

Education and Career Planning in High School: A National Study of School and Student Characteristics and College-Going Behaviors

A Publication of the National Center for Education Evaluation and Regional Assistance at IES



Education and Career Planning in High School: A National Study of School and Student Characteristics and College-Going Behaviors

Thomas Torre Gibney and Mary Rauner

November 2021

A large proportion of high schools across the country have adopted education and career planning requirements intended to help students prepare for postsecondary education and to facilitate successful transitions to the labor market. This study used student and counselor survey responses from a nationally representative longitudinal dataset to examine the relationships between students' participation in three core elements of education and career planning during high school and their application, coursetaking, and enrollment behaviors associated with the transition to college. Students who developed an education or career plan upon first entering high school in grade 9 were no more or less likely to submit the Free Application for Federal Student Aid, complete a college preparatory curriculum, apply to college, or enroll in college than students who did not develop a plan. However, for students who received support from a teacher or a parent to develop their plan and for students who met with an adult in school to review the plan at least once a year, developing a plan was significantly associated with several college-going behaviors.

Why this study?

Over the last decade researchers and education reformers have called on high schools to do more than help students graduate. High schools can also support students in making smart choices about life after high school graduation (Gandal, 2016; Rosenbaum et al., 2015; Symonds et al., 2011). One way that schools might carry out this mission is by incorporating education and career planning activities into students' high school experiences (Rumberger et al., 2017). The Office of Planning, Evaluation and Policy Development (2017, p. 1) of the U.S. Department of Education defines education and career planning as “a formalized process that involves high school students setting learning goals based on personal, academic, and career interests with the close support of school personnel or other individuals that can include teachers, school counselors, and parents.” Education and career planning has long been touted as a promising intervention for helping students make informed choices about life after high school and take the appropriate action to achieve their goals (Solberg et al., 2012). By 2016, 43 states had instituted a policy directing schools to support students' planning for further education or jobs beyond high school; 33 of those states required students to develop an education and/or career plan (ECP; also known as an individualized learning plan; see box 1 for definitions of key terms) to graduate (Office of Disability Employment Policy, 2016). Use of education and career planning has not faded over time: as of 2020, 34 states mandated the use of ECPs, and 10 states strongly encouraged them (Duffy, 2020). Despite the widespread adoption of such requirements nationwide, there has been little research on how students who participate in planning fare when it comes to preparing for and transitioning to postsecondary education.

Arizona is one state that has mandated the use of ECPs. In 2008 the Arizona State Board of Education voted to require that all students in grades 9–12 maintain a portfolio outlining how their academic plans and extracurricular activities (for example, leadership opportunities) align with their career aspirations and postsecondary education goals (Arizona Department of Education, 2021a, 2021b). These Education and Career Action Plans, as they are called in Arizona, are defined by the Arizona Department of Education (2021c, p. 1) as “both a process that helps students integrate their academics with career development

For additional information, including technical methods, the handling of missing data, and supporting analyses, access the report appendixes at <https://go.usa.gov/xertd>.

opportunities, and a product that is created and maintained to document and support these activities.” Three core elements undergird the state’s policy: early planning (in which students develop a plan beginning in grade 9), adult support (in which students develop the plan with the help of their parent or guardian and the appropriate school personnel), and yearly review (in which students review and update their plans at least annually; Arizona State Board of Education, 2008).

States like Arizona adopt education and career planning policies as one strategy to help increase statewide postsecondary attainment rates (Zinth, 2014).¹ Arizona’s theory of action for its policy posits that education and career planning efforts—when implemented as intended, with the three core elements of early planning, adult support, and yearly review—will positively influence students’ completion of key college-going milestones, such as submitting the Free Application for Federal Student Aid (FAFSA) and applying to college (Arizona Department of Education, 2021d). Increased completion of such milestones, in turn, will lead to more students enrolling in postsecondary education—including four-year, two-year, and certificate programs—and result in smoother transitions to college. The Arizona Department of Education (2021c, p. 1) puts it this way: “Supporting students in their [education and career planning] process empowers them to take control of postsecondary plans and tailor their educational experiences to fit personal interests. When students intentionally develop awareness about future pathways, their education will be more meaningful, leading to college and career readiness for postsecondary success.”

This study was prompted by Arizona Department of Education leaders’ desire to better understand the relationships between students’ participation in education and career planning experiences during high school and their college-going behaviors in Arizona and elsewhere. Using data from a nationally representative sample of high schools and students, the study examined the extent to which students’ self-reported participation in the three core education and career planning elements of early planning, adult support, and yearly review predicted their behaviors related to submitting the FAFSA, completing a college preparatory curriculum, applying to college, and enrolling in college. To further understand the context in which these activities took place, the study also examined the prevalence of education and career planning across the nation from 2009 through 2013, when many states (including Arizona) had just adopted or were in the process of adopting education and career planning requirements (Office of Disability Employment Policy, 2016) and the college and career readiness movement was gaining momentum nationwide (Malin et al., 2017). Consistent with Arizona’s theory of action related to increasing postsecondary participation rates, the study focused specifically on college-going outcomes associated with education and career planning rather than distal outcomes related to students’ experiences in the labor market. Although recent research offers some emerging evidence about the potential benefits of education and career planning in the college search and selection process (Britton & Spencer, 2020), no research to date has explicitly explored the connections between individual planning elements, such as the three codified in Arizona’s policy, and students’ college-going behaviors.

This study’s findings can help state and local education decisionmakers in Arizona and elsewhere form education and career planning strategies and better anticipate the outcomes potentially associated with education and career planning policies. State leaders can also use the information to refine the guidance they provide to practitioners (for example, school leaders, counselors, and teachers) on implementing state policies. Ultimately, the evidence presented here can help those responsible for establishing education and career planning requirements reflect on how to align such policies with their specific goals.

1. For more information about Arizona’s postsecondary attainment agenda, which calls for 60 percent of the state’s adult population to hold a postsecondary degree or certificate by 2030, see the state’s Achieve60AZ website: <https://achieve60az.com/>.

Research questions

The study addressed the following research questions:

1. To what extent is education and career planning required in public high schools nationwide? Do schools that require planning differ, on average, from those that do not in terms of urbanicity, student demographic composition, student-counselor ratio, college-going rate, or grade 9 math achievement?
2. To what extent do public high school students report participating in education and career planning in grade 9 (early planning)? To what extent do they receive support in early planning from adults such as teachers and parents (adult support)? To what extent do students who develop an ECP in high school review it annually with an adult in school (yearly review)? Does participation in these three core elements of education and career planning vary by student race/ethnicity, socioeconomic status, or prior achievement?
3. What is the relationship between public high school students' participation in the three core education and career planning elements (early planning, adult support, and yearly review) and their college-going behaviors (submitting the FAFSA, completing a college preparatory curriculum, applying to a postsecondary institution, and enrolling in postsecondary education immediately after high school)?

To answer these questions, the study used descriptive and correlational techniques. The results from research question 1 provide descriptive estimates of the school sample, and the results from research question 2 provide descriptive estimates of the student sample. The results from research question 3 measure associations between students' participation in education and career planning and their college-going behaviors but do not support causal inferences about the impact of the activities on student outcomes (see the Limitations section). The study used survey data from the National Center for Education Statistics' (NCES) High School Longitudinal Study of 2009, which follows a nationally representative sample of students who entered grade 9 in fall 2009 and who continue to be followed into postsecondary education and the workforce (Duprey et al., 2018). The data are also nationally representative of U.S. high schools in the 2009/10 school year. The study focused on public high schools in 2009/10 and public high school students from 2009/10 through fall 2013, by which time most of the students would have concluded their high school experiences and had the chance to demonstrate the four college-going behaviors examined by the study (see appendix A for the inclusion criteria for the study sample).

Specifically, the study team examined students' self-reported responses to survey items related to participation in education and career planning, as well as the responses of the head counselors at their schools. To account for the conditions in which education and career planning took place during the study period, the study team also used school leaders' survey responses to gather contextual information about the demographic makeup and other characteristics of students' schools. Data regarding education and career planning activities were examined for all public schools in the sample, regardless of whether their counselors reported requiring education and career planning.

The data sources, sample, and methods are summarized in box 2 and discussed in detail in appendix A.

Box 1. Key terms

College-going behaviors. A set of actions regarded in the research literature (for example, Hein et al., 2013) as predictive of future postsecondary participation and/or success. This study focused on four college-going behaviors:

- **Submitting the Free Application for Federal Student Aid (FAFSA).** In this study, a student or a student’s family submitting the FAFSA by fall 2013.
- **Completing a college preparatory curriculum.** A student earning credits in grades 9–12 in the following subjects and course levels: at least four credits in English; three credits in math, with one higher than algebra II; three credits in science, with one higher than biology; three credits in social studies, with one in U.S. or world history; and two credits in one foreign language. This is known in High School Longitudinal Study of 2009 transcript records as attaining academic concentrator status.
- **Applying to a postsecondary institution.** In this study, a student applying to a postsecondary institution by fall 2013, regardless of segment (four-year or two-year college), intensity (full- or part-time), or control (public or private).
- **Enrolling in a postsecondary institution immediately after high school.** A student enrolling full- or part-time in a postsecondary degree or certificate program in the fall following expected high school graduation. In this study postsecondary enrollment is divided into three categories: bachelor’s degree programs, associate degree programs, and certificate (that is, less-than-associate) programs.

Core education and career planning elements. The three elements that are included in some education and career planning policies and that serve as the focus of this study:

- **Early planning.** Students develop an education and/or career plan (ECP) upon first entering high school (that is, in the fall of grade 9).
- **Adult support.** Students receive support from an adult to develop an ECP. In this study adult support is defined as receiving support in grade 9 from a counselor, teacher, parent, or other adult.
- **Yearly review.** Students who have developed an ECP meet with an adult in school to review it at least once a year. In this study yearly review could have occurred from the fall of grade 9 through the spring of grade 11, and students could begin developing an ECP at any point during that period.

Education and career planning. A formalized process that involves high school students setting learning goals based on personal, academic, and career interests with the close support of school personnel or other individuals such as teachers, school counselors, and parents.

Education and/or career plan (ECP). A formal document, portfolio, or similar artifact assembled as part of the education and career planning process. It is also known as an individualized learning plan (Smith et al., 2020). According to the authors of the What Works Clearinghouse practice guide, *Preventing Dropout in Secondary Schools*, “Plans align students’ career goals with their course of study, work, and extracurricular experiences, as well as giving students feedback on how their academic progress relates to their post-high school goals” (Rumberger et al., 2017, p. 31).

Box 2. Data sources, sample, methods, and limitations

Data sources. The study used data from the responses of sampled students, head counselors, and school leaders surveyed as part of the High School Longitudinal Study of 2009 (HSL:09). The HSL:09 has completed five data collection waves to date, the first three of which were used in this study. The first data collection took place in fall 2009, when students first entered grade 9. The second collection took place in spring 2012, when most of those students would have been enrolled in their second semester of grade 11. The third collection took place in summer and fall 2013, when most students would have entered their first year in postsecondary education and/or the workforce. As a supplement to the 2013 data collection wave, HSL:09 also collected high school transcripts over the 2013/14 school year from the schools that students had attended during the prior four years. The study team used student, counselor, and school leader responses from the first data collection wave, student and counselor responses from the second, and student responses and transcript records from the third.

Sample. The study analyzed a nationally representative sample of about 12,600 first-time high school students who began grade 9 in a U.S. public high school in fall 2009, remained enrolled in a public school in spring 2012, and remained in the HSLs:09 sample in fall 2013, when most would have entered their first year in postsecondary education or the workforce. The study team identified about 770 public high schools that enrolled students in the study sample. Students' records were linked with school-level responses from the head counselors at their schools; only one counselor was sampled for each school. Students who changed high schools during the study period were retained in the sample if they remained enrolled in a public high school. The study team used multiple imputation (Graham, 2009) to adjust for missing data (for example, student and counselor nonresponse) in the original samples (see appendix B for details). The final analytic sample of schools was nationally representative of public high schools in the 2009/10 school year. The final analytic sample of students was nationally representative of first-time high school students who began grade 9 in a U.S. public high school in fall 2009 and remained enrolled in a public high school in spring 2012.

Methodology. The analysis for research question 1 identified the proportions of schools in the sample whose head counselor reported requiring education and career planning in the 2009/10 school year. This school-level analysis then compared the percentage of schools that required education and/or career plans (ECPs) with the percentage that did not require ECPs and examined how their average characteristics differed. The following characteristics were examined: urbanicity (city, town, suburb, or rural); average racial/ethnic, student socioeconomic,¹ and gender composition; average counselor caseload (that is, the student-counselor ratio); average prior-year (2008/09) college-going rate; and average grade 9 math achievement.

The analysis for research question 2 described the degree to which students' reported education and career planning activities differed depending on their race/ethnicity and their membership in the top or bottom quintiles of socioeconomic status and grade 9 math achievement. This student-level analysis identified the rates at which specific student subgroups reported participating in the core elements of early planning, adult support, and yearly review. The analysis further broke down adult support (or lack thereof) by its source: support from a counselor, a teacher, a parent, a different adult, or no adult.

The analysis for research question 3 estimated associations between students' participation in the three core education and career planning elements and their college-going behaviors. The four college-going behaviors defined in box 1 were used as outcome variables in analyses. The study team estimated the individual relationship between each planning element and each outcome, including each source of adult support. For adult support the associations represent the additive value of developing an ECP in grade 9 and receiving support from an adult to do so. Similarly, for yearly review the estimated associations represent the additive value of developing an ECP at any point from the fall of grade 9 through the spring of grade 11 and reviewing it at least once a year with an adult in school. All models estimated for research question 3 controlled for the following school and student characteristics:

- School-level covariates: urbanicity, average grade 9 ECP development rate, average grade 9 math achievement, percentage of the student body receiving free or reduced-price lunch (a proxy for economic disadvantage), percentage of the student body that identified as Black, percentage of the student body that identified as Hispanic, percentage of the student body that identified as non-White, percentage of the student body that identified as female, student-counselor ratio, 2008/09 college-going rate, and percentage of grade 12 students who took calculus.
- Student-level covariates: grade 9 math score, socioeconomic status composite with urbanicity, and dichotomous indicators for student race/ethnicity and gender.

Each analysis used weighting variables provided by the National Center for Education Statistics to ensure that the results were nationally representative of public high schools in 2009/10 (research question 1) and nationally representative of students enrolled in public high schools from fall 2009 through spring 2012 (research questions 2 and 3). Unless otherwise noted, school-level findings refer to all public high schools in the study sample (about 770), and student-level findings refer to all public high school students in the study sample (about 12,600).

Limitations. This study contains several important limitations. First, the study was correlational and thus did not measure the causal effect of participating in education and career planning on college-going behaviors. Second, the study relied on the self-reported observations of students, counselors, and school leaders in the form of survey responses that might have been susceptible to social desirability bias, among other confounding factors associated with self-response data. Third, the range of education and career planning measures that could be used to capture the phenomenon of education and career planning in schools was limited. For example, the study team could isolate which and how many adults supported grade 9 students in developing their ECP, but no corresponding measures existed for students in later grades. In a similar vein the first follow-up survey in the spring of grade 11

did not ask students to share when they developed their ECP in high school. Consequently, the study team could not identify more granular distinctions in the timing of ECP development aside from whether students participated in early planning. Finally, the analyses were not intended to measure the quality, structure, or implementation fidelity of students' ECPs.

Technical details about the variables and statistical procedures used to answer the research questions are provided in appendix A, including a discussion of how the study team handled missing data in the HSL:09. Appendix B presents the supporting analyses of the missing data patterns identified in the data. Appendix C provides further supporting analyses for each research question.

Note

1. Socioeconomic composition of schools was based on the percentage of students receiving free or reduced-price lunch.

Findings

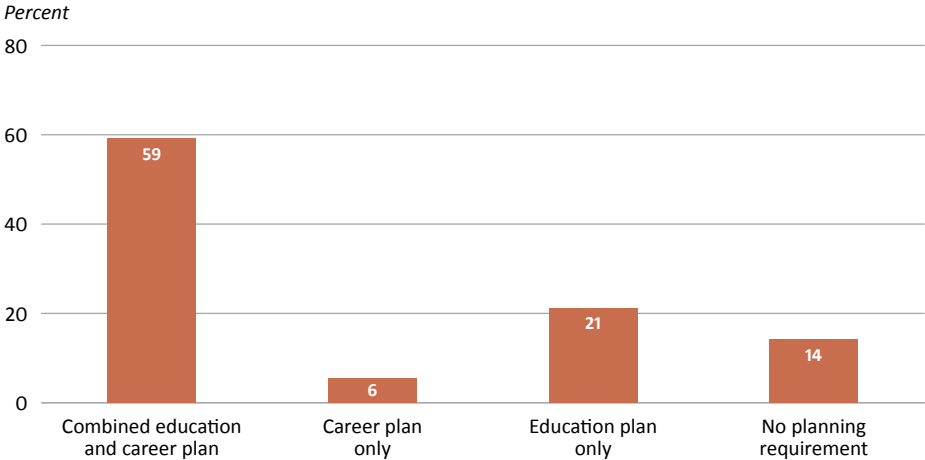
This section summarizes the study's key findings. It begins with the findings related to schools' education and career planning requirements and characteristics (research question 1), followed by the findings related to students' participation in education and career planning (research question 2). The section concludes with the correlational findings related to students' college-going behaviors (research question 3).

Most public high schools nationwide required students to develop an education and/or career plan

In 2009/10, 86 percent of counselors surveyed in public high schools nationwide reported that their school required students to develop some form of an ECP (see table C1 in appendix C). Collectively, these schools enrolled 81 percent of the grade 9 student population in public high schools that year (see table C2).

Schools varied in the type of ECP that their counselors reported they required. Some 59 percent of counselors surveyed reported that their school required a combined education and career plan, 6 percent reported requiring a career plan only, and 21 percent reported requiring an education plan only, whereas 14 percent reported having no planning requirement (figure 1; see also table C1 in appendix C).

Figure 1. In the 2009/10 school year most public high schools nationwide required students to develop a combined education and career plan



Note: The sample includes 770 counselors (value has been rounded to the nearest 10), each representing one school.

Source: Authors' analysis of data from the High School Longitudinal Study of 2009.

Table 1. School-level characteristics on which schools that required education and/or career plans (ECPs) in the 2009/10 school year and schools that did not require ECPs had statistically significant and meaningful differences

Characteristic	Schools that required ECPs (n = 660)	Schools that did not require ECPs (n = 110)	Mean difference
Proportion of schools that were rural	49.0	26.9	22.1*
Proportion of students who were Black	14.7	7.8	6.9**
Proportion of students who were economically disadvantaged	48.0	31.7	16.3***

* Significant at $p < .05$; ** significant at $p < .01$; *** significant at $p < .001$.

Note: The sample includes 770 schools (value has been rounded to the nearest 10). Only statistically significant results from the models are displayed; see table C3 in appendix C for full results.

Source: Authors' analysis of data from the High School Longitudinal Study of 2009.

Schools that required ECPs were more likely to be rural and had higher percentages of Black students and economically disadvantaged students than schools that did not require ECPs. The analysis revealed statistically significant and meaningful differences between schools that required ECPs and schools that did not require ECPs on 3 of the 13 school-level characteristics examined (table 1; see also table C3 in appendix C). First, schools that required ECPs were more likely to be rural (49 percent) than schools that did not require ECPs (27 percent). Second, schools that required ECPs enrolled a larger proportion of Black students (15 percent), on average, than schools that did not require ECPs (8 percent). Third, schools that required ECPs enrolled a larger share of economically disadvantaged students (48 percent), on average, than schools that did not require ECPs (32 percent).

Most students developed an education and/or career plan in the fall of grade 9, but fewer received support from an adult to do so, and even fewer reviewed their plan yearly with an adult in school

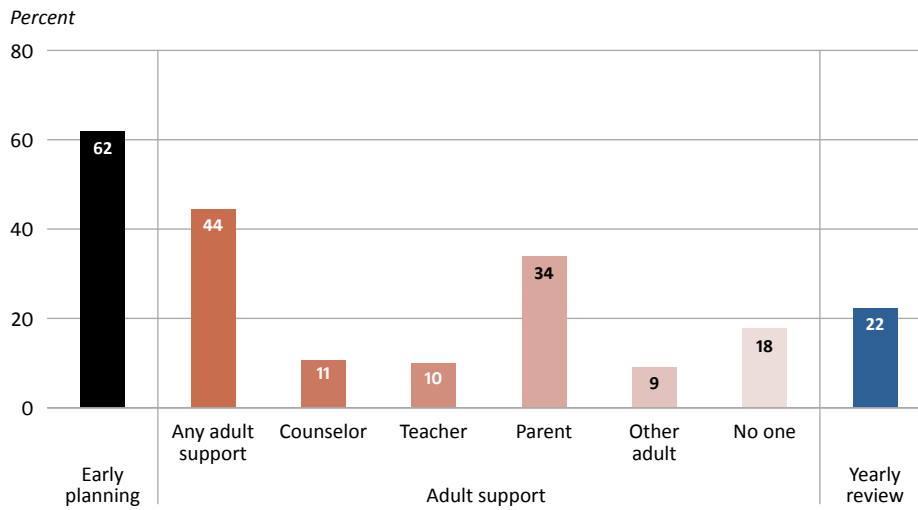
Most students, irrespective of whether their school required ECPs, reported developing an ECP when they first entered high school in grade 9. About 62 percent of public high school students reported developing an ECP in the fall of grade 9 (figure 2; see also table C4 in appendix C). Some students reported developing their ECP after the fall of grade 9. About 75 percent of all students reported having an ECP by the time they reached the spring of grade 11.

More than 4 in 10 students reported both participating in early planning and receiving support from an adult (most often a parent) to develop their ECP. About 44 percent of public high school students, irrespective of whether their school required ECPs, reported both developing an ECP in the fall of grade 9 and receiving some form of adult support to do so (see figure 2 and table C4 in appendix C). The source of adult support varied, and students could receive support from multiple adults. About 34 percent of students reported receiving support from a parent, 11 percent reported receiving support from a counselor, 10 percent reported receiving support from a teacher, and 9 percent reported receiving support from a different adult.² About 18 percent of students reported developing an ECP without adult support.

Almost a quarter of students reported reviewing their ECP at least once a year with an adult in school. About 22 percent of students, irrespective of whether their school required ECPs, reported developing an ECP by the spring of grade 11 and participating in a yearly review of their ECP with an adult in school (see figure 2 and table C4 in appendix C). About 31 percent of all students reported developing an ECP by the spring of grade 11 and participating in any kind of review (including once a year, more than once a year, and less than once a year). About 12 percent reported developing an ECP but never meeting with an adult in school to review it.

2. Sources of adult support are not mutually exclusive. The related HSLs:09 survey item refers to plans developed in the fall of grade 9 only; when surveyed again in 2012, students were not asked to share their sources of adult support.

Figure 2. Most public high school students in the 2009/10 and 2011/12 school years participated in early planning in developing an education and/or career plan, but fewer received adult support to do so or reviewed their plan yearly



Note: The sample includes 12,600 students (value has been rounded to the nearest 10). Values refer to the proportions of all public high school students who reported participating in the selected element, unconditional on participation in any other planning element. Sources of adult support are not mutually exclusive. The related High School Longitudinal Study of 2009 survey item refers to plans developed in the fall of grade 9 only; when surveyed again in 2012, students were not asked to share their sources of adult support.

Source: Authors' analysis of data from the High School Longitudinal Study of 2009.

Students across all the subgroups examined reported high rates of participation in early planning and lower rates of adult support and yearly review. While some differences existed between subgroups, all student subgroups followed the same pattern: most reported participating in early planning, but far fewer reported participating in adult support and yearly review, consistent with the trend for the full sample of students (figure 3; see also tables C5–C12). For example, 77 percent of Black students reported developing an ECP in grade 9, but only 53 percent reported receiving adult support to do so, and only 27 percent reported reviewing their ECP with an adult in school at least once a year. The same pattern was evident for all the other racial/ethnic groups examined and for students from the top and bottom quintiles of socioeconomic status and grade 9 math achievement.

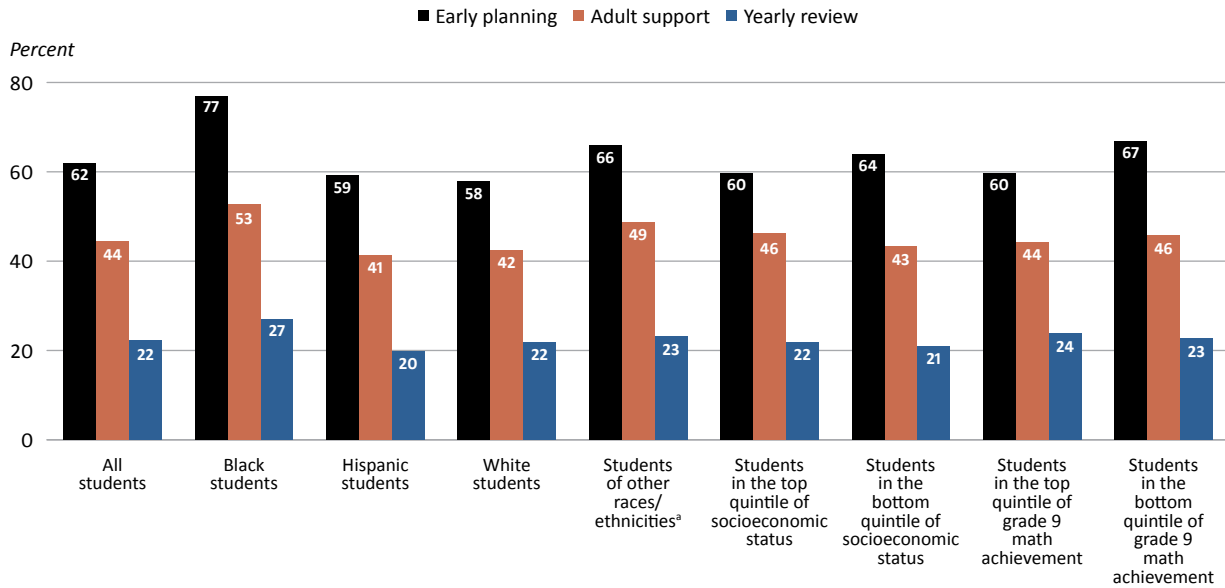
Developing an education and/or career plan in grade 9 alone, without adult support or yearly reviews, was not associated with submitting the Free Application for Federal Student Aid, completing a college preparatory curriculum, applying to college, or enrolling in college

Students who participated in early planning were no more or less likely to display the college-going behaviors examined than students who did not participate. After student and school characteristics were controlled for,³ developing an ECP in the fall of grade 9 in and of itself did not significantly predict a student's probability of submitting the FAFSA, completing a college preparatory curriculum, applying to a postsecondary institution, or enrolling in postsecondary education immediately after high school (see tables C13–19 in appendix C).

Students who received support from a parent to develop an ECP in grade 9 were more likely than students who did not receive such support to complete a college preparatory curriculum, enroll in college, and enroll in a bachelor's degree program. Students who developed an ECP in the fall of grade 9 and received adult support to do so were more likely than students who did not do so to display some behaviors, depending on the source of support

3. See appendix A for a complete description of the statistical models and the variables used as covariates. See tables C13–C19 in appendix C for full model results.

Figure 3. In the 2009/10 and 2011/12 school years students across all the subgroups examined had high rates of participation in early planning and lower rates of adult support and yearly review



Note: The sample includes 12,600 students (value has been rounded to the nearest 10). See tables C5–C12 in appendix C for full results of the subgroup analysis.

a. Refers to students who do not identify as Black, Hispanic, or White.

Source: Authors’ analysis of data from the High School Longitudinal Study of 2009.

(table 2; see also tables C13–C19 in appendix C). Support from a parent was positively associated with completing a college preparatory curriculum, enrolling in any college, and enrolling in a bachelor’s degree program. Specifically, students who received support from a parent had, on average, a 6.4 percentage point higher likelihood of completing a college preparatory curriculum by the end of high school, a 6.0 percentage point higher likelihood of enrolling in college, and a 3.7 percentage point higher likelihood of enrolling in a bachelor’s degree program than students who did not receive support from a parent.

Other sources of adult support were also associated with some behaviors (see table 2 and tables C13–C19 in appendix C). Students who received support from a teacher in developing an ECP in grade 9 had, on average, a 4.4 percentage point higher likelihood of applying to college than students who did not receive support from a teacher. Support from an adult other than a counselor, teacher, or parent was negatively associated with college enrollment: students who received such support had, on average, a 5.9 percentage point lower likelihood of enrolling in college than students who did not receive such support. Students who received support from a counselor were no more or less likely to display the behaviors than students who did not receive support from a counselor.

Students who reviewed their ECP annually with an adult in school were more likely to submit the FAFSA, apply to college, and enroll in college. Regardless of when students reported developing an ECP, meeting with an adult in school to review it at least once a year was positively associated with submitting the FAFSA, applying to college, and enrolling in college (see table 2 and tables C13–C19 in appendix C). Specifically, students who participated in yearly review had, on average, a 4.6 percentage point higher likelihood of submitting the FAFSA than students who did not participate in yearly review. Students who participated in yearly review also had, on average, a 2.7 percentage point higher likelihood of applying to college and a 3 percentage point higher likelihood of enrolling in college than students who did not participate.

Table 2. Students’ average likelihood of displaying college-going behaviors, by participation in the core elements of developing an education and/or career plan (ECP), 2019/10 through fall 2013

Core element and college-going behavior	Average likelihood of displaying college-going behavior (percent)		Difference in likelihood (percentage points)
	Not participating in the element	Participating in the element ^a	
Adult support: parent			
Completing a college preparatory curriculum	28.0	34.4	6.4***
Enrolling in any type of postsecondary institution	62.8	68.9	6.0**
Enrolling in a bachelor’s degree program	28.0	31.7	3.7*
Adult support: teacher			
Applying to a postsecondary institution	78.6	83.0	4.4**
Adult support: other			
Enrolling in any type of postsecondary institution	74.7	68.9	-5.9*
Yearly review			
Submitting the FAFSA	65.8	70.4	4.6**
Applying to a postsecondary institution	80.2	83.0	2.7**
Enrolling in any type of postsecondary institution	65.9	68.9	3.0*

* Significant at $p < .05$; ** significant at $p < .01$; *** significant at $p < .001$.

Note: The sample includes 12,600 students (value has been rounded to the nearest 10). Only statistically significant results from the models are displayed; see tables C13–C19 in appendix C for full model results.

a. Adjusted mean.

Source: Authors’ analysis of data from the High School Longitudinal Study of 2009.

None of the core education and career planning elements examined was associated with enrolling in an associate degree or certificate program. While adult support from a parent to develop an ECP in grade 9 significantly predicted a student’s probability of enrolling in a bachelor’s degree program, no core elements were associated with enrolling in an associate degree or certificate program (see tables C18 and C19 in appendix C).

Limitations

This study of students’ education and career planning experiences in high school has some important limitations. First, the study was correlational and thus did not measure the causal effect of participating in education and career planning on college-going behaviors. The analysis accounted for available student and school characteristics, but other unmeasured characteristics might have contributed to the observed associations. For example, students who received support from a parent to develop an ECP might have had other unmeasured advantages that led them to enroll in college. Because of these and other limitations (see box 2), the analysis is best understood as a broad examination of relationships between students’ reported participation in selected elements of an education and career planning process and their college-going behaviors rather than as an evaluation of the quality of the ECPs or their effectiveness in improving college going.

Implications

Education and career planning, given its prevalence in U.S. public high schools, rightly merits examination as a potential strategy for improving college access. States might wish to pay close attention to how ECP policies are designed, especially with regard to the supports that students receive in the planning process. This study found that, despite the prevalence of education and career planning as a school requirement, many students who participate in the planning process do so without the support of adults that could guide them in planning for college and careers. While most public high school students developed an ECP in the fall of grade 9 (62 percent), fewer

received help from an adult to do so (44 percent). Regardless of when students developed their ECP, an even smaller share (22 percent) reviewed it at least yearly with an adult in school by the spring of grade 11. States could examine the extent to which their policies go beyond mandating the use of ECPs to encourage specific forms of adult support and review in the planning process.

Based on the correlational findings from this study, states, districts, and schools that design or implement ECP requirements could also explore the mechanisms through which teachers and parents might influence students' planning and college-going behaviors. The study found a positive correlation between parent support in ECP development in grade 9 and college enrollment. It is possible, however, that families in which parents are more involved in providing guidance on postsecondary education and careers also support students in other important ways that contributed to the observed association with college enrollment. Future research could examine the extent to which various forms of parent engagement and support in ECP development improve students' college-going behaviors. In a similar vein the positive correlation between teacher support in early planning and college application (but not enrollment) highlights the need to understand why students who received teacher support were more likely to apply to college but not to enroll.

Education leaders might also want to examine school counselors' role in education and career planning. On the one hand, the study found no significant relationships between counselor support in developing an ECP in grade 9 and any of the college-going behaviors examined. On the other, a low share of students (11 percent) received support from a counselor to develop their ECP in grade 9. Most counselors might not have been tasked with supporting the development and review of students' ECPs, or their high caseloads (National Association for College Admission Counseling & American School Counselor Association, 2018) might have precluded them from fulfilling this responsibility with many students. More research is needed to assess the extent to which counselors could provide such support and whether their support could influence students' application, coursetaking, and enrollment behaviors.

This study also underscores the need for more detailed data on education and career planning. Future research could increase practitioners' and policymakers' understanding of what high-quality education and career planning looks like by developing more precise measures of student participation. One such measure could capture the content of students' ECPs; another could capture the frequency with which students engage in education and career planning discussions with their teachers during regular class time. Such information could be especially useful given the discrepancy between the proportion of students who report participating in education and career planning and the higher proportion of counselors who report that their school requires ECPs. More information about how students use their ECP—for example, the extent to which they use it to make college application decisions in consultation with a supportive adult—might also help researchers develop measures of ECP quality.

With better data and more nuanced measures of quality, researchers could in turn use more rigorous methods to understand which planning activities influence desired college-going behaviors. For example, future research could use an experimental design to compare the outcomes of a group of students who participate in a targeted planning intervention with the outcomes of an equivalent comparison group of students who do not participate. Such research could also examine how variation in the implementation of ECP interventions might bolster or attenuate their potential effectiveness in different school settings. Given the large number of states that require ECPs for high school students, the specific format of ECPs (paper versus digital, single page versus detailed portfolio, and so forth) likely varies from place to place. As researchers gather more evidence on the potential effectiveness of ECP interventions in specific contexts, policymakers can develop an understanding of the common features of education and career planning that have the greatest potential for impacting student outcomes.

References

- Arizona Department of Education. (2021a). *ECAP*. Retrieved February 16, 2021, from <https://www.azed.gov/ecap>.
- Arizona Department of Education. (2021b). *ECAP at a glance*. <https://www.azed.gov/sites/default/files/2021/02/ECAP.At%20A%20Glance.doc.pdf>.
- Arizona Department of Education. (2021c). *ECAP implementation*. Retrieved February 16, 2021, from <http://www.azed.gov/ecap/ecap-education-and-career-action-plan/implementation-survey/>.
- Arizona Department of Education. (2021d). *Counselors & educators*. Retrieved February 16, 2021, from <http://www.azed.gov/ecap/ecap-education-and-career-action-plan/counselors-educators/>.
- Arizona State Board of Education. (2008, February 28). Section R7–2–302.05 - Arizona Education and Career Action Plan for Students in grade 9–12. <https://www.azed.gov/sites/default/files/2016/10/r7-2-302.05.pdf>.
- Britton, T., & Spencer, G. (2020). Do students who fail to plan, plan to fail? Effects of individualized learning plans on post-secondary transitioning. *Teachers College Record*, 122(5), 1–36. <http://www.tcrecord.org/Content.asp?ContentId=23277>.
- Duffy, H. (2020, January 10). *Individual learning plans: Students creating their pathways to postsecondary success*. Roundup Blog Series. Regional Educational Laboratory Southwest. Retrieved September 20, 2021, from <https://ies.ed.gov/ncee/edlabs/regions/southwest/blogs/swccr2-ilp.aspx>.
- Duprey, M. A., Pratt, D. J., Jewell, D. M., Cominole, M. B., Fritch, L. B., Ritchie, E. A., Rogers, J. E., Wescott, J. D., & Wilson, D. H. (2018). *High School Longitudinal Study of 2009 (HSL:09) base-year to second follow-up data file documentation* (NCES No. 2018–140). U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.
- Gandal, M. (2016, April). Getting serious about college and career readiness (Commentary). *Education Week*. Retrieved February 16, 2021, from <http://www.edweek.org/ew/articles/2016/04/20/getting-serious-about-college-and-career-readiness.html>.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60(1), 549–576.
- Hein, V., Smerdon, B., & Sambolt, M. (2013). *Predictors of postsecondary success*. College & Career Readiness & Success Center at American Institutes for Research. https://ccrcenter.org/sites/default/files/CCRS%20Center_Predictors%20of%20Postsecondary%20Success_final_0.pdf.
- Malin, J. R., Bragg, D. D., & Hackmann, D. G. (2017). College and career readiness and the Every Student Succeeds Act. *Educational Administration Quarterly*, 53(5), 809–838. <https://doi.org/10.1177/0013161X17714845>.
- National Association for College Admission Counseling & American School Counselor Association. (2018). *State-by-state student-to-counselor ratio report: 10 year trends*. <https://www.nacacnet.org/globalassets/documents/publications/research/state-by-state-ratio-report.pdf>.
- Office of Disability Employment Policy. (2016). *Individualized learning plans across the U.S.* U.S. Department of Labor. Retrieved February 16, 2021, from <https://www.dol.gov/odep/ilp/map/>.
- Office of Planning, Evaluation and Policy Development. (2017). *Issue brief: Personalized learning plans*. U.S. Department of Education. <https://www2.ed.gov/rschstat/eval/high-school/personalized-learning-plans.pdf>.

- Rosenbaum, J., Ahearn, C., Becker, K., & Rosenbaum, J. (2015). *The new forgotten half and research directions to support them*. William T. Grant Foundation. <https://eric.ed.gov/?id=ED565750>.
- Rumberger, R., Addis, H., Allensworth, E., Balfanz, R., Bruch, J., Dillon, E., Duardo, D., Dynarski, M., Furgeson, J., Jayanthi, M., Newman-Gonchar, R., Place, K., & Tuttle, C. (2017). *Preventing dropout in secondary schools* (NCEE No. 2017–No. 4028). Educator’s Practice Guide. U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance. Retrieved February 16, 2021, from <https://ies.ed.gov/ncee/wwc/PracticeGuide/24>.
- Smith, K. S., Lee, L., Carr, M., Weatherill, A., & Lancashire, H. (2020). *Self-study guide for career readiness in secondary schools* (REL 2020–035). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. <http://ies.ed.gov/ncee/edlabs>.
- Solberg, V. S., Phelps, L. A., Haakenson, K. A., Durham, J. F., & Timmons, J. (2012). The nature and use of individualized learning plans as a promising career intervention strategy. *Journal of Career Development, 39*(6), 500–514.
- Symonds, W. C., Schwartz, R., & Ferguson, R. F. (2011). *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Pathways to Prosperity Project, Harvard University Graduate School of Education.
- Zinth, J. D. (2014). College counseling in high schools: Advising state policy. *Education Commission of the States Progress of Education Reform Series, 15*(6), 1–8.

REL 2022–127

November 2021

This report was prepared for the Institute of Education Sciences (IES) under Contract ED-IES-17-C-0012 by the Regional Educational Laboratory West administered by WestEd. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

This REL report is in the public domain. While permission to reprint this publication is not necessary, it should be cited as:

Torre Gibney, T., & Rauner, M. (2021). *Education and career planning in high school: A national study of school and student characteristics and college-going behaviors* (REL 2022–127). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West. <http://ies.ed.gov/ncee/edlabs>.

This report is available on the Regional Educational Laboratory website at <http://ies.ed.gov/ncee/edlabs>.