students were White, a greater percentage than in other nontraditional high schools (25.3 percent) and traditional high schools (32.9 percent) (table 1), which were more racially/ethnically diverse. Likewise, 36.4 percent of independent study high schools students were Hispanic, and 3.6 percent were Asian, also smaller percentages than in the other types of high school. Black students, however,

FIGURE 1
Cumulative change in enrollment for grades 9–12, by type of full-time enrollment, 2001/02–2006/07 (percent)



Source: Authors’ analysis based on enrollment data for 2001/02–2006/07 from California Department of Education (2008b).

FIGURE 2
Distribution of independent study high schools, by targeted student population, 2006/07 (percent)



Source: Authors’ analysis based on 224 School Accountability Report Cards for 2006/07. If 2006/07 School Accountability Report Cards were not available as of spring 2008, School Accountability Report Cards from the previous year or other web-based, publicly available information were used (see appendix A).

TABLE 1
Characteristics of students in grades 9–12, by high school type, 2006/07 (percent)

| Student characteristic | Independent study high school (60,676 students) | Other nontraditional high school (136,174 students) | Traditional high school (1,793,355 students) |
|-----------------------------------|---|---|--|
| Race/ethnicity | | | |
| White, not Hispanic | 44.4 | 25.3 | 32.9 |
| Hispanic | 36.4 | 53.1 | 43.5 |
| Black, not Hispanic | 8.7 | 12.9 | 7.8 |
| Asian/Pacific Islander | 3.6 | 4.9 | 12.7 |
| American Indian/Alaska Native | 1.7 | 1.3 | 0.8 |
| More than one race or no response | 5.2 | 2.4 | 2.4 |
| Gender | | | |
| Female | 54.6 | 39.3 | 49.3 |
| Male | 45.4 | 60.7 | 50.7 |

Note: Components may not sum to 100 percent because of rounding.

Source: Authors' analysis based on enrollment by gender and race/ethnicity data for 2006/07 from California Department of Education (2008b).

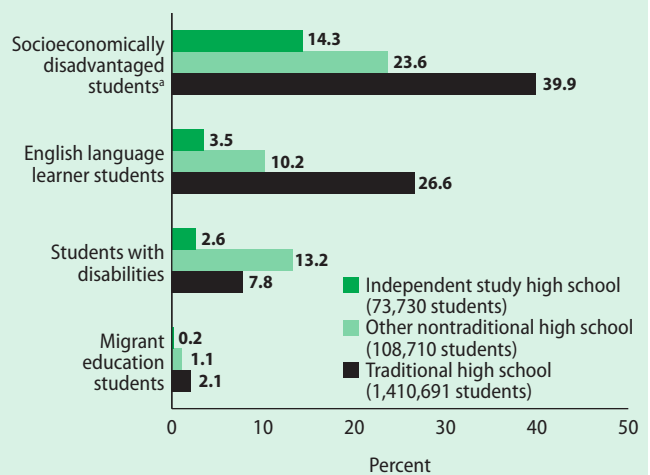
accounted for 8.7 percent of independent study high school students, a greater percentage than in traditional high schools (7.8 percent), but a smaller percentage than in other nontraditional high schools (12.9 percent). Small numbers of American Indian/Alaska Native students were enrolled in all three types of high school, where they accounted for less than 2 percent of the student population.³

The gender split across the student populations of the three types of high school also varies. Girls accounted for 54.6 percent of the students enrolled in independent study high schools but 39.3 percent of the enrollment in other nontraditional high schools and 49.3 percent in traditional high schools.

In 2006/07, 14.3 percent of students in independent study high schools were socioeconomically disadvantaged, a smaller proportion than in other nontraditional high schools (23.6 percent) and traditional high schools (39.9 percent) (figure 3). Similarly, English language learner students accounted for 3.5 percent of the student population in independent study high schools, compared with 10.2 percent in other nontraditional high schools and 26.6 percent in traditional high schools. Students with disabilities accounted for a smaller proportion of the total student population

in independent study high schools (2.6 percent) than in other types of high school, as did migrant education students (0.2 percent).

FIGURE 3
Distribution of students who are socioeconomically disadvantaged, are English language learner students, have a disability, or are classified as migrant education students, by high school type, 2006/07



a. Students are defined as socioeconomically disadvantaged if they participated in the free or reduced-price lunch program or if neither parent graduated high school.

Source: Authors' analysis based on enrollment by subgroup from California Department of Education (2008c).

WHAT WERE THE LOCATIONS OF CALIFORNIA'S INDEPENDENT STUDY HIGH SCHOOLS AND THEIR SCHOOL CHARACTERISTICS COMPARED WITH THOSE OF OTHER TYPES OF HIGH SCHOOL IN 2006/07?

Of the state's 58 counties, 52 had at least one independent study high school in 2006/07 (map 1). Table B3 in appendix B lists the number of independent study high schools by county.

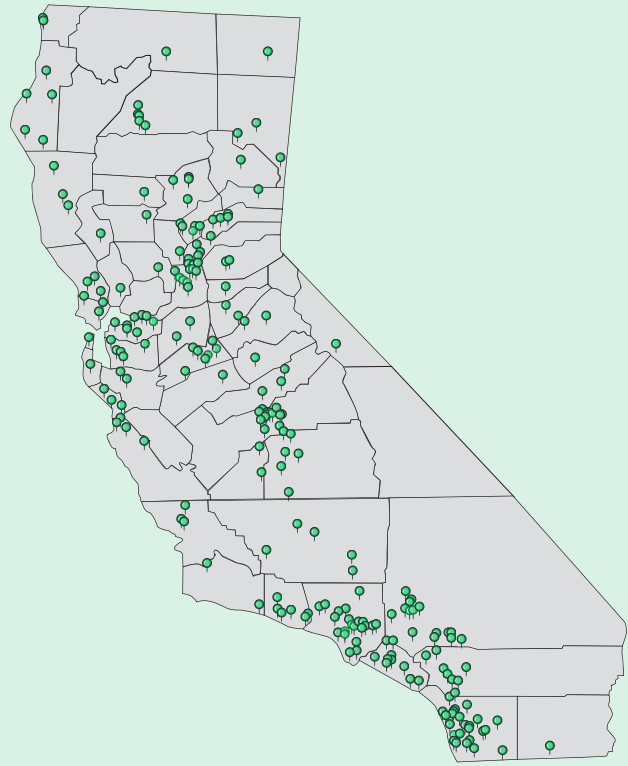
In 2006/07 independent study high schools were less likely than were other types of high school to be located in urban school districts and more likely to be located in suburban and rural school districts. Some 28.6 percent of independent study high schools were located in urban school districts, compared with 33.2 percent of other nontraditional high schools and 43.4 percent of traditional high schools (figure 4). A larger share of independent study high schools (46.3 percent) were located in suburban school districts compared with other nontraditional (43.4 percent) and traditional high schools (42.4 percent). Some 25.1 percent of independent study high schools were located in rural school districts, compared with 23.4 percent of other nontraditional high schools and 14.2 percent of traditional high schools.

Some 71.9 percent of independent study high schools operating in 2006/07 were open before 2001/02, while 83.3 percent of other nontraditional high schools and 80.2 percent of traditional high schools were.

In 2006/07, 40.7 percent of independent study high schools were charter schools, while 0.4 percent of other nontraditional high schools and 14.5 percent of traditional high schools were. Nontraditional high schools generally have enrollment requirements and funding provisions that prevent them from operating as charter schools, except with special permission.

Independent study high schools averaged enrollment of 263 students, nearly twice that at other

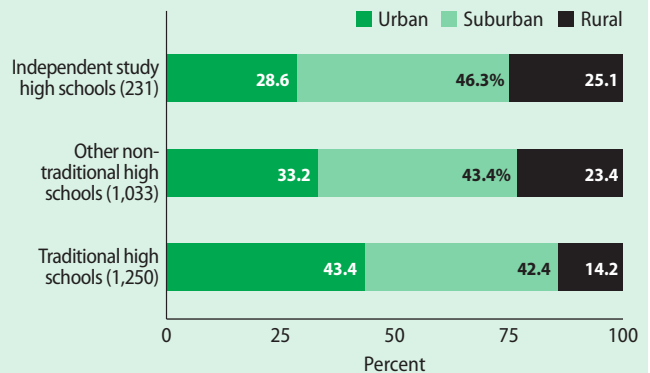
MAP 1
Location of California's independent study high schools, by county, 2006/07



Note: Six California Virtual Academy schools showed no local address in the California Department of Education Public Schools Database so they are mapped at the center of each of their respective counties.

Source: Authors' analysis based on each school's physical address from California Department of Education (2008e).

FIGURE 4
Distribution of independent study, other nontraditional, and traditional high schools, by district locale, 2006/07



Note: Locale data are unavailable for one traditional high school.

Source: Authors' analysis based on data from U.S. Department of Education, National Center for Education Statistics (2007).

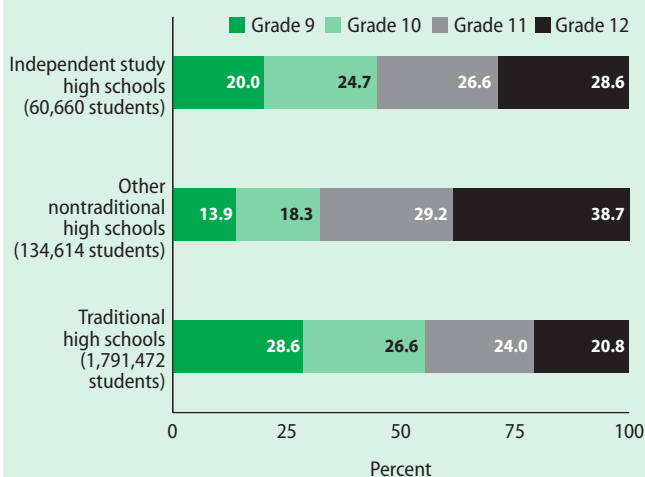
Teachers in independent study high schools were more likely to hold an elementary or general secondary credential and less likely to hold a secondary subject specific credential than were teachers in other nontraditional high schools

nontraditional high schools, which averaged 132 students. In contrast, traditional high schools averaged 1,434 students.

Some 71.9 percent of independent study high schools also served grade levels below the standard 9–12 high school grades, while 38.3 percent of other nontraditional and 17.8 percent of traditional high schools did.

Students in grade 9 accounted for 20.0 percent of students in grades 9–12 in independent study high schools, with the grade-level enrollment share increasing in grade 10 (to 24.7 percent), grade 11 (to 26.6 percent), and grade 12 (to 28.6 percent) (figure 5). Enrollment distribution in other nontraditional high schools was similar, though the increase from one grade level to the next was greater. In traditional high schools enrollment distribution by grade level decreased at higher grade levels, falling from 28.6 percent in grade 9 to 20.8 percent in grade 12.

FIGURE 5
Distribution of grade-level enrollment, by high school type, 2006/07



Note: Does not include 3,459 high school students without a specific grade 9–12 designation in the California Basic Educational Data System. Totals may not sum to 100 percent because of rounding.

Source: Authors' analysis based on enrollment by grade-level data from California Department of Education (2008b).

WHAT WERE THE QUALIFICATIONS OF TEACHERS OF CORE CLASSES IN INDEPENDENT HIGH SCHOOLS COMPARED WITH THOSE IN OTHER TYPES OF HIGH SCHOOL IN 2006/07?

In 2006/07 over 99 percent of teachers of grades 9–12 core classes in all three types of high school held at least a bachelor's degree, as required by the No Child Left Behind Act of 2001. Of teachers of core classes in independent study high schools, 67.7 percent had a bachelor's as their highest degree and 32.0 percent had a master's or doctoral degree; less than 1 percent of independent study high school teachers did not meet the education requirement. In the other types of high school a larger proportion of teachers held an advanced degree—42.1 percent in other nontraditional high schools and 38.7 percent in traditional high schools.

In 2006/07 nearly all teachers of grades 9–12 core classes in independent study high schools (94.3 percent), other nontraditional high schools (92.0 percent), and traditional high schools (92.2 percent) had completed a teacher preparation program and held a full credential (table 2). However, across these school types the percentage of teachers authorized to teach at the elementary or secondary levels varied.

Teachers in independent study high schools were more likely to hold an elementary (multiple subject) credential (49.0 percent) than were teachers in other nontraditional high schools (29.7 percent) and traditional high schools (8.0 percent). Teachers in independent study high schools also were more likely to hold a general secondary credential (15.9 percent) than were their counterparts in other nontraditional high schools (9.5 percent) and traditional high schools (4.0 percent).

In contrast, teachers in independent study high schools were less likely to hold a secondary subject-specific credential (57.1 percent) compared with teachers in other nontraditional high schools (67.9 percent) and traditional high schools (83.7 percent); they also were less likely to hold a credential in other teaching areas (36.2 percent)

TABLE 2

Credential status of teachers of core classes in grades 9–12, by high school type, 2006/07 (percent)

| Authorized teaching areas | Independent study high school (1,972 teachers) | Other nontraditional high school (6,080 teachers) | Traditional high school (62,385 teachers) |
|-----------------------------------|---|--|--|
| Full credentials | 94.3 | 92.0 | 92.2 |
| Elementary (multiple subject) | 49.0 | 29.7 | 8.0 |
| Secondary, general | 15.9 | 9.5 | 4.0 |
| Secondary, subject specific | 57.1 | 67.9 | 83.7 |
| Other teaching areas ^a | 36.2 | 58.1 | 54.4 |
| Without full credentials | 5.7 | 8.0 | 7.8 |

Note: Percentage of authorized teaching areas may not sum to the percentage of teachers with full credential because teachers could have more than one type of full credential and teaching area.

a. Specified in California Department of Education (2008a) to include special education, reading specialist/certificate, primary language instruction, English language development, specially designed academic instruction in English, adult education, and special designated subjects.

Source: Authors' analysis based on staff characteristics data for 2006/07 from California Department of Education (2008a).

compared with their counterparts in other nontraditional (58.1 percent) and traditional high schools (54.4 percent).

WHAT PERCENTAGE OF CORE CLASSES WERE TAUGHT BY HIGHLY QUALIFIED TEACHERS IN INDEPENDENT STUDY HIGH SCHOOLS COMPARED WITH OTHER TYPES OF HIGH SCHOOL IN 2006/07?

In 2006/07 all three types of high school reported a large majority of grades 9–12 core classes taught by a highly qualified teacher, as defined by the No Child Left Behind Act of 2001. In addition to meeting the education and credential requirements, these teachers also met the subject-matter competence requirement, either through advanced education, training, or both, or through the state's High Objective Uniform State Standard of Evaluation.⁴ In contrast to the other types of high school, though, independent study high schools had the smallest proportion of core classes taught by a highly qualified teacher, at 73.9 percent; the proportions were 80.2 percent for other nontraditional high schools and 91.4 percent for traditional high schools.

About half (51.1 percent) of core classes in grades 9–12 in independent study high schools were

taught by highly qualified teachers who met the subject-matter competence requirement on the basis of the High Objective Uniform State Standard of Evaluation, a higher percentage than in other nontraditional high schools (30.8 percent) or traditional high schools (11.1 percent).

POSSIBLE DIRECTIONS FOR FURTHER RESEARCH

The study was an initial effort to describe California's independent study high schools, a subject virtually unexplored in the research literature. Some readers may want to know more about this type of school, so there may be value in exploring performance-related school characteristics that have been the subject of much research in other types of high school but have not been examined for independent study high schools. Possible directions include investigations of student academic performance and of graduation, dropout, exit examination, transfer, and college-going rates as well as a cost-benefit analysis of independent study high

About half of core classes in grades 9–12 in independent study high schools were taught by highly qualified teachers, a higher percentage than in other nontraditional high schools or traditional high schools

New primary data collection efforts using surveys and interviews could offer perspective on district reasons for including full time independent study as a school option, motivations for enrolling in independent study high schools, and the role of parents and teachers in non site based instruction

schools, especially related to efforts to close the achievement gap.

Other possible research areas include describing independent study high school missions and education philosophies and how they respond to local and regional student needs, examining how independent study high schools are organized to serve independent study students, comparing school characteristics by charter school status, and documenting how independent study high schools

support students at risk of school failure.

New primary data collection efforts using surveys and interviews could offer perspective on such issues as district reasons for including or excluding full-time independent study as a high school option, student motivations for enrolling in independent study high schools, and the role and experiences of parents and teachers in non-site-based instruction.

As the state's data collection systems are upgraded to include individual student and teacher data, there will be new opportunities to conduct longitudinal studies and to more accurately and comprehensively describe part- and full-time independent study in all types of public school. It will also be possible to assess whether academic performance improves when students enroll in independent study.

APPENDIX A DATA SOURCES, METHODOLOGY, AND LIMITATIONS

This appendix discusses the data sources used in the study, explains in further detail how the analyses were performed, and lays out the study's limitations.

Data sources

There is virtually no research about schools in which most or all students are enrolled in full-time independent study. Alternative education studies that draw on existing research do not mention independent study high schools (Aron 2006; Ruzzi and Kraemer 2006; Lehr, Lanners, and Lange 2003; Lange and Sletten 2002; Young 1990). To identify relevant studies—that is, published, peer-reviewed studies that specifically address independent study high schools—a search of all articles since 1990 was conducted using the keywords “independent study” and (“high school” or “secondary education”) in Educator’s Reference Complete, Education Research Complete, Academic Search Premier, CSA/Sage Social Sciences full text, ProQuest, and ProQuest Dissertations and Theses. In addition, web sites of organizations and agencies involved in alternative education were scanned for published reports or articles, bibliographies and reference lists from reviews of the alternative education literature were reviewed, and six alternative education leaders were contacted for recommendations. This process identified no peer-reviewed publications that address independent study high schools. To the extent the publications cited in this report address independent study, they do so only as an alternative instructional strategy used in other types of school.

Data for the study come from public and web-based sources and were used to prepare several datasets: a merged school-level longitudinal dataset for 2001/02–2006/07 to track enrollment in grades 9–12 and school-, teacher-, and course-level datasets that provided information on school and student characteristics and teacher qualifications

for all California public schools enrolling students in grades 9–12 in 2006/07.

Qualitative data sources were narrative information from the latest available School Accountability Report Card and other web-based descriptive material about each independent study high school.

School-, teacher-, course-level datasets. Data were drawn from the California Basic Educational Data System, an independent study database maintained by the Education Options Office of the California Department of Education (California Department of Education 2008d); the California Department of Education’s Public Schools Database (California Department of Education 2008e); the California Growth Academic Performance Index data file (California Department of Education 2008c); and the Common Core of Data of the U.S. Department of Education National Center for Education Statistics (2007).

The California Basic Educational Data System is a statewide, annually updated database that collects data primarily on staff and student demographics and on enrollment for all public schools and districts in California. Of specific interest for this study were data from the School Information Form, which collects school-level student enrollment data, including data on full-time enrollment in independent study and enrollment by grade, race/ethnicity, and gender (California Department of Education 2008b). California Basic Educational Data System enrollment data were downloaded for 2001/02–2006/07. Also of interest were data from the Professional Assignment Information Form, which collects data on certificated staff from county offices of education and school districts (California Department of Education 2008a). The form contains data on teaching staff characteristics by unique record identification and county-district-school code as well as course data by assignment code for each teacher. The teacher-level and course-level data were downloaded for 2006/07.

The Education Options Office of the California Department of Education maintains a database of

all schools that enroll K–12 students in full-time independent study (California Department of Education 2008d). The database draws from multiple data sources: the California Basic Educational Data System, confirmatory forms sent to schools to verify independent study enrollment, and California Department of Education staff expertise and knowledge about the schools. Because the database draws from multiple sources and not just the California Basic Educational Data System, its independent study enrollment data may differ from data in the California Basic Educational Data System. For schools that have independent study students, enrollment data were taken from the independent study database.

The California Department of Education’s Public Schools Database is an annually updated list of California’s public schools, school districts, and county offices of education (California Department of Education 2008e). It provided information on school addresses, year of opening, charter status, and high school type.

Data on socioeconomically disadvantaged students, English language learner students, students with disabilities, and students in migrant education came from California’s Growth Academic Performance Index data file in 2006/07 (California Department of Education 2008c).

The Common Core of Data of the U.S. Department of Education National Center for Education Statistics (2007) provides locale information (urban, suburban, rural) on all schools and districts. This study used data from the 2005/06 Common Core of Data to report on the presence of independent study schools in urban, suburban, and rural districts.

School-level, web-based qualitative data. The study also collected student population data from the most recent School Accountability Report Card available in spring 2008. School Accountability Report Cards are annual reports produced by each public school to describe its school, teacher, and student characteristics and progress toward its academic goals. Since most schools had not yet released their 2006/07 School Accountability Report Card at the

time data were collected for this study, the 2005/06 reports were the main data source. If a School Accountability Report Card was not available for both years or if the narrative in a School Accountability Report Card was incomplete, other information on the school’s web site was examined. Qualitative data were unavailable for 7 of the 231 independent study high schools identified in this study.

School-level data from the California Department of Education’s Public Schools Database, the California Department of Education independent study database, and the California Basic Educational Data System School Information Form were merged using the county-district-school code for 2001/02–2006/07 to document enrollment trends for grades 9–12 in California public schools, separating full-time independent study enrollment from other types of enrollment. In the dataset used for analysis, a high school’s independent study enrollment was capped at the total enrollment for grades 9–12, plus any ungraded secondary students (that is, students for whom there was no identification as to grade level other than grades 9–12). Adult enrollment was excluded. This computation resulted in a slight decrease in reported enrollment in independent study during 2001/02–2005/06 (a 0–0.5 percent decrease, depending on the year) and a 2.4 percent decrease in 2006/07, mainly due to reporting discrepancies in one school.

All public schools with grades 9–12 in the California Basic Educational Data System were included in this analysis except records coded as “0000001” in the system starting in 2006/07, which were excluded because they account for students in public special education who receive services from nonpublic, nonsectarian schools certified by the California Department of Education. The 2006/07 California Basic Educational Data System data included 422 such records.

Quantitative analysis

Quantitative analysis was conducted for school type, enrollment, and locale; student characteristics; and teacher characteristics.

School type. California public schools with grades 9–12 were classified into three types— independent study high schools, other nontraditional high schools, and traditional high schools— based on the independent study enrollment numbers from the dataset used for analysis. Some 231 schools were identified as having 75 percent or more of students in grades 9–12 enrolled in full-time independent study in 2006/07 and designated independent study high schools. (Schools corresponding to nonvoluntary placements—specifically community day schools and juvenile hall schools—were excluded from this total.) The 1,251 public schools in 2006/07 that enrolled the general student population in grades 9–12 were designated as traditional high schools. And the 1,033 remaining schools in 2006/07 were designated as other nontraditional high schools—a group that included continuation schools, community schools, community day schools, and other schools that the state reports in the California Basic Educational Data System that were neither independent study high schools nor traditional high schools (see table B4 in appendix B for a complete list of nontraditional school categories).

School enrollment. The percentage of students in grades 9–12 enrolled in full-time independent study was computed for each school as the number of students in grades 9–12 in full-time independent study divided by the total number of students enrolled in grades 9–12 in the school.

For each year from 2002/03 to 2006/07 enrollment figures from the longitudinal school-level dataset were used to compute how much change had occurred since 2001/02 in three types of grades 9–12 enrollment: the number of full-time independent study students enrolled in independent study high schools, the number of full-time independent study students enrolled in other types of high school, and the number of students not enrolled in independent study. The change was expressed as a percentage of 2001/02 total enrollment.

School locale. School locale was defined based on the 2005/06 Common Core of Data district

definitions (U.S. Department of Education, National Center for Education Statistics 2007).

To generate the urban, suburban, and rural subgroups used in this study, the following categories were grouped:

- Urban: large city or midsize city.
- Suburban: urban fringes of large city, urban fringes of midsize city, or large town.
- Rural: small town and rural, outside a metropolitan core-based statistical area, or rural, inside a micropolitan core-based statistical area.

Student characteristics. Seven student characteristics were considered in the study using two estimating techniques.

- *Percentage of students by grade level, race/ethnicity, and gender.* Through the School Information Form, the California Basic Educational Data System collects student enrollment by grade level, race/ethnicity, and gender (California Department of Education 2008b). The percentage of students for each variable for each school type was computed as the total number of students in each subgroup in grades 9–12 divided by the total number of students in grades 9–12 in the corresponding high school type. Race/ethnicity categories on the School Information Form were American Indian or Alaska Native; Asian; Pacific Islander; Filipino; Hispanic or Latino; African American, not Hispanic; White, not Hispanic; and multiple or no response. For this study Asian, Pacific Islander, and Filipino were categorized as Asian/Pacific Islander.
- *Percentage of socioeconomically disadvantaged students, English language learner students, students with disabilities, and students in migrant education subgroups.* Because data for these subgroups were not available from the California Basic Educational Data System,

this report uses the same methodology as that used by the state in estimating the percentage of these subgroups for the state's School Accountability Report Cards (www.cde.ca.gov/ta/ac/sa/def07enrlgroup.asp). Based on data from the 2006/07 Growth Academic Performance Index data file, the percentage of students identified in those subgroups equals the number of students in each subgroup included in the Academic Performance Index divided by the number of students enrolled on the first day of testing (California Department of Education 2008c). Since data were not available by grade level, these percentages were of the total school enrollment.

Teacher characteristics. Four teacher characteristics were considered in the study: highest academic degree obtained, percentage of teachers with full credentials, percentage of teachers by authorized teaching area, and percentage of core classes in grades 9–12 taught by highly qualified teachers.

- *Highest academic degree obtained.* The Professional Assignment Information Form staff database contains a variable that lists the highest level of education attainment of each teacher in California. There are six values for the variable: doctorate, master's degree plus 30 or more semester hours, master's degree, bachelor's degree plus 30 or more semester hours, bachelor's degree, and less than bachelor's degree. To generate the doctorate, master's degree, bachelor's degree, and less than bachelor's degree subgroups, these categories were grouped based on diplomas; additional semester hours of education experience were not taken into account. Analysis was restricted to teachers of core classes in grades 9–12.
- *Percentage of teachers with full credentials.* The staff characteristics file in the California Basic Educational Data System Professional Assignment Information Form indicated whether a teacher held a full credential (California Department of Education 2008a). For each high school type the percentage of teachers with full credentials was computed as the number of teachers with full credentials divided by the total number of teachers in the corresponding high school type. Analysis was restricted to teachers of core classes in grades 9–12.
- *Percentage of teachers by authorized teaching area.* The staff characteristics file in the California Basic Educational Data System Professional Assignment Information Form indicated whether each teacher was authorized to teach elementary (multiple subject), general secondary, subject-specific secondary, or other areas (California Department of Education 2008a). Other teaching areas not classified by grade range in the staff characteristics file included special education, reading specialist/certificate, primary language instruction, English language development, specially designed academic instruction in English, adult education, and special designated subjects (that is, driver education, driver training, ROTC, basic military drill, aviation flight, or ground instruction). For each high school type the percentage of teachers by authorized teaching area was computed as the number of teachers authorized in an area divided by the total number of teachers in the corresponding high school type. Analysis was restricted to teachers of core classes in grades 9–12 with full credentials.
- *Percentage of core classes in grades 9–12 taught by highly qualified teachers.* In 2005/06 data became available in the course-level dataset of the Professional Assignment Information Form about compliance with the No Child Left Behind Act of 2001 (California Department of Education 2008a). Teachers identified whether each assignment was a core class (yes, elementary; yes, secondary; or no) and whether they were highly qualified to teach it (yes, based on education and testing; yes, based on High Objective Uniform State

Standard of Evaluation; or no). For this study the percentage of core classes in grades 9–12 taught by a highly qualified teacher for each school type is computed as the number of classes in grades 9–12 marked as core and taught by a highly qualified teacher divided by the total number of core classes in grades 9–12 in the corresponding school type using 2006/07 data.

The percentage of core classes in grades 9–12 taught by a highly qualified teacher based on education, training, or both and the percentage taught by a highly qualified teacher based on the High Objective Uniform State Standard of Evaluation were similarly computed (number of classes in grades 9–12 marked as core secondary and taught by a highly qualified teacher based on education, training, or both divided by the total number of core classes in grades 9–12 taught by a highly qualified teacher and number of classes in grades 9–12 marked as core classes and taught by a highly qualified teacher based on the High Objective Uniform State Standard of Evaluation divided by the total number of core classes in grades 9–12 taught by a highly qualified teacher) using 2006/07 data.

Significance tests. The study describes the characteristics of the population of independent study high schools in California and contrasts these with the characteristics of other school types. No tests of statistical significance were conducted for the differences between the three types of school or to evaluate change in the characteristics presented in the report during the period of analysis. Every California public school with grades 9–12 is included in this study, so it is not a sample of a larger population and no statistical inference is implied or needed. To allow comparisons with other analyses, counts of schools, students, teachers, and teachers' core secondary assignments in each analyzed category are reported in appendix B for categorical variables, and averages, standard deviations, and quartiles are reported for enrollment information.

Qualitative analyses

Content analysis methods were used to analyze the most current school profile data available in spring 2008. For each independent study high school, targeted student populations were identified by examining the school's School Accountability Report Card, other web-based narrative data, or both to look for references to targeting a specific student population. School Accountability Report Cards or other web-based school data were available for 224 (97.0 percent) of the 231 independent study high schools. The 224 schools were categorized in one of five ways based on the presence of the following keywords or references in the profile information:

- “Targeting at-risk students” if narrative information included such terms as *at-risk students*, *students who dropped out of high school*, *students with credit deficiency*, *students who were unsuccessful in other schools*, *pregnancy/parenting*, *drug/alcohol use*, and *truancy*.
- “Targeting home-study students” if narrative information included such terms as *home study*, *home schooled*, and *hybrid home schooling* (a term that refers to a combination of site-based instruction and home study with a parent as instructor).
- “Other targeted population” if narrative information referred specifically to target populations other than at-risk or home-study students.
- “General” if narrative information included such terms as *all students*, *every student*, or *general* student populations.
- “No information” if there was no specific mention of a targeted or general population.

To ensure reliability, two researchers coded this common set of data. Interrater reliability was 95.6 percent. In cases of discrepancies, the investigators reviewed the data to reach mutual agreement.

Limitations of the study

The study has limitations in both its quantitative and qualitative analyses.

Quantitative analyses. While independent study enrollment data were available for each school for 2001/02–2006/07, data on disaggregated student characteristics specific to students enrolled in independent study were unavailable. Nearly all students in independent study high schools were enrolled in independent study and, in 2006/07, 96.9 percent of students in grades 9–12 enrolled in these schools were enrolled in independent study. So 3.1 percent of the students included in the analysis of grade level, race/ethnicity, and gender in independent study high schools were not enrolled in independent study.

In 2006/07 the state changed its method for collecting student enrollment data. Before 2006/07 student enrollment and other school-related data had been collected exclusively through the California Basic Educational Data System School Information Form, an electronic form that has built-in checks and balances to ensure accuracy. In 2006/07 enrollment data for such education options as independent study continued to be collected through the School Information Form, but total school enrollment was collected through the California School Information Services as part of a planned, gradual transition to this new collection system. Though both sets of data would continue to be reported through the California Basic Educational Data System, the School Information Form's built-in checks could no longer compare total enrollment numbers with other student population numbers at the time of entry; this limitation may have resulted in increased variability in the reported number of students enrolled in independent study.

The voluntary reporting requirements specific to independent study teachers for reporting certain variables presented another limitation. Because reporting on the variable for college preparatory classes was optional for independent study teachers, the data were incomplete and not reliable enough to include in this study.

Another limitation concerns how California teachers report data related to their teaching assignments on the Professional Assignment Information Form. When documenting assignments, teachers can pick from lists of multiple subject-specific codes. Before 2007/08 independent study teachers teaching several different subjects in the same assignment could use an independent study assignment code instead of a subject-specific code. According to the California Department of Education, to be considered highly qualified for an independent study assignment the teacher should be highly qualified to teach each core secondary subject within the assignment. This all-or-nothing reporting, coupled with a higher frequency of teachers teaching multiple subjects in independent study high schools, might result in an underestimate of the percentage of core secondary classes taught by highly qualified teachers.

The numbers of socioeconomically disadvantaged students, English language learner students, students with disabilities, and students in migrant education were not available in the California Basic Educational Data System, and data in the Growth Academic Performance Index data file report total school enrollment for these subgroups but do not disaggregate across grade levels. Therefore, these percentages represent the proportion of the total school enrollment in 2006/07, which might be different from the proportion of those subgroups in grades 9–12.

Qualitative analyses. Because many schools had not yet released their 2006/07 School Accountability Report Card by spring 2008, obtaining a complete set of these reports was impossible. The 2005/06 School Accountability Report Cards were used instead. A systematic Internet search determined that, while most of these reports were archived on school, district, or county web sites, some were unavailable. If a school's School Accountability Report Card for 2005/06 was not available, investigators searched for a 2006/07 School Accountability Report Card. If this was also unavailable, they searched through school web site information. The amount and quality of the narrative data in these data sources were inconsistent.

APPENDIX B DESCRIPTIVE STATISTICS

TABLE B1

Number of full-time students in grades 9–12 in California public schools, by high school type, 2001/02–2006/07

| School year | Full time independent study in independent study high schools | Full time independent study in other schools | Other full time enrollment | Total students in grades 9–12 |
|-------------|---|--|----------------------------|-------------------------------|
| 2001/02 | 40,782 | 22,800 | 1,708,835 | 1,772,417 |
| 2002/03 | 46,273 | 23,659 | 1,761,061 | 1,830,993 |
| 2003/04 | 47,472 | 23,567 | 1,805,897 | 1,876,936 |
| 2004/05 | 54,225 | 24,245 | 1,858,544 | 1,937,014 |
| 2005/06 | 54,812 | 24,683 | 1,895,150 | 1,974,645 |
| 2006/07 | 58,788 | 25,560 | 1,905,857 | 1,990,205 |

Source: Authors' analysis based on enrollment data for 2001/02–2006/07 from California Department of Education (2008b).

TABLE B2

Number and percentage of independent study high schools, by targeted student population, 2006/07

| Targeted student population | Number | Percent |
|---------------------------------------|--------|---------|
| At risk | 56 | 25.0 |
| Home study | 49 | 21.9 |
| At risk and home study | 13 | 5.8 |
| Other | 5 | 2.2 |
| General | 46 | 20.5 |
| No information on targeted population | 55 | 24.6 |
| Total | 224 | 100.0 |

Note: Data were unavailable for seven independent study high schools.

Source: Authors' analysis based on the latest data available in spring 2008 from the School Accountability Report Cards, or other web-based, publicly available information.

TABLE B3

Number of independent study high schools, by California county, 2006/07

| County | Number of independent study high schools | County | Number of independent study high schools | County | Number of independent study high schools |
|--------------|--|-----------------|--|---------------|--|
| Alameda | 5 | Marin | 3 | San Mateo | 1 |
| Alpine | 0 | Mariposa | 1 | Santa Barbara | 2 |
| Amador | 1 | Mendocino | 3 | Santa Clara | 2 |
| Butte | 4 | Merced | 1 | Santa Cruz | 4 |
| Calaveras | 2 | Modoc | 1 | Shasta | 5 |
| Colusa | 1 | Mono | 2 | Sierra | 1 |
| Contra Costa | 8 | Monterey | 4 | Siskiyou | 1 |
| Del Norte | 2 | Napa | 1 | Solano | 0 |
| El Dorado | 2 | Nevada | 3 | Sonoma | 4 |
| Fresno | 12 | Orange | 10 | Stanislaus | 7 |
| Glenn | 1 | Placer | 4 | Sutter | 2 |
| Humboldt | 5 | Plumas | 1 | Tehama | 0 |
| Imperial | 1 | Riverside | 7 | Trinity | 0 |
| Inyo | 0 | Sacramento | 12 | Tulare | 6 |
| Kern | 6 | San Benito | 0 | Tuolumne | 3 |
| Kings | 2 | San Bernardino | 15 | Ventura | 6 |
| Lake | 1 | San Diego | 26 | Yolo | 2 |
| Lassen | 3 | San Francisco | 1 | Yuba | 5 |
| Los Angeles | 21 | San Joaquin | 2 | Total | 231 |
| Madera | 3 | San Luis Obispo | 3 | | |

Source: Authors' analysis based on school physical address from California Department of Education (2008e).

TABLE B4

School category, by high school type, 2006/07

| School category | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|----------------------------|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|--------------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| High school | 30 | | 0 | | 1,143 | | 1,173 | |
| Continuation | 0 | | 518 | | 0 | | 518 | |
| Community day | 0 | | 209 | | 0 | | 209 | |
| Alternative | 120 | | 56 | | 0 | | 176 | |
| K-12 | 68 | | 0 | | 42 | | 110 | |
| Special education | 0 | | 103 | | 0 | | 103 | |
| Juvenile hall | 0 | | 56 | | 0 | | 56 | |
| County community | 6 | | 49 | | 0 | | 55 | |
| Elementary | 7 | | 0 | | 27 | | 34 | |
| Middle | 0 | | 0 | | 31 | | 31 | |
| Opportunity | 0 | | 26 | | 0 | | 26 | |
| California Youth Authority | 0 | | 9 | | 0 | | 9 | |
| Junior high | 0 | | 0 | | 8 | | 8 | |
| State special | 0 | | 3 | | 0 | | 3 | |
| Missing | 0 | | 4 | | 0 | | 4 | |
| Total | 231 | | 1,033 | | 1,251 | | 2,515 | |

Source: School type data from California Department of Education (2008e).

TABLE B5

Race/ethnicity and gender characteristics of students in grades 9–12, by high school type, 2006/07

| Characteristic | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|-----------------------------------|-------------------------------|--------------|----------------------------------|--------------|-------------------------|--------------|------------------|--------------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Race/ethnicity | | | | | | | | |
| White, not Hispanic | 26,911 | 44.4 | 34,447 | 25.3 | 589,283 | 32.9 | 650,641 | 32.7 |
| Hispanic | 22,067 | 36.4 | 72,310 | 53.1 | 780,309 | 43.5 | 874,686 | 43.9 |
| Black, not Hispanic | 5,305 | 8.7 | 17,619 | 12.9 | 139,123 | 7.8 | 162,047 | 8.1 |
| Asian/Pacific Islander | 2,209 | 3.6 | 6,716 | 4.9 | 228,514 | 12.7 | 237,439 | 11.9 |
| American Indian/Alaska Native | 1,024 | 1.7 | 1,810 | 1.3 | 13,767 | 0.8 | 16,601 | 0.8 |
| More than one race or no response | 3,160 | 5.2 | 3,272 | 2.4 | 42,359 | 2.4 | 48,791 | 2.5 |
| Gender | | | | | | | | |
| Female | 33,115 | 54.6 | 53,579 | 39.3 | 884,615 | 49.3 | 971,309 | 48.8 |
| Male | 27,561 | 45.4 | 82,595 | 60.7 | 908,740 | 50.7 | 1,018,896 | 51.2 |
| Total | 60,676 | 100.0 | 136,174 | 100.0 | 1,793,355 | 100.0 | 1,990,205 | 100.0 |

Source: Authors' analysis based on enrollment data for 2006/07 from California Department of Education (2008b).

TABLE B6

Students in No Child Left Behind Act of 2001 subgroups, by high school type, 2006/07

| Student subgroup | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|---|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|-----------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Socioeconomically disadvantaged students ^a | 10,543 | 14.3 | 25,634 | 23.6 | 563,450 | 39.9 | 599,627 | 37.6 |
| English language learner students | 2,613 | 3.5 | 11,106 | 10.2 | 375,115 | 26.6 | 388,834 | 24.4 |
| Students with disabilities | 1,904 | 2.6 | 14,371 | 13.2 | 110,323 | 7.8 | 126,598 | 7.9 |
| Migrant education students | 180 | 0.2 | 1,192 | 1.1 | 29,688 | 2.1 | 31,060 | 1.9 |
| Total | 73,730 | | 108,710 | | 1,410,691 | | 1,593,131 | |

a. Defined as students who participated in the free or reduced-price lunch program or whose parents were not high school graduates.

Source: Authors' analysis based on data for 2006/07 from California Department of Education (2008c).

TABLE B7

School characteristics, by high school type, 2006/07

| School characteristic | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|------------------------------|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|--------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Locale | | | | | | | | |
| Urban | 66 | 28.6 | 343 | 33.2 | 543 | 43.4 | 952 | 37.9 |
| Suburban | 107 | 46.3 | 448 | 43.4 | 530 | 42.4 | 1,085 | 43.2 |
| Rural | 58 | 25.1 | 242 | 23.4 | 177 | 14.2 | 477 | 19.0 |
| Year opened | | | | | | | | |
| Before 2001/02 | 166 | 71.9 | 860 | 83.3 | 1003 | 80.2 | 2029 | 80.7 |
| 2001/02 or later | 65 | 28.1 | 173 | 16.8 | 248 | 19.8 | 486 | 19.3 |
| Charter status | | | | | | | | |
| Charter schools | 94 | 40.7 | 4 | 0.4 | 181 | 14.5 | 279 | 11.1 |
| Noncharter schools | 137 | 59.3 | 1,029 | 99.6 | 1,070 | 85.5 | 2,236 | 88.9 |
| Grade range | | | | | | | | |
| Grades 9–12 and other grades | 166 | 71.9 | 396 | 38.3 | 222 | 17.8 | 784 | 31.2 |
| Grades 9–12 only | 65 | 28.1 | 637 | 61.7 | 1,029 | 82.3 | 1,731 | 68.8 |
| All schools | 231 | 100.0 | 1,033 | 100.0 | 1,251 | 100.0 | 2,515 | 100.0 |

Note: Totals may not sum to 100 percent because of rounding.

Source: Authors' analysis based on enrollment by grade data for 2006/07 from California Department of Education (2008b), district locale data from U.S. Department of Education, National Center for Education Statistics (2007), and charter status data from California Department of Education (2008e).

TABLE B8

Distribution of total enrollment, by high school type, 2006/07

| School type | Number of schools | Average | Standard deviation | 25th percentile | Median | 75th percentile |
|----------------------------------|-------------------|---------|--------------------|-----------------|--------|-----------------|
| Independent study high school | 231 | 263 | 426.2 | 67 | 126 | 259 |
| Other nontraditional high school | 1,033 | 132 | 250.8 | 22 | 65 | 161 |
| Traditional high school | 1,251 | 1,434 | 1,116.8 | 307 | 1,432 | 2,279 |

Source: Authors' analysis based on enrollment data for 2006/07 from California Department of Education (2008b).

TABLE B9

Students per grade, by high school type, 2006/07

| Grade level | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|--------------------------|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|-----------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| All graded students | 60,660 | 100.0 | 134,614 | 100.0 | 1,791,472 | 100.0 | 1,986,746 | 100.0 |
| Grade 9 | 12,155 | 20.0 | 18,681 | 13.9 | 512,664 | 28.6 | 543,500 | 27.4 |
| Grade 10 | 15,012 | 24.7 | 24,595 | 18.3 | 476,544 | 26.6 | 516,151 | 26.0 |
| Grade 11 | 16,152 | 26.6 | 39,290 | 29.2 | 430,455 | 24.0 | 485,897 | 24.5 |
| Grade 12 | 17,341 | 28.6 | 52,048 | 38.7 | 371,809 | 20.8 | 441,198 | 22.2 |
| Ungraded 9–12 | 16 | | 1,560 | | 1,883 | | 3,459 | |
| All students grades 9–12 | 60,676 | | 136,174 | | 1,793,355 | | 1,990,205 | |

Note: Totals may not sum to 100 percent because of rounding.

Source: Authors' analysis based on enrollment data for 2006/07 from California Department of Education (2008b).

TABLE B10

Highest academic degree obtained by teachers of core classes in grades 9–12, by high school type, 2006/07

| Degree | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|-----------------------------|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|--------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Less than bachelor's degree | 7 | 0.4 | 10 | 0.2 | 75 | 0.1 | 92 | 0.1 |
| Bachelor's degree | 1,335 | 67.7 | 3,506 | 57.7 | 38,179 | 61.2 | 43,020 | 61.1 |
| Master's degree | 603 | 30.6 | 2,436 | 40.1 | 23,052 | 37.0 | 26,091 | 37.1 |
| Doctorate | 27 | 1.4 | 123 | 2.0 | 1,050 | 1.7 | 1,200 | 1.7 |
| Total | 1,972 | 100.0 | 6,075 | 100.0 | 62,356 | 100.0 | 70,403 | 100.0 |

Note: Totals may not sum to 100 percent because of rounding. Data were unavailable for 5 teachers in other nontraditional high schools and 29 teachers in traditional high schools.

Source: Authors' analysis based on staff characteristics for 2006/07 from California Department of Education (2008a).

TABLE B11

Authorized teaching area of teachers of core classes in grades 9–12, by high school type, 2006/07

| Authorized teaching area | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|-----------------------------------|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|--------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| With full credentials | 1,860 | 94.3 | 5,594 | 92.0 | 57,496 | 92.2 | 64,950 | 92.2 |
| Elementary | 966 | 49.0 | 1,805 | 29.7 | 4,976 | 8.0 | 7,747 | 11.0 |
| Secondary/all subjects | 314 | 15.9 | 578 | 9.5 | 2,508 | 4.0 | 3,400 | 4.8 |
| Secondary/subject specific | 1,126 | 57.1 | 4,127 | 67.9 | 52,203 | 83.7 | 57,456 | 81.6 |
| Other teaching areas ^a | 714 | 36.2 | 3,531 | 58.1 | 33,943 | 54.4 | 38,188 | 54.2 |
| Without full credentials | 112 | 5.7 | 486 | 8.0 | 4,889 | 7.8 | 5,487 | 7.8 |
| Total | 1,972 | 100.0 | 6,080 | 100.0 | 62,385 | 100.0 | 70,437 | 100.0 |

Note: Percentages by authorized teaching area may not sum to the percentage of teachers with full credential because teachers could have more than one type of full credential and teaching area.

a. Specified in California Department of Education (2008a) to include special education, reading specialist/certificate, primary language instruction, English language development, specially designed academic instruction in English, adult education, and special designated subjects.

Source: Authors' analysis based on staff characteristics data for 2006/07 from California Department of Education (2008a).

TABLE B12

Core classes in grades 9–12 taught by highly qualified teachers, by high school type, 2006/07

| Core class status | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|---|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|---------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Taught by highly qualified teachers | 3,447 | 73.9 | 19,005 | 80.2 | 252,804 | 91.4 | 275,256 | 90.3 |
| Not taught by highly qualified teachers | 1,216 | 26.1 | 4,699 | 19.8 | 23,657 | 8.6 | 29,572 | 9.7 |
| Total | 4,663 | 100.0 | 23,704 | 100.0 | 276,461 | 100.0 | 304,828 | 100.0 |

Note: Data for one core class were unavailable.

Source: Authors' analysis based on course data for 2006/07 from California Department of Education (2008a).

TABLE B13

Source of subject-matter competence of highly qualified teachers of core classes in grades 9–12, by high school type, 2006/07

| Source of subject matter competence | Independent study high school | | Other nontraditional high school | | Traditional high school | | Total | |
|--|-------------------------------|---------|----------------------------------|---------|-------------------------|---------|---------|---------|
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| Based on the High Objective Uniform State Standard of Evaluation | 1,763 | 51.1 | 5,862 | 30.8 | 28,058 | 11.1 | 35,683 | 13.0 |
| Based on education, training, or both | 1,684 | 48.9 | 13,143 | 69.2 | 224,746 | 88.9 | 239,573 | 87.0 |
| Total | 3,447 | 100.0 | 19,005 | 100.0 | 252,804 | 100.0 | 275,256 | 100.0 |

Note: Data for one core class were unavailable.

Source: Authors' analysis based on course data for 2006/07 from California Department of Education (2008a).

NOTES

1. The California Legislative Analyst's Office (2007) found that in 2004/05, 10–15 percent of high school students enrolled in an alternative education option. Although the report includes independent study as one of these options, it does not mention independent study high schools. The report was followed by several related reports that aimed to address the full spectrum of alternative schools but instead focused almost exclusively on continuation schools. Among them was a 2008 summary report entitled *Alternative Education Options: A Descriptive Study of California Continuation High Schools* (Ruiz de Velasco et al. 2008).
2. This operational definition was constructed by California Department of Education staff to define a population of schools that are not recognized as a school category in the California Education Code. It is used by the state staff in its accounting of these schools for various purposes, including eligibility to apply for the exemplary independent study recognition award. California Department of Education staff agreed that the use of the operational definition for this study could provide useful results (M. Jones, Consultant, California Department of Education, Education Options Office, personal communication, September 24, 2007).
3. Unless otherwise noted, Black includes African American, Hispanic includes Latino, and Asian/Pacific Islander includes Native Hawaiian or Other Pacific Islander.
4. The High Objective Uniform State Standard of Evaluation is a district-implemented evaluation process used to verify subject matter competence, which assigns credits for teaching in a subject matter area, professional service and instructional leadership experience, course work, and other forms of professional development as well as optional observations of instruction and a portfolio review.

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