National Association for College Admission Counseling

Preparing Students for College:

What High Schools Are Doing and How Their Actions Influence Ninth Graders' College Attitudes, Aspirations and Plans

by Alexandria Walton Radford and Nicole Ifill

Foreword

In 2009, the US Department of Education launched the ambitious "High School Longitudinal Study" to develop an understanding of student pathways to college and careers. According to the Department's National Center for Education Statistics (NCES),

> *[t]he High School Longitudinal Study of 2009 (HSLS:09) is a nationally representative, longitudinal study of more than 21,000 9th graders in 944 schools who will be followed throughout their secondary and postsecondary years. The study focuses on understanding students' trajectories from the beginning of high school into postsecondary education, the workforce, and beyond. What students decide to pursue when, why, and how are crucial questions for HSLS:09, especially, but not solely, in regards to science, technology, engineering, and math (STEM) courses, majors, and careers. This study features a new student assessment in algebraic skills, reasoning, and problem solving and includes, like past studies, surveys of students, their parents, math and science teachers, school administrators, as well as a new survey of school counselors. The first wave of data collection for HSLS:09 began in the fall of 2009 and produced not only a nationally representative dataset but also state representative datasets for each of 10 states. The next data collection begins in January 2012.*

The National Association for College Admission Counseling (NACAC), with a membership of more than 13,000 school counselors and college admission officers nationwide, believes that this longitudinal study will add much-needed contextual data to the consideration of school counselors' role in the transition to postsecondary education.

NACAC partnered with MPR Associates to examine the first year data, which covers the 9th grade year for the cohort of students in the study, for information about school services, counselor opinions and activities, and student/family perceptions about making the transition to college. We will continue to monitor and report on HSLS data as successive stages are completed in order to develop useful information for educators and students/families based on the latest research available.

Given the longitudinal nature of this study, the research "payoff" may be years in the making. However, our research at this early stage has yielded some insight into the early formation of college plans and the role of the school counselor in helping to shape them. As the executive summary notes, counselors' attention to establishing college "knowledge" has a significant, positive relationship to first-generation students' belief that their family can afford college. In addition, interaction between a school counselor and a student's family was positively related to first-generation students' plans to enroll in college.

This report covers much more information, but these insights alone will enable school counselors, school districts, and associations like NACAC to help guide the way to higher education for the next generation of students.

Introduction

Perhaps never before in our nation's history has helping Americans successfully transition into and complete postsecondary credentials been more important. Increasing Americans' educational attainment is critical for our country's economic competitiveness. The United States is now 16th out of 36 developed countries in the percentage of workers age 25 through 34 who hold a postsecondary credential.[1] Improving postsecondary educational attainment is also essential for helping citizens individually. Compared to Americans with high school diplomas, Americans with bachelor's or advanced college degrees are half as likely to be unemployed and earn 66 percent more in lifetime earnings.[2] In recent years, both the Obama administration and prominent foundations like the Lumina Foundation and Gates Foundation have recognized the importance of improving college degree attainment rates, both for the nation and for individuals' well-being, and have set goals to increase the proportion of Americans with postsecondary credentials.[3] To help meet these objectives, it is essential that we facilitate students' transition from high school to postsecondary education.

To this end, this report analyzes new, nationally representative data from the High School Longitudinal Study of 2009 (HSLS:09). Part I of this report examines what high schools are doing to help students transition to postsecondary education. Broadly, it examines college-level course offerings; counselors' time, attitudes and actions; and students' interactions with counselors. Each outcome was analyzed by the following high school characteristics: high school type (public or private), four-year college-going rate, size, locale, Hispanic students' representation, black students' representation, and the percentage of students at public high schools receiving free or reduced-price lunch (as a proxy for low-income students' representation).[4] Chi-squared tests were used to determine where differences were statistically significant at the .05 level. Significant differences most commonly occurred between public and private high schools and among three categories of four-year college-going rates[5]; therefore, this study consistently presents results by these high school characteristics. Other high school characteristics are reported only when statistically significant differences emerged.[6]

Part II of this report helps identify what schools can do to get students on a path that should lead to their successfully transition to college. To that end, this section examines how counseling characteristics are related to ninth-graders' perceptions about college affordability, intention to enroll in a bachelor's degree program within a year of completing high school, and plans to take the SAT or ACT. In this section, descriptive statistics are presented first, followed by a discussion of regression results that control for high school, student and parent characteristics. The role of counseling characteristics on first-generation college students' attitudes and plans receives special attention.

[1] Organisation for Economic Co-operation and Development (OECD). (2011). *Education at a Glance 2011: Highlights.* Paris: OECD Publishing. Retrieved May 17, 2012, from http://www.oecd.org/dataoecd/61/5/48631550.pdf.

[2] Baum, S., Ma, J., and Payea, K. (2010). *Education Pays 2010: The Benefits of Higher Education for Individuals and Society.* College Board: Washington, DC.

[3] Lederman, D. (2009, February 25). "College for All." *Inside Higher Ed.*

[4] The categories used for these investigations and the distribution by category for each of these high school characteristics are noted in Appendix Table 1.

[5] Four-year college-going rates are presented in order to know what high schools with cultures of high college-going rates are doing differently from other high schools. It is important to keep in mind that these higher college-going rates could be driving counselors' behavior as much as their counselors' behavior are driving these higher college-going rates.

[6] While chi-squared tests were used to determine which high school characteristics to present, when comparisons between two specific estimates were made in the text, t-tests were used to check whether that difference is statistically significant at the .05 level.

Executive Summary

COLLEGE-LEVEL COURSES

- In 2009, 86 percent of high schools provided opportunities for students to participate in dual enrollment, and two-thirds had Advanced Placement (AP) classes on site, but only about three percent offered an International Baccalaureate (IB) program. Public schools were more likely than private schools to offer dual enrollment. Schools with a larger number of students were more likely than other schools to provide AP classes or an IB program.

COUNSELORS' TIME

- **Student-to-Counselor Ratios:** Fifty percent of all high schools had student-to-counselor ratios of more than 250 to 1. Counselors at public high schools had a larger median caseload (299 students) than counselors at private high schools (106). Schools with more students were also more likely to have higher student-to-counselor ratios.

- **Time Spent on College Counseling:** About half of all high school counselors spent 21 percent or more of their time assisting students with college readiness, selection and applications. Not surprisingly, schools with higher four-year college-going rates were more likely than those whose rates were lower to spend a greater proportion of their time on college counseling.

COUNSELORS' ATTITUDES

- **Emphasis on Postsecondary Preparation:** Forty-eight percent of counselors asserted that helping students "prepare for postsecondary schooling" was their counseling program's primary goal. Counselors chose this goal more often than any of the three other options from which they could choose, which included helping students "improve their achievement in high school" (23 percent); "with their personal growth and development" (21 percent); and "prepare for work goals after high school" (seven percent). Schools with higher four-year college-going rates and schools spending a larger proportion of their time on college counseling were more likely to indicate that preparing students for postsecondary schooling was their primary goal.

- **Giving Up on Students:** Thirteen percent of counselors agreed that "counselors in this school have given up on some students." Schools with higher four-year college-going rates were more likely than those with lower rates to strongly disagree with this statement.

COUNSELORS' ACTIONS

- **Career and Education Plans:** Eighty percent of all high schools required that students have a career and/or education plan. Among these schools, 87 percent shared these plans with parents, and among schools that create *and* share plans with parents, 44 percent required a parent's signature on the plan. Public schools were more likely than private schools to establish these student plans. Schools with higher four-year college-going rates were more likely than other schools to insist on a parent's signature.

- **College Counseling Activities:** When provided with a range of college counseling activities, counselors were most likely to report assisting students with obtaining financial aid for college (93 percent), consulting with postsecondary representatives about requirements and qualifications (92 percent), holding or participating in college fairs (86 percent), and holding a session on the transition to college for students or parents (83 percent). Other activities were less common. About two-thirds of counselors indicated that they organize visits to colleges or have a program in place that encourages students not considering college to attend. Nevertheless, this first action was significantly more likely to occur in schools where the percentage of black students exceeded 50 percent, and this second action was significantly more likely to occur in schools where the percentage of Hispanic students did. Overall, about one-third of schools enrolled students in special college-prep programs like Upward Bound. However, participation in such programs was significantly greater in schools with higher percentages of black or Hispanic students, and in public schools with a high percentage of low-income students.

STUDENTS' INTERACTIONS WITH COUNSELORS

- Only 18 percent of ninth-grade students had spoken with a counselor about college—a lower proportion than had spoken with a teacher, friends, mother, or father. This percentage did not differ by type of school or its four-year college-going rate. Nevertheless, students attending schools where more than 50 percent of the student body is black were more likely than other students to have spoken to a counselor.

COUNSELING CHARACTERISTICS' ROLE IN NINTH GRADERS' COLLEGE ATTITUDES AND PLANS

- Controlling for an array of factors, the percentage of time that counselors spent on college readiness activities was positively related to first-generation college students' belief that their family can afford college.

- A family member talking to a counselor (or teacher) about postsecondary admission requirements was positively related to first-generation college students' plans to enroll in a bachelor's degree program, even after controlling for multiple other characteristics.

- Controlling for other factors, first-generation college students' speaking to a counselor about college was positively related to their intending to enroll in a bachelor's degree program and taking or planning to take the SAT or ACT.

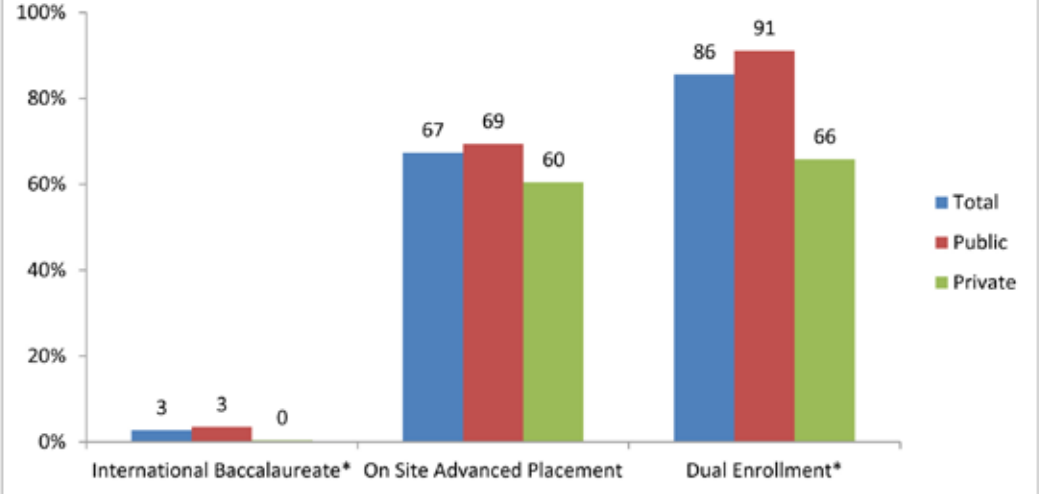
COLLEGE-LEVEL COURSE OFFERINGS

One way in which high schools prepare their students for the academic transition to college is to offer college-level courses. There are three ways that high schools usually offer such classes: an International Baccalaureate (IB) program,[7] Advanced Placement (AP)[8] courses or a dual enrollment program.[9] As Figure 1 shows, IB programs were still relatively rare in 2009, offered at just three percent of all high schools. In contrast, AP offerings were much more common, with more than two-thirds of high schools indicating that they offered AP courses on site.[10] Dual enrollment, however, was the most commonly available program: 86 percent of counselors stated that their high school "provides opportunities to participate in concurrent or dual enrollment." While it is not known how easy it is for students to pursue dual enrollment, this method seems to be schools' most prevalent way of providing college-level courses. This result may not be surprising because enabling students to take college courses elsewhere is probably the least costly alternative. It does not necessitate finding high school staff to teach a college-level course or identifying a sufficient number of students to enroll the way an IB program or on-site AP courses might. In addition, unlike AP and IB courses, which are generally geared toward advanced students, dual enrollment courses can be effective for students with a wide range of academic preparation.[11]

These college-level course offerings do differ by high school characteristics. Examining high school type first, Figure 1 reveals that though relatively small percentages of both public and private high schools[12] offered IB programs, public high schools were significantly more likely to do so. The percentage of schools offering AP courses on site did not differ significantly by high school type, but in the case of dual enrollment, 91 percent of public high schools provided dual enrollment compared to 66 percent of private high schools.

Not surprisingly, high schools' likelihood of offering college-level courses was associated with the rate at which graduating seniors matriculated at four-year, bachelor's degree-granting colleges in the previous school year. Throughout this report, three categories are used to describe this four-year college-going rate: low, middle, and high, which signify rates of 0–33, 34–67, and 68–100 percent, respectively. Figure 2 depicts that all three types of college-level offerings were most commonly provided at the middle category of high schools. That is, schools in which one-third to two-thirds of their graduates enroll in a four-year college offered college-level courses more often than schools with lower and higher college-going rates. For example, 86 percent of such schools offered AP courses compared to just 46 percent of schools with low college-going rates and 71 percent with high college-going rates. Ninety-six percent of schools in the middle category offered dual enrollment compared to 69 percent in the high category.[13]

Figure 1: College-Level Courses, by High School Type



NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

[7] Schools that participate in IB programs provide students with at least six college-level courses taught by high school faculty. Students receive college credit by passing subject exams administered to IB students worldwide. See: "What is the IB Diploma Programme?" A Guide to the International Baccalaureate® (IB) Diploma Programme for Universities and Colleges. *The International Baccalaureate Organization.* Retrieved August 14, 2012, from http://www.ibo.org/diploma/recognition/guide/slideb.cfm.

[8] Unlike IB programs where schools must commit to offering at least six college-level courses, schools can choose to administer as few or as many of the 34 AP courses available as they like. High school teachers provide the instruction and students earn college credit by passing the exam administered to all AP students for that subject. See: "AP: About." The College Board. Retrieved August 14, 2012, from http://www.collegeboard.com/student/testing/ap/about.html.

[9] While IB and AP courses are generally taught at high schools and are designed for high school students, dual enrollment courses are generally taught at colleges and are designed for college students. High school students typically enroll in these college courses along with other college students. See: Karp, M., Calcagno, J., Hughes, K., Jeong, D., and Bailey, T. (2007). *The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States.* Minneapolis, MN: National Research Center for Career and Technical Education.

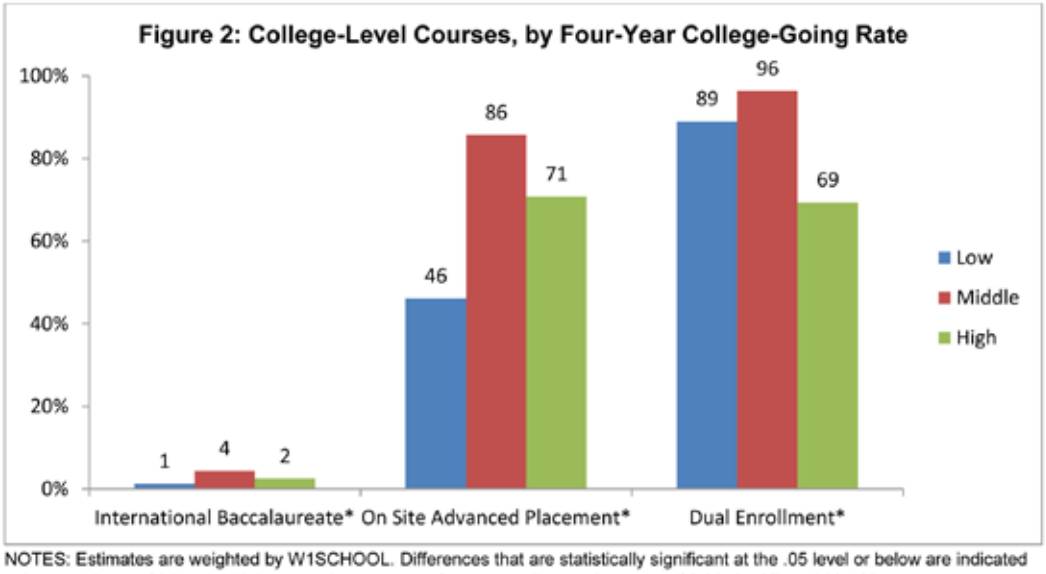
In general, the likelihood of providing IB and AP course offerings increased with the size of the school (Figure 3). For example, while a relatively small percentage of schools offered IB programs, the likelihood of doing so increased from two percent at schools with enrollments of 500–1,000 students to 12 percent at schools with enrollments of more than 2,000 students. For AP offerings, roughly half of schools with 500 or fewer students reported offering AP courses on site, whereas in schools with more than 1,000 students nearly all did so (96 to 98 percent).[14] In contrast, size did not appear to be related to schools' likelihood of offering dual enrollment: between 82 and 98 percent of schools offered dual enrollment. Again, the lower barriers of entry for schools (not having to obtain their own faculty or find enough students to fill an entire class) may help in making school size less of a factor in offering this type of college-level course.

Two other significant differences by high school characteristics were also apparent. While the percentages are still small, schools were more likely to offer an IB program if they were located in an urban or suburban community (five percent and four percent, respectively) than if they were located in a rural area (one percent) (Appendix Table 2). This result may be related to school size: Other types of college-level course offerings did not differ by locale. In addition, when examining just public high schools, those schools with a lower proportion of low-income students (measured as less than 20 percent of the student body receiving free or reduced-price lunch) were much more likely to offer at least one AP course on site (93 percent) than schools with a greater proportion of low-income students (between 50 and 76 percent) (Appendix Table 3).

COUNSELORS' TIME

While college-level courses taken during high school can help students prepare for college academics, counselors are critical in helping them navigate the logistics of the transition from high school to college. This section of the report therefore investigates various measures of student access to counselors, both for general academic and personal counseling and for college counseling specifically.

Figure 4 shows that half of all high schools reported a student-to-counselor ratio of 250 or fewer to 1. However, public and private high schools differed markedly on this measure. Only 39 percent of public high schools reported this relatively low ratio compared to 89 percent of private high schools—a 50 percentage-point spread. In addition, 20 percent of public high schools reported counselor caseloads of 351–450, and another 15 percent reported caseloads of more than 450. Only one percent of private high schools fell into each of these two high caseload categories. This difference by school type is also reflected in the overall median caseload: 299 students at public high schools compared to 106 at private high schools.[15]



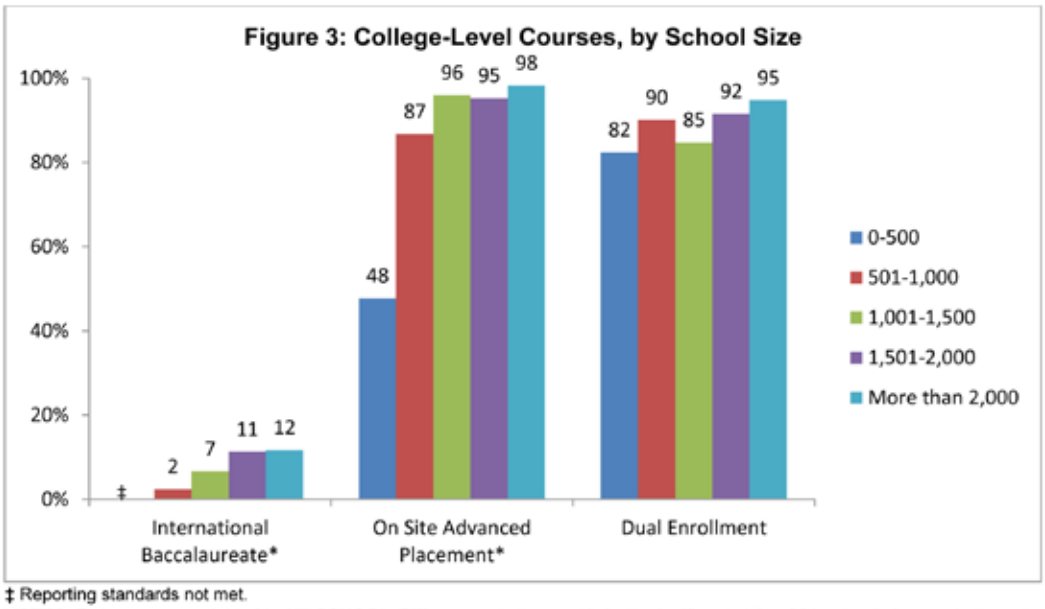
NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively.

[10] While students can also take AP courses online (see Shellenbarger, S. (2011, April 20). "For AP Students, a New Classroom Is Online." *The Wall Street Journal*. Retrieved August 14, 2012, from http://online.wsj.com/article/SB10001424052748703922504576272872529316328.html), the HSLS survey asked administrators to report whether their school offered AP courses on site.

[11] Karp, M., Calcagno, J., Hughes, K., Jeong, D., and Bailey, T. (2007). *The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States*. Minneapolis, MN: National Research Center for Career and Technical Education.

[12] Throughout this report, the private school category encompasses Catholic and non-Catholic high schools.

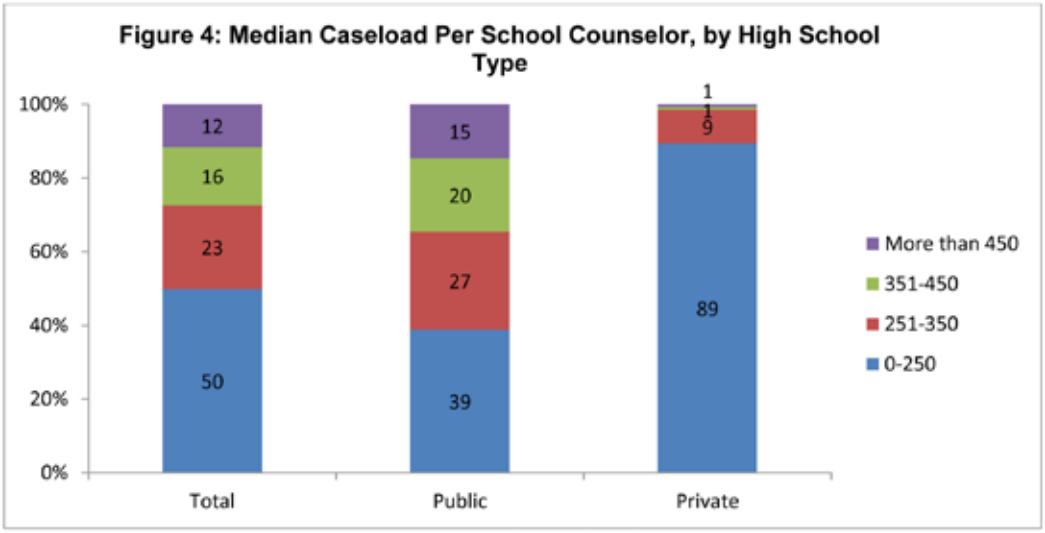
[13] The reason schools in the middle category may be more likely to offer dual enrollment than schools in the high category is that the former category of schools sends more students to two-year colleges: 65 percent of schools in the middle four-year college-going category, compared to nine percent of schools in the high category, send more than a quarter of students to two-year colleges. High schools that send more students to community colleges may be more likely to develop relationships with community colleges. In particular, such high schools may work with local community colleges to develop career and technical programs of study that span both high school and college and create dual enrollment programs as part of this process.



‡ Reporting standards not met.

NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.



NOTES: Estimates are weighted by W1SCHOOL. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

[14] It is important to remember that these percentages reflect on-site AP courses. Smaller schools may offer opportunities for students to take AP courses online. For more information, see Shellenbarger, S. (2011, April 20). "For AP Students, a New Classroom Is Online." *The Wall Street Journal.* Retrieved August 14, 2012, from http://online.wsj.com/article/SB10001424052748703922504576272872529316328.html and the Iowa Advanced Placement Academy website. Iowa City, IA: University of Iowa, Belin-Blank Center, University of Iowa. Available at http://www.education.uiowa.edu/belinblank/Students/ioapa/.

[15] NACAC's Counseling Trends Survey also found this discrepancy between public and private high schools, though the gap was not quite as large. In that study, the mean caseload was 285 at public high schools and 215 at private high schools. See Clinedinst, M., Hurley, S., and Hawkins, D. (2011). *2011 State of College Admission.* Arlington, VA: National Association for College Admission Counseling.

Student-to-counselor ratios also differed by the four-year college-going rate of the high school. Figure 5 clearly demonstrates that schools with low and high college-going rates were more likely than schools with middle-level rates to have caseloads of 250 or fewer students per counselor. Schools in the low and high categories had median caseloads of 261 and 234, respectively, both of which were significantly lower than the middle category's caseload of 323.

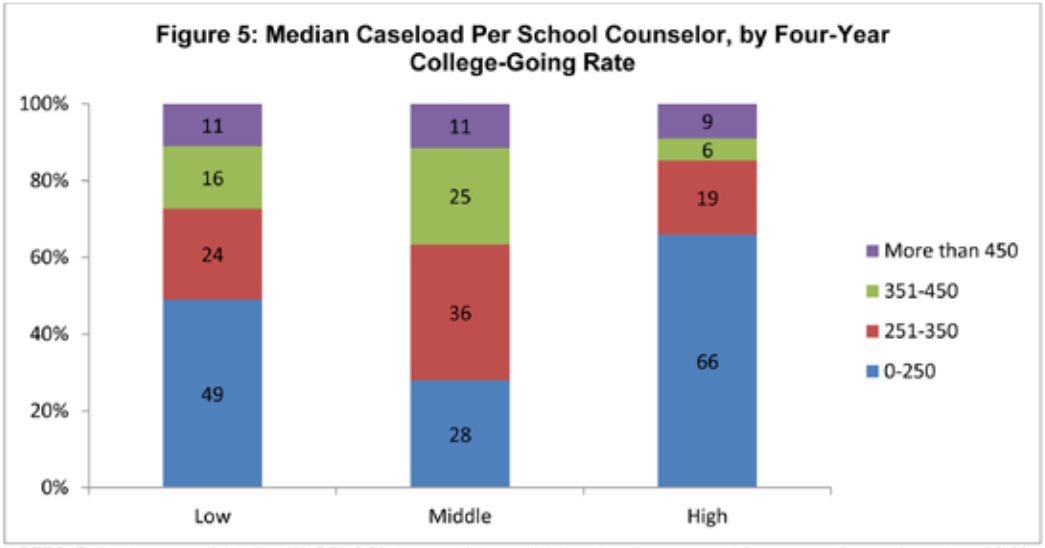
Because school size reflects the number of students at the school, it is not surprising that it is significantly related to counselor caseloads. As shown in Figure 6, as school size grows the percentage of schools with the lowest student-to-counselor ratio (0 to 250) declines, while the percentage of schools with the highest ratio (450 or more) generally increases. Likewise, the median counselor caseload rises monotonically as school size increases, with caseloads of 183, 293, 346, 391, and 423, respectively, across categories. Notably, 37 percent of counselors at schools with more than 2,000 students were responsible for more than 450 students.

Before moving on, it is worth noting that HSLS asked counselors whether their school had one or more counselors whose primary responsibility was assisting students with college readiness, selection and applications. Sixty-three percent responded affirmatively. Interestingly, this percentage did not differ significantly by high school type or four-year college-going rate (Appendix Table 4) or any of the other high school characteristics examined.

Figure 7 shows the percentage of time that counseling staff spend on various counseling activities. It not only highlights the variety of demands on counselors, but also indicates that college readiness counseling generally takes up a larger proportion of counselors' time than many other activities.[16] About 13 percent of counselors spent more than half of their time and 38 percent spent between one-fifth and half of their time counseling students on college readiness, selection and applications. Still, 20 percent of all counselors spent no more than a tenth of their time and 30 percent spent between a tenth and a fifth of their time helping students prepare for college in this way.

The distribution of time spent on college counseling differed by four-year college-going rate but not by high school type (Appendix Table 5) or the other high school characteristics examined. As Figure 8 shows, schools with high college-going rates were significantly more likely than other schools to have counseling staffs who spent more than 50 percent of their time on college counseling: 17 percent compared to two percent and four percent of schools with low and middle-level college-going rates, respectively. The percentage of high schools with counselors spending 21 to 50 percent of their time on college preparation activities also increases monotonically as four-year college-going rate grows: schools with a high college-going rate were 33 percentage points more likely to spend this amount of counseling time than high schools with a low college-going rate. A sizeable three-quarters of schools with the lowest college-going rate spent only 20 percent or less of their time on college counseling activities.

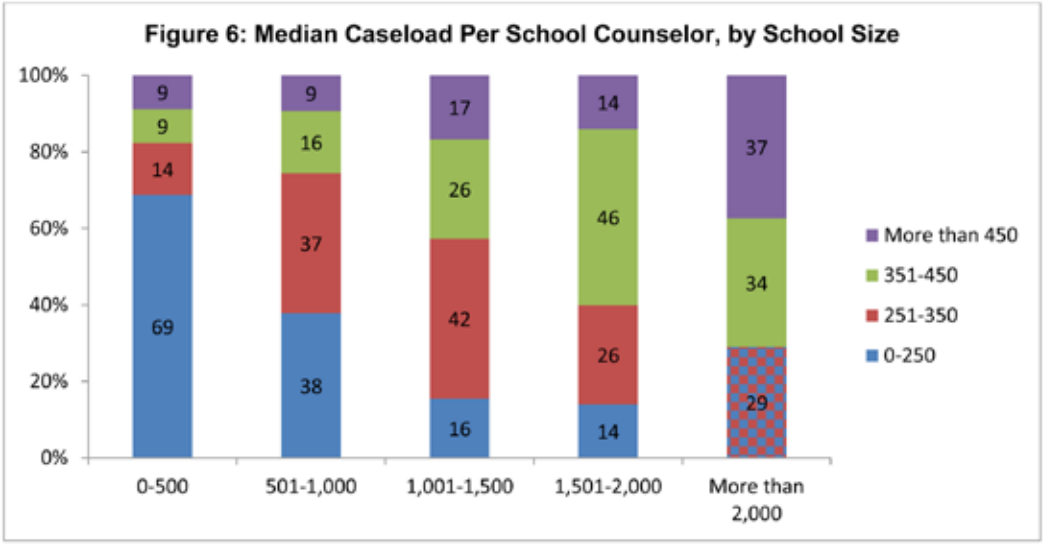
Figure 5: Median Caseload Per School Counselor, by Four-Year College-Going Rate



NOTES: Estimates are weighted by W1SCHOOL. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively. Details may not sum to totals due to rounding.

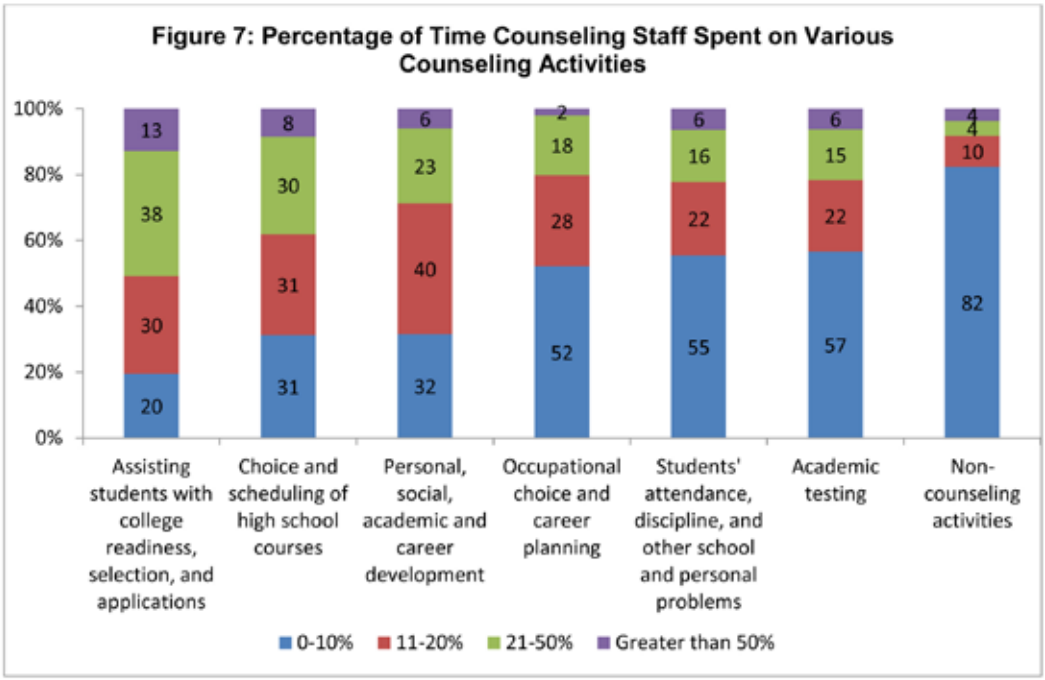
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

[16] NACAC's Counseling Trends Survey revealed the same findings. See Clinedinst, M., Hurley, S., and Hawkins, D. (2011). *2011 State of College Admission.* Arlington, VA: National Association for College Admission Counseling.



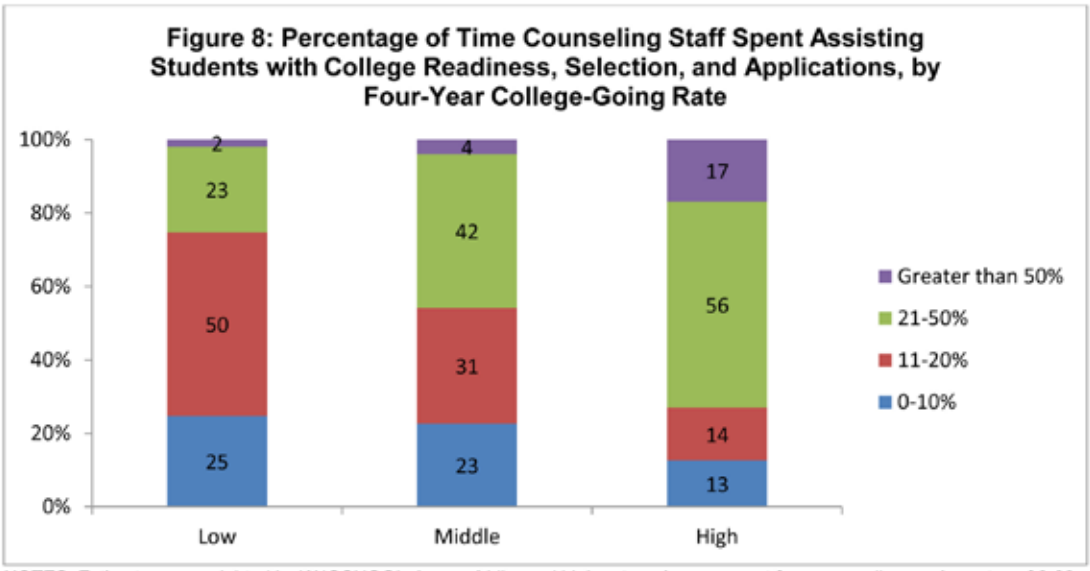
NOTES: Estimates are weighted by W1SCHOOL. Due to small sample sizes, caseloads of 0 to 250 and 251 to 350 were combined for schools with more than 2,000 students. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.



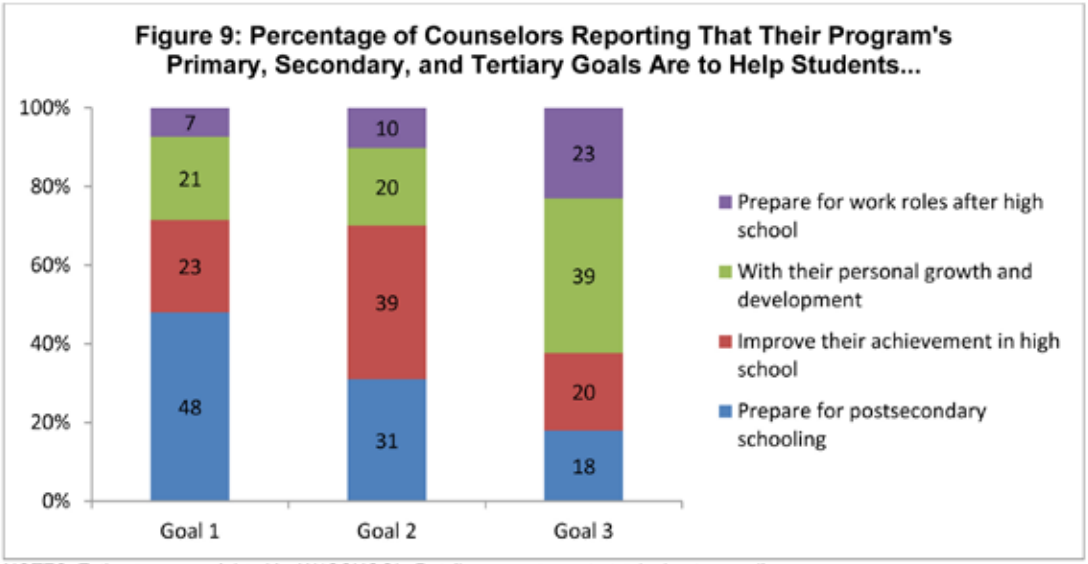
NOTES: Estimates are weighted by W1SCHOOL. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.



NOTES: Estimates are weighted by W1SCHOOL. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively. Details may not sum to totals due to rounding.

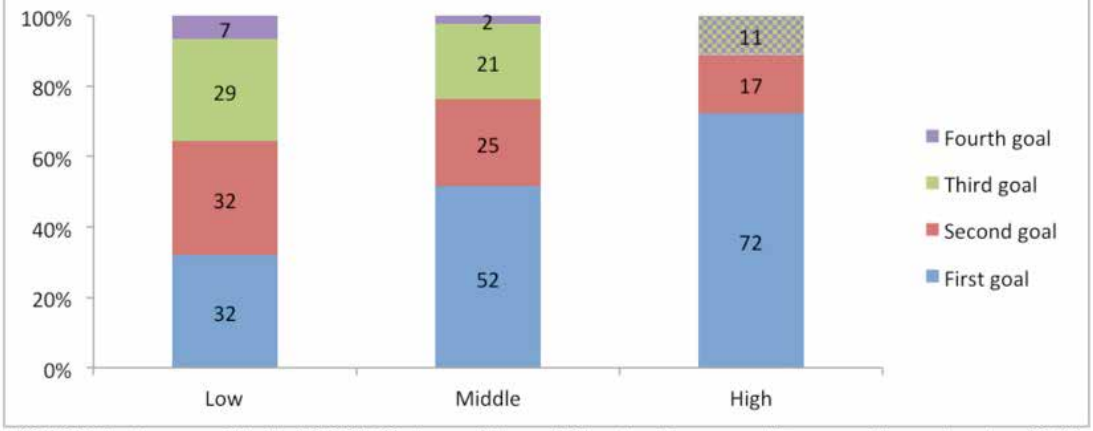
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.



NOTES: Estimates are weighted by W1SCHOOL. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

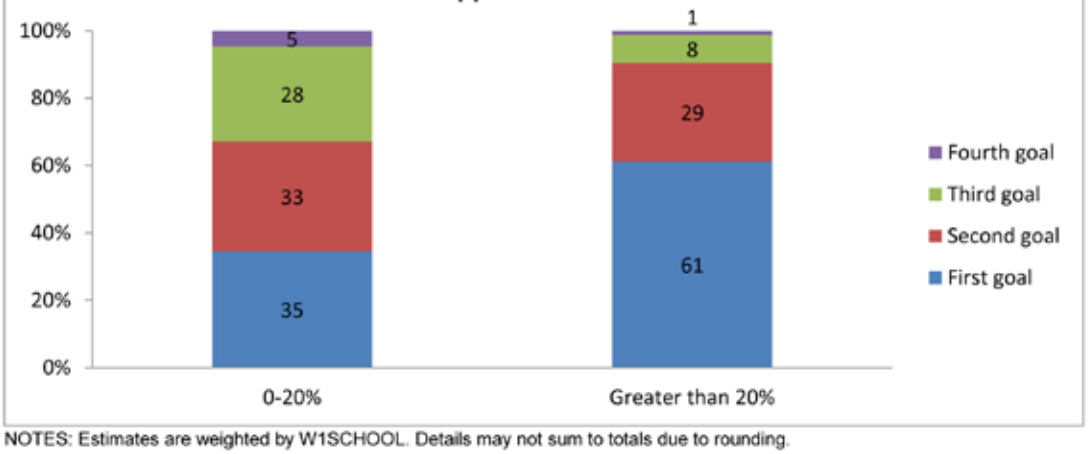
Figure 10: Emphasis Counseling Program Places on Preparing Students for Postsecondary Schooling, by Four-Year College-Going Rate



NOTES: Estimates are weighted by W1SCHOOL. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively. Due to small sample sizes, "third goal" and "fourth goal" categories were combined for high schools with high four-year college-going rates. Details may not sum to totals due to rounding.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Figure 11: Emphasis Counseling Program Places on Preparing Students for Postsecondary Schooling, by Percentage of Hours Counseling Staff Spent on College Readiness, Selection, and Applications



NOTES: Estimates are weighted by W1SCHOOL. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

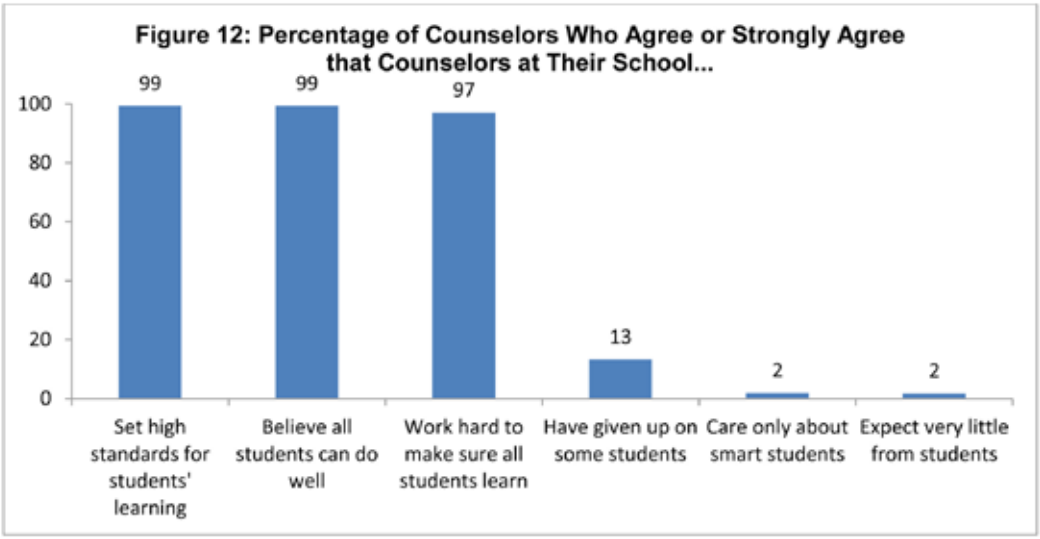
COUNSELORS' ATTITUDES

Counselor attitudes may also shape the college counseling that schools provide. In this study, attitudes were measured in a couple of ways. First, counselors were asked to rank their counseling program's most emphasized goals. Figure 9 reveals that nearly half (48 percent) of counselors chose helping students "prepare for postsecondary school" as their first goal. In comparison, a little less than a quarter (23 percent and 21 percent, respectively) selected help students "improve their achievement in high school" and help students "with their personal growth and development." Only seven percent chose help students "prepare for work roles after school as their first goal."[17] Thirty-one percent of counselors ranked preparing students for postsecondary education as their second goal, and 18 percent chose it as their third goal.

The priority that counseling staff placed on postsecondary preparation did not differ by high school type (Appendix Table 5)[18] or the other school characteristics examined, but it did differ by four-year college-going rate (Figure 10). The percentage of counselors indicating that postsecondary preparation was their program's first goal rose from 32 percent, to 52 percent, to 72 percent, as their college-going rate increased.

This study also examined whether the percentage of counselors who indicated that preparing students for postsecondary education was a top priority differed significantly by other counseling program characteristics. Both counselor caseload and having a dedicated college counselor were not significantly related to whether counselors considered students' preparation for college a top priority, but time spent on college counseling was related. Figure 11 reveals that among counselors in programs that spent 20 percent or less of their time on college counseling, just 35 percent viewed preparing students for postsecondary education as their first goal. In contrast, among counselors in programs that spent more than 20 percent of their time on college counseling, 61 percent felt this activity was their top priority. Thus, it does seem that counselor priorities and the time counselors spend on counseling students are somewhat aligned.

Counselors were also asked about the attitudes of counselors at their school, rating them on a scale of "strongly disagree," "disagree," "agree," and "strongly agree."[19] Figure 12 shows that almost all (97 percent or more) counselors agreed or strongly agreed that counselors at their school "set high standards for students' learning," "believe all students can do well" and "work hard to make sure all students learn." Similarly, very few respondents indicated that counselors agreed with the more negatively worded statements "care only about smart students" or "expect very little from students" (two percent or less). A slightly more mixed response occurred on one item. Thirteen percent of responding counselors agreed that counselors in their school "have given up on some students." The distribution of responses to this statement did not differ by high school type (Appendix Table 5) or the other high school characteristics examined, but did differ by four-year college-going rate. As figure 13 reveals, schools with high college-going rates were 27 percentage points more likely than schools with low rates to strongly disagree with the idea that counselors had given up on students (60 percent vs. 33 percent).



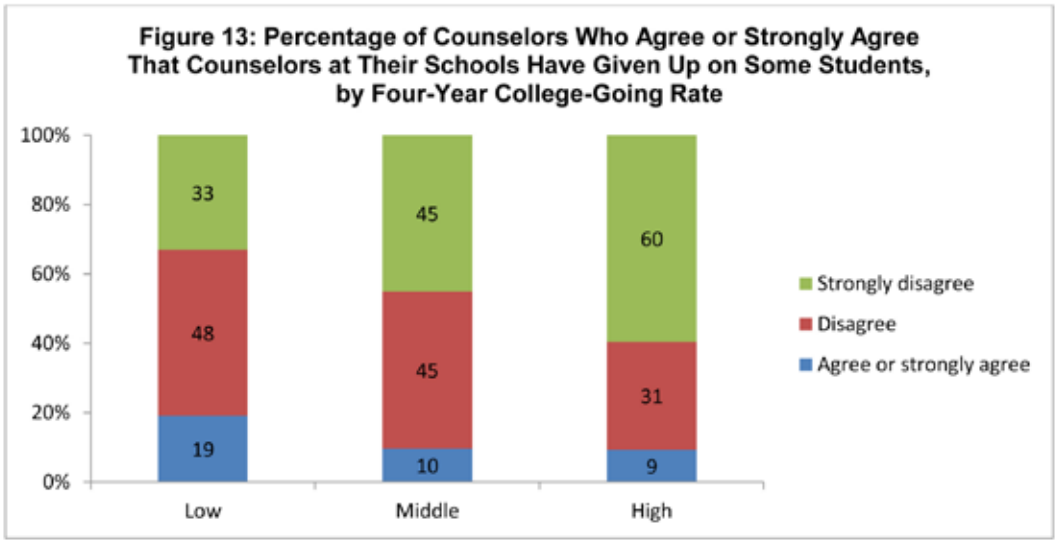
NOTES: Estimates are weighted by W1SCHOOL.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

[17] This result is slightly different from that found through NACAC's Counseling Trends Survey, which asked counselors to rank the importance their department placed on helping students "plan and prepare for postsecondary education," "with their academic achievement in high school," "with personal growth and development," and "plan and prepare for their work roles after high school." In this survey, the second category had a slightly higher mean rank than the first: 1.7 vs. 2.0. See Clinedinst, M., Hurley, S., and Hawkins, D. (2011). *2011 State of College Admission.* Arlington, VA: National Association for College Admission Counseling. These response options used in NACAC's Counseling Trends Survey came from another study conducted by the US Department of Education's National Center for Education Statistics (NCES). See Parsad, B., Alexander D., Farris, E., and Hudson, L. (2003). *High School Guidance Counseling, NCES 2003-015.* Washington, DC: US Department of Education, National Center for Education Statistics. It is important to note that the HSLS survey uses slightly different wording, referring to postsecondary schooling in the first option and to achievement only (not academic achievement) in the second option.

[18] Differences by high school type were observed in NACAC's Counseling Trends Survey. See Clinedinst, M., Hurley, S., and Hawkins, D. (2011). *2011 State of College Admission.* Arlington, VA: National Association for College Admissions Counseling.

[19] For analysis purposes, the latter two categories were collapsed to avoid empty cells.



NOTES: Estimates are weighted by W1SCHOOL. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively. Details may not sum to totals due to rounding.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

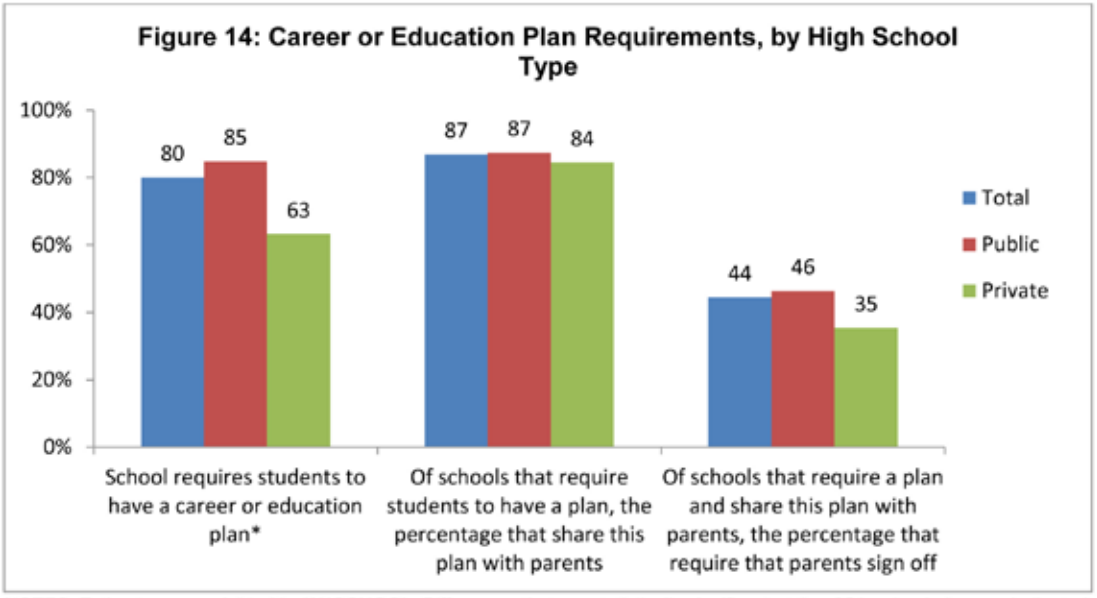
COUNSELORS' ACTIONS

Counselors can perform certain actions to facilitate students' transition between high school and college. One such action involves ensuring that students have a career or education plan. Figure 14 shows that about 80 percent of all schools required students to have a career or education plan; 87 percent of schools whose students had plans shared these plans with parents; and among the schools that shared these plans with parents, 44 percent required parents to sign them. Differences by high school type only occurred on the first outcome (create a plan). Public schools tended to require students to have career and education plans more often than private high schools (85 percent vs. 63 percent). Differences by four-year college-going rate only occurred on the last outcome (parent signature on a plan). As Figure 15 illustrates, among schools that have plans and share them with parents, the percentage of schools requiring parents to sign off increases from 37 percent in schools with low college-going rates to 67 percent in schools with high college-going rates.

Counseling staff also can take actions that are even more directly related to preparing students for the transition to college. Figure 16 displays the options presented to counselors in the HSLS survey. Three general tiers emerge. The least common thing school action was to offer a college prep program like Upward Bound, Gear Up, AVID, or MESA. Just 38 percent of schools did so. Organizing visits to college and having a formal program that encourages students not considering college to do so were more common, with around two-thirds of all counselors responding affirmatively. Holding sessions on transition to college and holding or participating in college fairs were the next most common types of activities (at 83 percent and 86 percent, respectively), followed closely by consulting with postsecondary representatives about requirements and assisting students with finding financial aid for college (92 percent and 93 percent, respectively).

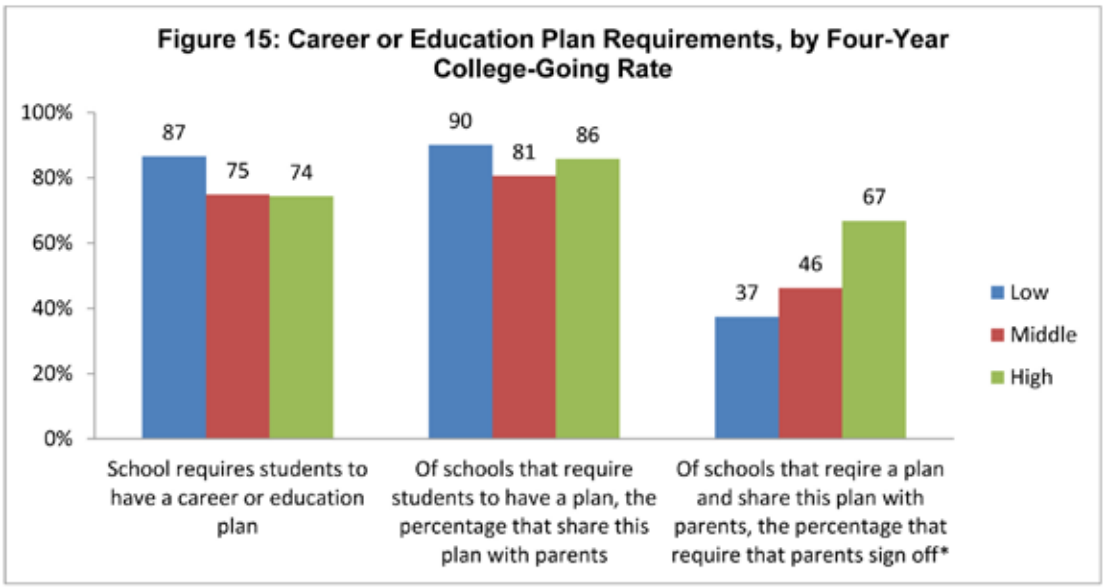
Schools' likelihood of participating in these actions differed somewhat by high school characteristics. Public high schools were significantly more likely than private high schools to enroll students in a college prep program like Upward Bound and to assist students with finding financial aid for college. Involvement in college prep programs like Upward Bound also differed by four-year college-going rate, declining monotonically as the rate increased (Figure 17). In addition, the percentage of schools holding or participating in college fairs differed by the four-year college-going rate. Ninety-seven percent of schools with middle college-going rates participated compared with 76 percent of schools with low rates.

School size also was related to some college counseling actions, with significant differences detected on offering a college prep program, having a formal program to encourage students not considering college to do so, offering an information session on the transition to college for students and parents, and holding or participating in college fairs (Figure 18). Generally, schools with 500 or fewer students appeared to be less likely to take these steps. In addition, on two measures, offering an information session and holding or participating in college fairs, no significant differences were detected between schools with more than 500 students. This suggests that once schools pass a certain size threshold, having a greater numbers of students does not change their likelihood of providing these events.



NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *.

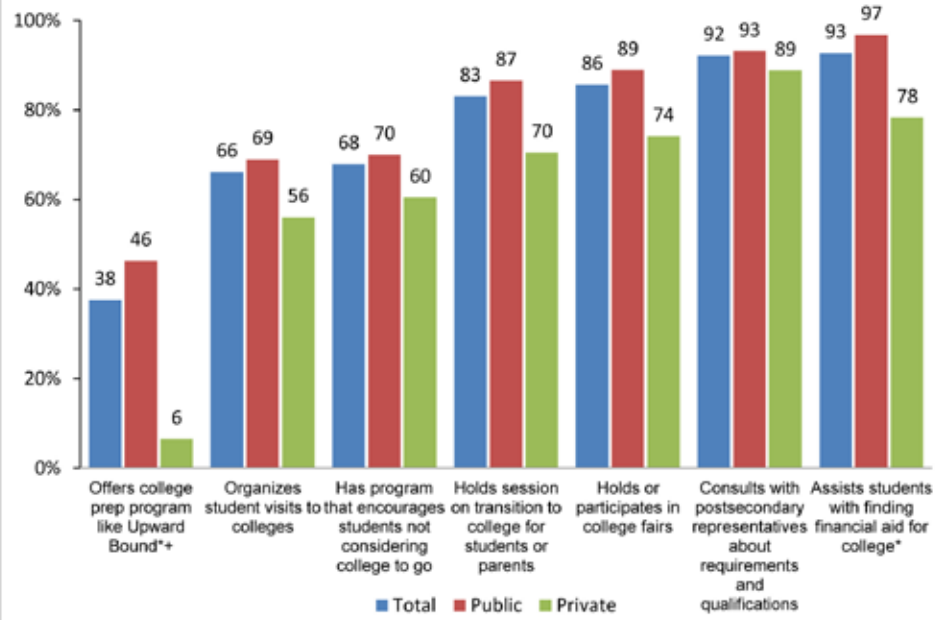
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.



NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Figure 16: Percentage of Counselors that Report that Their High School Takes the Following Steps to Assist Students with the Transition from High School to College, by High School Type

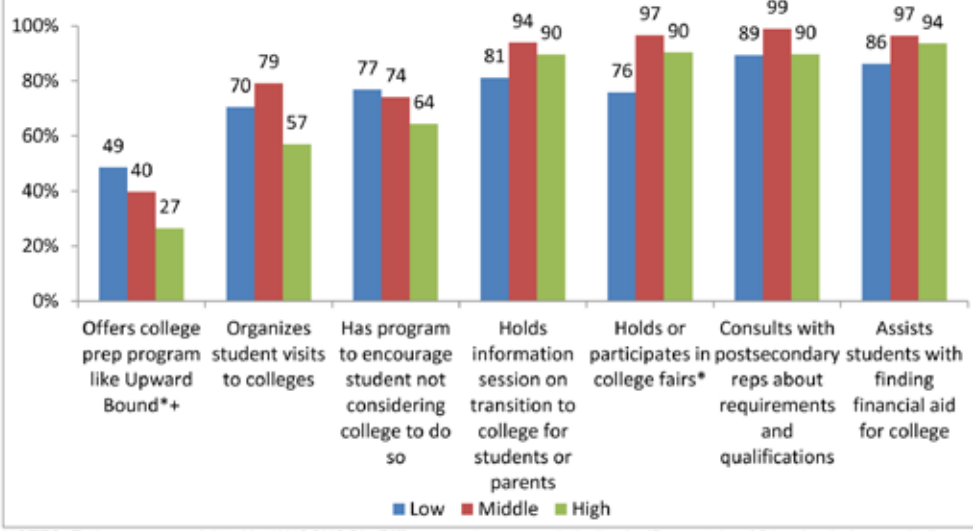


NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *.

+ Also includes programs like Gear Up, AVID, and MESA.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Figure 17: Percentage of Counselors that Report Their High School Takes the Following Steps to Assist Students with the Transition form High School to College, by Four-Year College-Going Rate

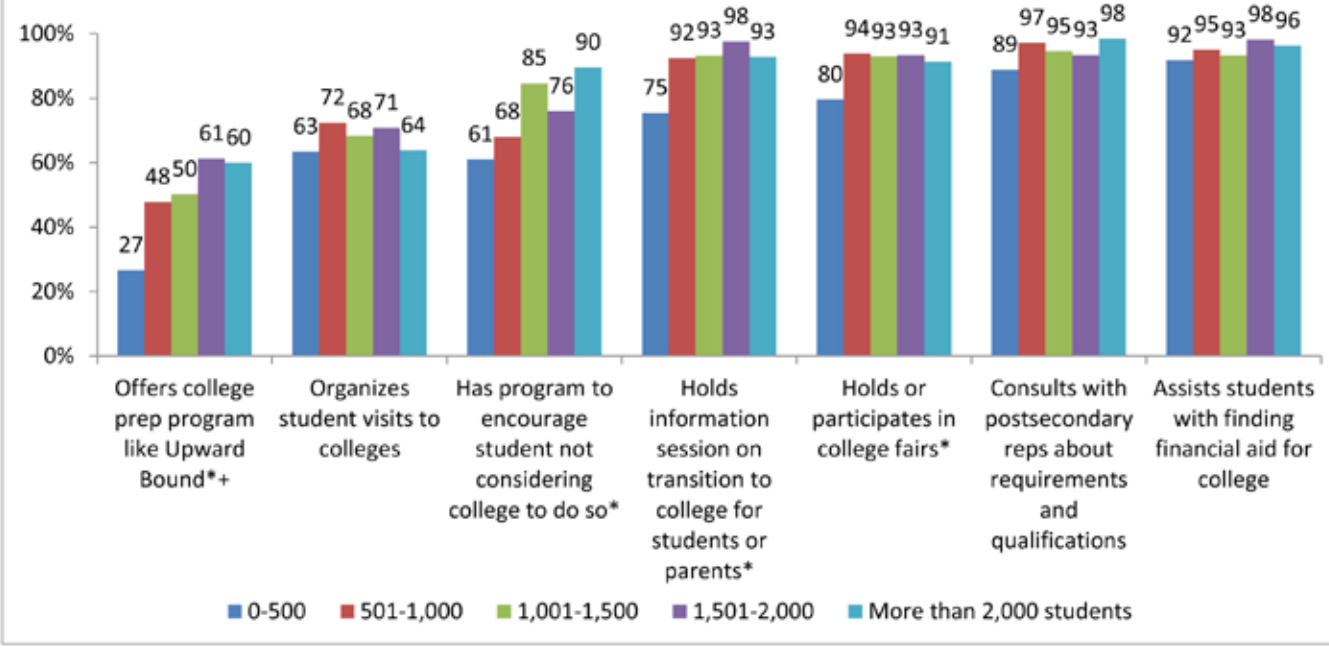


NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively.

+ Also includes programs like Gear Up, AVID, and MESA.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Figure 18: Percentage of Counselors that Report that Their High School Takes the Following Steps to Assist Students with the Transition from High School to College, by School Size



NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *.

+ Also includes programs like Gear Up, AVID, and MESA.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

One particular counselor action, offering a college prep program like Upward Bound, differed significantly by the socioeconomic and racial/ethnic composition of schools. This result should not be surprising given that these programs target low-income and first-generation college students.[20] Focusing on public schools where 60 percent or more students received free or reduced-price lunch, 65 percent enrolled students in these types of college prep programs (Appendix Table 3). In contrast, among public schools where less than 20 percent of students received free or reduced-price lunch, only 28 percent of schools did so.[21] Differences in participation were also large depending on the percentage of Hispanic and black students in schools. Figure 19 reveals that 36 percent of schools with lower concentrations of Hispanic students enrolled students in these programs compared to 63 percent of schools with higher Hispanic student concentrations. Likewise, as Figure 20 illustrates, schools with higher proportions of black students were more than twice as likely as other schools to participate in such programs.

A few additional counselor actions were related to the racial/ethnic composition of schools as well, though the differences were not quite as stark. First, schools with high percentages of Hispanic students and schools with a high percentage of black students were both more likely to assist students with finding financial aid for college. Second, schools with a large percentage of Hispanic students were more likely to have a formal program to encourage students not considering college to do so. Finally, schools with a higher black student population were more likely to organize student visits to college than schools with smaller black populations.

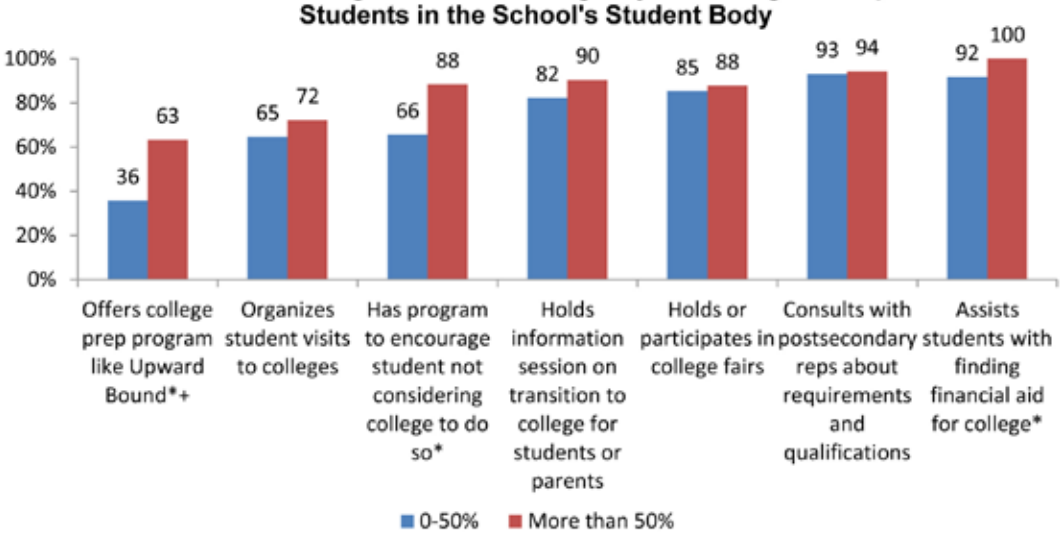
STUDENTS' INTERACTIONS WITH COUNSELORS

Part I of this report closes with ninth graders' self-reports of interactions with school counselors. About 18 percent of students reported that they had spoken with their counselor about college, a smaller percentage than the percentage who had spoken with their teacher, friends, father, or mother (Figure 21). The percentage of ninth graders who had spoken with their counselors about college did not differ significantly by high school type or four-year college-going rate but did differ by black students' representation (Figure 22). Students in schools with a lower percentage of black students were less likely than students in schools with a higher percentage of black students to have met with their counselor about college.

[20] See "Upward Bound Program." US Department of Education. Retrieved August 14, 2012, from http://www2.ed.gov/programs/trioupbound/index.html; "Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)." US Department of Education. Retrieved August 14, 2012, from http://www2.ed.gov/programs/gearup/index.html; and "Advancing Via Individual Determination." AVID. Retrieved August 14, 2012, from http://www.avid.org/index.html.

[21] The percentage of students receiving free or reduced-price lunch at public schools was not significantly related to other counselor actions. Free or reduced-price lunch is the only high school characteristic only explored at public high schools. This is because some private high schools offer lunch to students as part of the cost of attendance.

Figure 19: Percentage of Counselors that Report that Their High School Takes the Following Steps to Assist Students with the Transition from High School to College, by Percentage of Hispanic Students in the School's Student Body

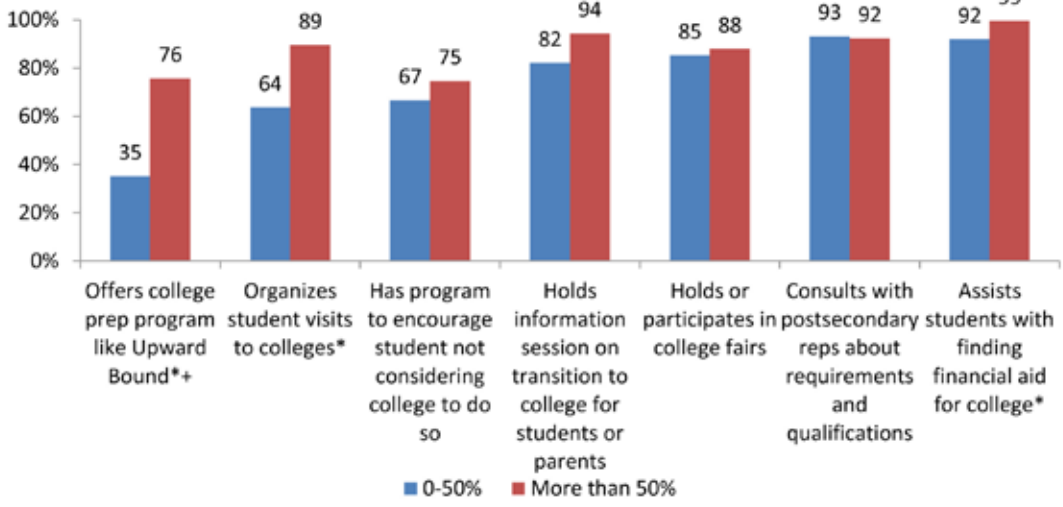


NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *.

+ Also includes programs like Gear Up, AVID, and MESA.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

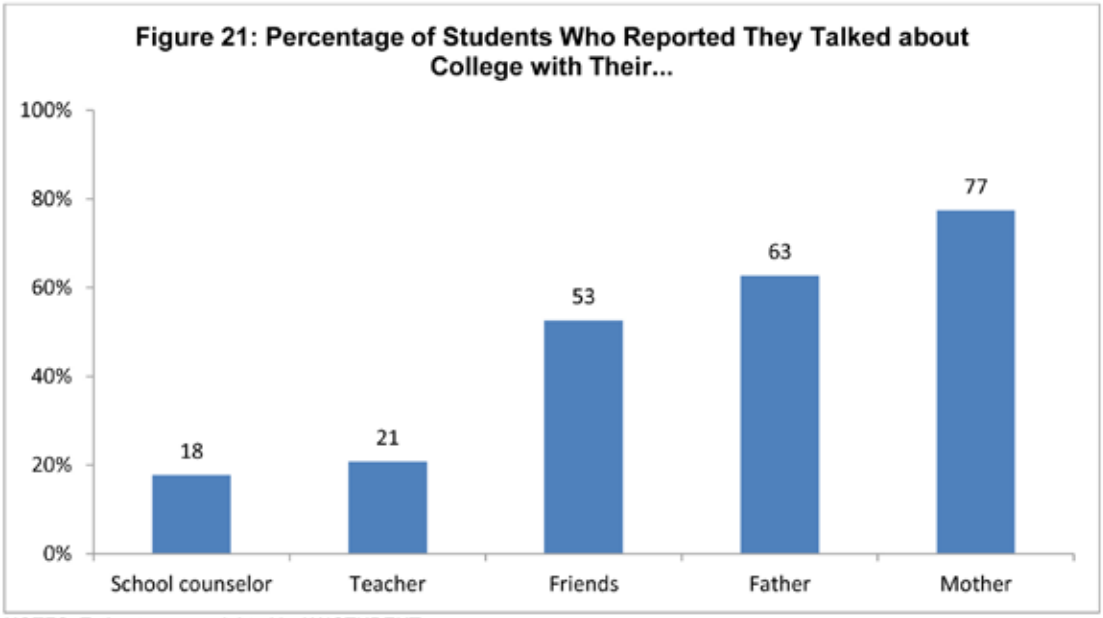
Figure 20: Percentage of Counselors that Report that Their High School Takes the Following Steps to Assist Students with the Transition from High School to College, by the Percentage of Black Students in the School's Student Body



NOTES: Estimates are weighted by W1SCHOOL. Differences that are statistically significant at the .05 level or below are indicated using an *.

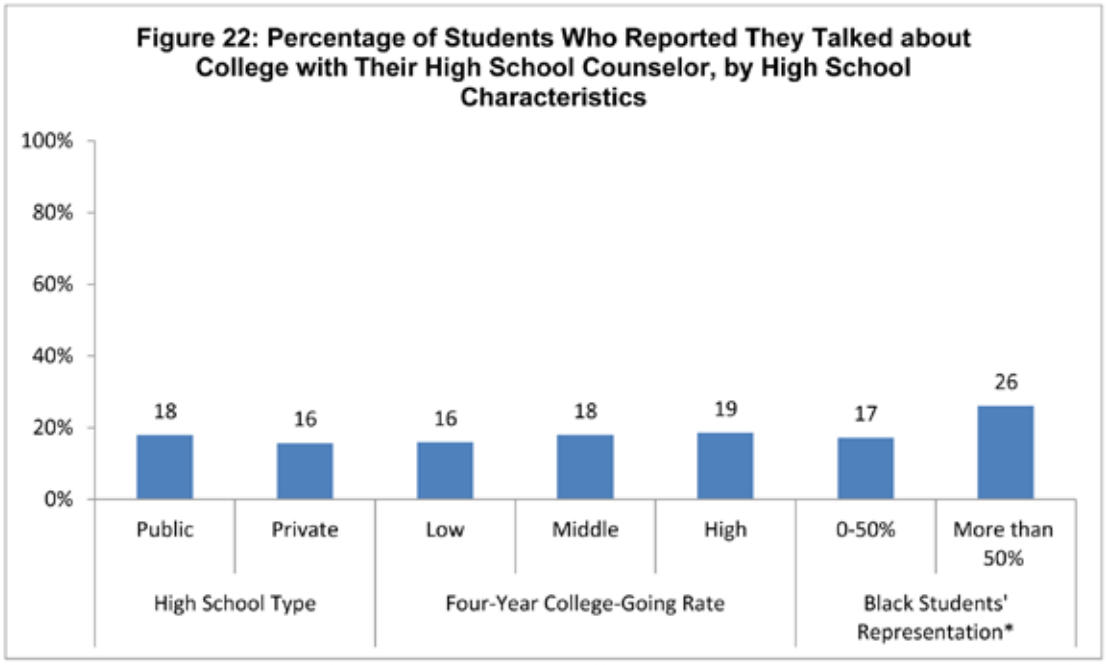
+ Also includes programs like Gear Up, AVID, and MESA.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.



NOTES: Estimates are weighted by W1STUDENT.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File



NOTES: Estimates are weighted by W1STUDENT. Low, middle, and high categories represent four-year college-going rates of 0-33, 34-67, and 68-100 percent, respectively. Differences that are statistically significant at the .05 level or below are indicated using an *.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Having provided a portrait of what high schools are doing in terms of academic programs and counseling to help students transition to college, this section of the report addresses whether counseling characteristics are related to ninth graders forming positive college attitudes, aspirations and plans for college. This part of the analysis focuses on three indicators, whether students reported disagreeing with the statement, "Even if you study, your family cannot afford to pay for you to attend college"; asserting that they plan to enroll in a bachelor's degree program in the first year after high school; and indicating that they have taken or plan to take the SAT or ACT (if they reported that they planned to enroll in a bachelor's degree program in the first year after high school).

The literature indicates that parents are extremely influential in students' attitudes, aspirations, and college plans.[22] Furthermore, students with parents who have bachelor's or advanced degrees are significantly more likely than other students to enroll in college even when matched by student ability.[23] High schools' counseling programs may therefore have less of an impact on students who are already highly likely to enroll given their parents' high levels of education. In contrast, students with parents who do not have a bachelor's degree are more in need of help from schools, as their parents often do not know as much about college admission and financial aid and cannot provide the same support.[24]

For these reasons, our analysis proceeds as follows. First, Table 1 presents descriptive statistics on whether the key college counseling and high school characteristics examined in the previous section of the report, (and student and parent characteristics previous research has found to be relevant), are related to these three student outcomes of interest. Second, Table 2 (models 1a, 2a and 3a) contains regressions that examine which characteristics are significant for the entire student population after controlling for other variables. Third, Table 2 (models 1b, 2b and 3b) provides regressions on whether different variables are significantly related to outcomes when the population analyzed is limited to students whose parents do not have a bachelor's degree. This is the population for which the US Department of Education targets its TRIO programs. TRIO programs consider these students "first-generation college students" and they are referred to as such in this report.[25] Finally, in Tables 3, 4 and 5, the focus is on the final reduced models that include all the characteristics that were significantly related to these outcomes for first-generation college students.

Because the outcomes studied here are categorical in nature, the analyses presented in Tables 2–5 use logistic regression models. Rather than providing the coefficient estimates from these analyses, these tables provide odds ratios to describe the impact of various characteristics on the three outcomes of interest.[26] This discussion focuses on findings that are significant at the .05 level.

STUDENTS' PERCEPTIONS OF COLLEGE AFFORDABILITY

Table 1 shows that the time counseling staff spent on college counseling activities and the priority counseling staff placed on college counseling were both significantly related to students' perception of college affordability (i.e., they disagreed that their family could not afford to pay for college). And, while it cannot be determined who initiated the discussion, parents' reporting that a family member interacted with a counselor or teacher at the school about postsecondary admission requirements was also positively associated with students' belief that college is affordable for their family. Moving on to school characteristics, high school type, four-year college-going rate and concentration of Hispanic students were all associated with students' perception of college affordability, as were the following student characteristics: math test score,[27] sex and race/ethnicity. Finally, in keeping with the literature, parents' educational attainment and educational expectations for their child were also related to students' belief that college was affordable.

Controlling for other variables, the results in Table 2 (model 1a) indicate that the counseling variables are no longer significantly associated with students' perceptions of college affordability, but the following variables continue to have a significant effect: attending a private high school, student's math score, student's race/ethnicity,[28] parents' having at least bachelor's degree aspirations for their child, and parents' highest degree attained.

When this full model is limited to students whose parents do not have a bachelor's degree, as shown in Table 2 (model 1b), many of the same results occurred. Attending a private high school, student's math score, parents' having at least bachelor's degree aspirations for their child, and parents' highest education continued to be significant and positively related to students' perception of college being affordable. However, there were two differences: students' race/ethnicity was no longer a significant predictor, while the time that counseling staff spent on college-going activities was significant.

[22] Bordua, D. (1960). "Educational Aspirations and Parental Stress on College," *Social Forces*, 38(3): 262–269; Conklin, M., and Ricks Dailey, A. (1981). "Does Consistency of Parental Educational Encouragement Matter for Secondary School Students?" Sociology of Education, 54(4): 254–262; Hossler, D., Schmit, J., and Vesper, N. (1999). *Going to College: How Social, Economic and Educational Factors Influence the Decisions Students Make.* Baltimore, MD: The Johns Hopkins University Press; MacAllum, K. et al. (2007). Deciding on Postsecondary Education: Final Report (NPEC 2008-850). Washington, DC: National Postsecondary Education Cooperative, US Department of Education; McDill, E., and Coleman, J. (1965). "Family and Peer Influences in College Plans of High School Students," Sociology of Education, 38(2): 112–126.

[23] Bozick, R., and Lauff, E. (2007). *Education Longitudinal Study of 2002 (ELS:2002): A First Look at the Initial Postsecondary Experiences of the High School Sophomore Class of 2002* (NCES 2008-308). US Department of Education. Washington, DC: National Center for Education Statistics.

[24] Bloom, J. (2007). "(Mis)reading Social Class in the Journey Toward College: Youth Development in Urban America," *Teachers College Record*, 109(2): 343–368; Horn, L., Chen, X., and Chapman, C. (2003). *Getting Ready to Pay for College: What Students and Their Parents Know About the Cost of College Tuition and What They Are Doing to Find Out* (NCES 2003-030). US Department of Education. Washington, DC: National Center for Education Statistics; Radford, A. (in press). *Top Student, Top School?: How Social Class Shapes Where Valedictorians Go to College.* Chicago: The University of Chicago Press; Reay, D. (1998). "'Always Knowing' and 'Never Being Sure': Familial and Institutional Habituses and Higher Education Choice," *Journal of Education Policy*, 13(4): 519–29.

[25] Note that researchers sometimes use the term "first-generation college students" to refer to students whose parents have no postsecondary education.

[26] An odds ratio is the ratio between the odds that an event will occur for one group (e.g., parents with bachelor's degrees) and the odds that the same event will occur for a different, independent group (e.g., parents with high school diplomas or less). When the odds ratio for a particular outcome is greater than 1.0, there is an increase in odds for the analysis group as compared to the reference group. (For example, Table 2, column 1a shows that the odds ratio is 2.33 for students whose parents have bachelor's degrees or higher compared to students whose parents have high school diplomas or less. In other words, the odds of disagreeing for students whose parents have bachelor's degrees or higher were 2.33 times (or 133 percent greater than) the odds of disagreeing for students whose parents have high school diplomas or less). Odds ratios of less than 1.0 indicate the opposite: there is a decrease in the odds that a particular event will occur for one group as compared to another. In other words, an odds ratio of 0.79 represents a reduction in odds of 21 percent.

[27] As part of its data collection, HSLS:09 administered a math assessment to ninth graders. HSLS students' score reflects their achievement on this test compared to all ninth graders.

[28] The Wald chi-square test statistic for race/ethnicity is 9.6716 (d.f. 4), which results in a p-value of .0463. When using whites as the reference category, the odds for "Other race" (which includes students who report being American Indian, Alaska Native, Native Hawaiian and Pacific Islander, or more than one race) are significantly lower than those for whites.

TABLE 1. STUDENTS' COLLEGE ATTITUDES AND PLANS BY COUNSELING, SCHOOL, STUDENT, AND PARENT CHARACTERISTICS

	Student disagrees or strongly disagrees with the statement: "Even if you study, your family cannot afford to pay for you to attend college."	Student plans to enroll in a bachelor's degree program in the first year after high school	Of those planning to enroll in a bachelor's degree program in the first year after high school, student has taken or plans to take the SAT or ACT
Total	76	52	80
Counseling characteristics			
Counselor caseload			
250 or fewer	78	50	84
251-350	75	52	79
351-450	74	54	79
More than 450	75	51	78
Percentage of hours counseling staff spent on college readiness, selection and applications[1,3]			
10% or less	73	49	77
11 to 20%	72	52	77
21 to 50%	78	53	82
Greater than 50%	84	58	82
Postsecondary priority[1,3]			
First goal	77	53	81
Second goal	75	52	79
Third goal	71	50	74
Not first, second or third goal	78	51	82
School assists students with finding financial aid for college[3]			
No	80	57	86
Yes	75	52	79
Student reports talking to school counselor about going to college[2,3]			
No	76	51	79
Yes	76	60	85
Parent respondent reports that someone in family has talked with counselor or teacher about postsecondary admission requirements[1,2,3]			
No	74	47	78
Yes	80	60	82
School characterisitcs			
School type[1,2,3]			
Public	75	51	79
Private	87	67	87
Four-year college-going rate[1,2,3]			
Low (0 to 33 percent)	70	45	75
Middle (34 to 67 percent)	76	52	81
High (68 to 100 percent)	83	61	86
Black students' representation			
0-50%	76	53	80
More than 50%	72	47	76
Hispanic students' representation[1]			
0-50%	77	53	81
More than 50%	67	47	73
Student characteristics			
Student's mathematics quintile score[1,2,3]			
First (lowest) quintile	65	30	60
Second quintile	71	41	72
Third (middle) quintile	77	48	76
Fourth quintile	79	61	83
Fifth (highest) quintile	84	73	89
Sex[1,2,3]			
Male	75	47	78
Female	77	57	81
Race[1,2,3]			
White	80	55	82
Black	75	51	75
Hispanic	68	44	74
Asian	82	68	91
Other race	71	51	80
Parent characteristics			
Highest educational attainment parent respondent expects child to ever receive[1,2,3]			
Don't know	67	39	70
High school diploma or less	59	21	59
Associate's degree	67	32	68
Bachelor's degree or better	81	61	82
Parents' highest degree attained[1,2,3]			
High school diploma or less	67	42	74
Associate's degree	76	48	78
Bachelor's degree or better	87	67	86

[1]Differences for student's opinions about college affordability are statistically significant at the $p < .05$ level for this predictor.

[2]Differences for student's plans to enroll in a four-year institution immediately after high school are statistically significant at the $p < .05$ level for this predictor.

[3]Differences for student's plans to take the SAT or ACT are statistically significant at the $p < .05$ level for this predictor.

NOTES: Estimates are weighted by W1PARENT. Postsecondary priority reflects the emphasis the counselor's counseling program puts on helping students plan and prepare for postsecondary schooling.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

TABLE 2. LOGISTIC REGRESSION RESULTS FOR ALL STUDENTS' AND FIRST-GENERATION COLLEGE STUDENTS' COLLEGE ATTITUDES AND PLANS

		Student disagrees or strongly disagrees with the statement: "Even if you study, your family cannot afford to pay for you to attend college."						Student plans to enroll in a bachelor's degree program in the first year after high school						Of those planning to enroll in a bachelor's degree program in the first year after high school, student has taken or plans to take the SAT or ACT					
		1a			1b			2a			2b			3a			3b		
		All students			First-generation college students			All students			First-generation college students			All students			First-generation college students		
	VARIABLE	Odds ratio	Pr > ChiSq		Odds ratio	Pr > ChiSq		Odds ratio	Pr > ChiSq		Odds ratio	Pr > ChiSq		Odds ratio	Pr > ChiSq		Odds ratio	Pr > ChiSq	
	Intercept	0.685	0.3634		0.705	0.5130		0.014	<.0001	***	0.009	<.0001	***	0.135	0.0009	***	0.200	0.0601	.
Counseling characteristics	Counselor caseload	1.000	0.4922		1.001	0.1802		1.001	0.0162	*	1.001	0.0288	*	1.000	0.8453		1.000	0.6445	
	Percentage of hours counseling staff spent on college readiness, selection and applications																		
	10% or less	0.878	0.2115		0.820	0.1476		1.000	0.9995		1.071	0.6243		0.937	0.6789		1.001	0.9966	
	11 to 20%	0.839	0.0511	.	0.793	0.0416	*	1.084	0.3546		1.193	0.1705		0.890	0.3750		0.877	0.4578	
	(Greater than 20%)	-	-		-	-		-	-		-	-		-	-		-	-	
	Postsecondary priority level	0.989	0.8129		0.996	0.9443		1.029	0.5715		1.048	0.4624		0.985	0.8250		0.988	0.8973	
	School assists students with finding financial aid for college	1.170	0.4363		1.219	0.5025		1.069	0.6535		0.967	0.8941		0.862	0.5959		0.763	0.5787	
	Student reports talking to school counselor about going to college	0.935	0.5198		0.940	0.6480		1.359	0.0005	***	1.386	0.0022	**	1.896	<.0001	***	2.302	<.0001	***
	Parent respondent reports that someone in family has talked with counselor or teacher about postsecondary admission requirements	1.157	0.1117		1.119	0.3726		1.242	0.0062	**	1.400	0.0011	**	1.162	0.1358		1.208	0.1795	
School characteristics	School type																		
	(Public)	-	-		-	-		-	-		-	-		-	-		-	-	
	Private	1.191	0.0465	*	1.276	0.0155	*	1.226	0.0370	*	1.336	0.0646	.	1.050	0.6706		1.002	0.9884	
	Four-year college-going rate	1.002	0.3266		1.001	0.7050		1.000	0.9393		0.999	0.8901		1.004	0.2430		1.007	0.1299	
	Percentage of student body that is black	1.000	0.9410		1.000	0.9964		0.999	0.7156		0.997	0.4573		1.004	0.3218		1.010	0.0492	*
	Percentage of student body that is Hispanic/ Latino/Latina	0.998	0.4334		0.999	0.5787		1.001	0.8467		0.999	0.8072		0.999	0.8154		1.001	0.8662	
Student characteristics	Student's standardized mathematics score	1.015	0.0111	*	1.016	0.0307	*	1.054	<.0001	***	1.062	<.0001	***	1.053	<.0001	***	1.048	<.0001	***
	Sex																		
	(Male)	-	-		-	-		-	-		-	-		-	-		-	-	
	Female	1.034	0.6631		0.955	0.6216		1.377	<.0001	***	1.380	0.0009	**	1.264	0.0589	.	1.180	0.3632	
	Race																		
	(White)	-	-		-	-		-	-		-	-							
	Black	0.995	0.9775		1.098	0.6339		1.191	0.2596		1.417	0.0654	.	0.747	0.1954		0.490	0.0074	**
	Hispanic	0.791	0.0815	.	0.827	0.2138		0.839	0.1675		0.977	0.8961		0.928	0.7419		0.912	0.7250	
	Asian	0.877	0.7361		1.152	0.6958		0.917	0.6282		0.899	0.7072		1.558	0.2257		1.699	0.3046	
	Other race	0.701	0.0105	*	0.707	0.0843	.	1.030	0.8000		1.234	0.1544		0.847	0.3468		0.811	0.4274	
Parent characteristics	Highest educational attainment parent respondent expects child to ever receive																		
	Don't know	1.233	0.3069		1.057	0.7999		1.865	0.0008	***	1.737	0.0065	**	1.104	0.7646		0.907	0.7925	
	(High school diploma or less)	-	-		-	-		-	-		-	-		-	-		-	-	
	Associate's degree	1.224	0.2978		1.211	0.3568		1.443	0.0742	.	1.628	0.0206	*	1.001	0.9988		0.803	0.5662	
	Bachelor's degree or higher	1.800	0.0004		1.654	0.0074	**	2.914	<.0001	***	2.760	<.0001	***	1.606	0.1352		1.469	0.2541	
	Parents' highest degree attained																		
	(High school diploma or less)	-	-		-	-		-	-		-	-		-	-		-	-	
	Associate's degree	1.357	0.0136	*	1.370	0.0100	**	1.062	0.4931		1.051	0.5646		0.898	0.5375		0.923	0.6554	
	Bachelor's degree or higher	2.327	<.0001		N/A	N/A		1.744	<.0001	***	N/A	N/A		1.131	0.3896		N/A	N/A	

NOTE: First-generation college students include those who do not have a parent who has attained a bachelor's degree. Postsecondary priority level uses a rank (1 to 4) reflecting the emphasis the counselor's counseling program puts on helping students plan and prepare for postsecondary schooling. "Other race" includes non-Hispanic American Indian/Alaska Natives, Native Hawaiian/Pacific Islanders, and students of more than one race. Estimates are weighted by W1PARENT.

. p<.1, * p<.05, ** p<.01, *** p<.001

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

The final model (Table 3, model 1c) includes only those characteristics from Table 2 that were significantly related to first-generation college students disagreeing that their family could not afford to pay for college (i.e., perceiving college to be affordable). Compared to students whose counselors spent more than 20 percent of their time on college-going activities, students whose counselors spent less time (10 percent or less or 11–20 percent) had 21 and 25 percent lower odds, respectively, of thinking that college was affordable.[29] Other variables that were significant in model 1b remained so in model 1c. First-generation students who attended a private high school had 38 percent greater odds of believing that college was affordable for their family than their peers attending a public school. In addition, as math performance increased, so did students' odds of believing college was affordable. Also, students with parents who expected their first-generation children to earn at least a bachelor's degree had 85 percent greater odds of disagreeing that their family could not afford college than students whose parents expected them to earn a high school degree or less. Having parents who expected their child to earn an associate's degree or who were unsure about their educational attainment netted no significant positive effect over having parents who expected their child to earn a high school diploma or less. Even among these first-generation college students, parents' education was a major factor in their opinion of college affordability. Children of parents who held an associate's degree rather than a high school diploma or less had 42 percent greater odds of believing college was affordable for their family.

STUDENTS' PLANS TO ENROLL IN A BACHELOR'S DEGREE PROGRAM

The second outcome examined was whether ninth-grade students planned to enroll in a bachelor's degree program in their first year after high school. As Table 1 shows, in simple descriptive comparisons, students who reported talking to their school counselors about going to college and students with parents who reported conversations with counselors or teachers about admission requirements were significantly more likely to plan to enroll immediately after high school. Among the school characteristics explored, students attending private high schools or schools with higher four-year college-going rates were also significantly more likely to plan to enter a bachelor's program in the year after high school. Similar to the finding for perceptions of college affordability, student's math score, sex and race/ethnicity were also significant characteristics. Further, significant differences occurred by parental educational expectations for their children and educational attainment.

TABLE 3. FINAL LOGISTIC REGRESSION RESULTS FOR STUDENTS' PERCEPTION OF COLLEGE AFFORDABILITY

	Student disagrees or strongly disagrees with the statement: "Even if you study, your family cannot afford to pay for you to attend college."			
		1c		
		First-generation college students		
	VARIABLE	Odds ratio	Pr > ChiSq	
	Intercept	0.937	0.8068	
Counseling characteristics	Percentage of hours counseling staff spent on college			
	10% or less	0.789	0.0187	*
	11 to 20%	0.753	0.0058	**
	(Greater than 20%)	-	-	
School characteristics	School type			
	(Public)	-	-	
	Private	1.377	0.0304	*
Student characteristics	Student's standardized mathematics score	1.011	0.0348	*
Parent characteristics	Highest educational attainment parent respondent expects child to ever receive			
	Don't know	1.123	0.4873	
	(High school diploma or less)	-	-	
	Associate's degree	1.289	0.1127	
	Bachelor's degree or higher	1.848	<.0001	***
	Parents' highest degree attained			
	(High school diploma or less)	-	-	
	Associate's degree	1.417	0.0012	**

NOTE: First-generation college students include those who do not have a parent who has attained a bachelor's degree. Estimates are weighted by W1PARENT.

. p<.1, * p<.05, ** p<.01, *** p<.001

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

[29] The High School Longitudinal Study counselor questionnaire provided five options to describe the percentage of work hours that counseling staff spent on college-going activities: five percent or less, six to 10 percent, 11 to 20 percent, 21 to 50 percent, and more than 50 percent. Due to small sample sizes, the bottom two categories were combined in the descriptive analyses and in the regression models. Issues of sample size also arose once the regression analyses focused exclusively on first-generation college students. For this reason, the top two categories were also collapsed in the regression results.

Table 2 (model 2a) shows that even after controlling for related characteristics, several significant predictors in the logistic regression remained for all students. When accounting for different school, student and parent characteristics, three counselor characteristics emerged as significant predictors: caseload, students' speaking to counselors about going to college and parents talking to school counselors about admission requirements. School type, student's math score and sex also were significant predictors. Likewise, both parents' characteristics were significant; educational expectations and highest degree attained had a significant impact on children's plans to enroll in a bachelor's degree immediately following high school.

The results in model 2b focus solely on first-generation college students. In terms of significant predictors, there is one difference from the model for all students. By definition, those students whose parents have attained a bachelor's degree or higher were removed, and once removed, the effect of parents' educational attainment on first-generation students' plans for enrolling in a bachelor's degree program disappeared. This finding suggests that, when focusing on future enrollment plans after high school, having parents with an associate's degree does not provide any additional benefit over having parents with a high school diploma or less.

The final reduced model shown in Table 4 provides insight into the level of influence each characteristic had on students' plans. First, it is worth noting that while counselor caseload was significant in the full model, after removing the least significant variables, caseload was no longer significant.[30]

Other variables significant in the full model remained significant in the reduced model. In terms of counselor-related characteristics, students' speaking to a counselor about going to college and parents' talking with a counselor or teacher about admission requirements both had a positive effect. Specifically, the odds of a student planning to enroll in a bachelor's degree program in the year after high school increased by 37 percent for students who had spoken to their counselor about going to college. For students whose parents spoke with counselors about admission requirements, the odds of planning to enroll in the first year after high school increased by 42 percent. Moving on to school and student characteristics, students at private high schools had 33 percent greater odds of planning to enter a bachelor's degree program and being female and having a higher math score continued to be positively related to bachelor's degree plans.

Certain parent variables also remained important. While having parents with an associate's degree rather than a high school degree did not matter, parents' educational expectations for their child did. Compared to students whose parents expected them to attain a high school diploma or less, students with parents who expected them to attain an associate's degree or who did not know how far they would go in school had 54 percent and 57 percent greater odds, respectively, of planning to enroll in a bachelor's degree program. This increase in odds was even larger for students whose parents expected them to attain at least a bachelor's degree. The odds that these students planned to begin a bachelor's program immediately after high school were more than 2.5 times greater than for those students whose parents expected them to attain a high school diploma or less.

TABLE 4. FINAL LOGISTIC REGRESSION RESULTS FOR STUDENTS' PLANS IMMEDIATELY AFTER HIGH SCHOOL GRADUATION

	Student plans to enroll in a bachelor's degree program in the first year after high school			
		2c		
		First-generation college students		
	VARIABLE	Odds ratio	Pr > ChiSq	
	Intercept	0.017	<.0001	***
Counseling characteristics	Student reports talking to school counselor about going to college	1.365	0.0007	***
	Parent respondent reports that someone in family has talked with counselor or teacher about postsecondary admission requirements	1.416	0.0001	***
School characteristics	School type			
	(Public)	-	-	
	Private	1.331	0.0441	*
Student characteristics	Student's standardized mathematics score	1.057	<.0001	***
	Sex			
	(Male)	-	-	
	Female	1.348	0.0006	***
Parent characteristics	Highest educational attainment parent respondent expects child to ever receive			
	Don't know	1.566	0.0046	**
	(High school diploma or less)	-	-	
	Associate's degree	1.539	0.0172	*
	Bachelor's degree or higher	2.664	<.0001	***

NOTE: First-generation college students include those who do not have a parent who has attained a bachelor's degree. Estimates are weighted by W1PARENT.

. p<.1, * p<.05, ** p<.01, *** p<.001

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

[30] Because the median private school caseload is significantly smaller than that at public high schools (106 vs. 299), it is possible that some of this variation is captured by the increased significance of school type in this reduced model.

STUDENTS' SAT/ACT TEST-TAKING PLANS

The final outcome explored the college admission test-taking plans of those students who indicated that they would enroll in a bachelor's program in their first year after high school. As shown in Table 1, there was an association between students' test-taking plans and five counseling characteristics of interest: the hours spent on college readiness, selection and applications; the level of priority given to college counseling; whether schools provided assistance with seeking financial aid; whether students spoke to a counselor about going to college; and whether a parent spoke to a counselor about college admission requirements. Consistent across all three outcomes, school type and four-year college-going rates were also significantly related to whether students took or planned to take the SAT or ACT. All three student characteristics (student's mathematic test score, sex and race/ethnicity) and both parent characteristics (parents' educational expectations for their child and parents' highest degree attained) were also significantly related to test-taking plans.

Once all variables were included in the logistic regression model for all students, only two significant characteristics remained: whether a student had spoken to their school counselor about going to college and a student's math test score (Table 2, model 3a). Similarly, restricting the model to first-generation college students produced three significant (positive) predictors: the aforementioned two and a high school characteristic: the percentage of the student body that is black (Table 2, model 3b).

Table 5 presents the final reduced model for first-generation college students who planned to enroll in a bachelor's program after high school, examining whether or not they had taken or planned to take the SAT or the ACT. A student talking to a counselor about going to college continued to have a significant effect, more than doubling the odds that a student planned to take the SAT or ACT. Once the nonsignificant variables were removed from model 3b, however, the key high school characteristic changed. The percentage of the student body that is black fell out of the model as no longer significant, while the four-year college-going rate became significant. Higher rates of four-year college-going were associated with slightly increased odds that students planned to take the SAT or ACT, suggesting that a college-going environment can be helpful. For every 10 percentage-point increase in the four-year college-going rate, the odds that students with bachelor's degree intentions planned to take the SAT or ACT increased eight percent. Finally, student's math score continued to be a significant positive predictor of students' going to a four-year college.

TABLE 5. FINAL LOGISTIC REGRESSION RESULTS FOR STUDENTS' PLANS TO TAKE THE SAT OR ACT

	Of those planning to enroll in a bachelor's degree program in the first year after high school, student has taken or plans to take the SAT or ACT			
		3c		
		First-generation college students		
	VARIABLE	Odds ratio	Pr > ChiSq	
	Intercept	0.11	<.0001	***
Counseling characteristics	Student reports talking to school counselor about going to college	2.134	<.0001	***
School characteristics	Four-year college-going rate	1.008	0.039	*
Student characteristics	Student's standardized mathematics score	1.059	<.0001	***

NOTE: First-generation college students include those who do not have a parent who has attained a bachelor's degree. Estimates are weighted by W1PARENT.

. p<.1, * p<.05, ** p<.01, *** p<.001

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

INTEGRATING THESE REGRESSION RESULTS

Examining these regression results as a whole suggests that there are actions high school counselors can take to help put first-generation college students on track for a successful transition to postsecondary education. As the data in Table 6 suggest, counselors can first devote more of time to college readiness, selection and applications, as doing so was related to ninth graders' perceptions of college affordability. Second, counselors can initiate discussions with ninth graders about college. While we do not know who prompted these discussions, we do know that students who reported having them had greater odds of intending to enroll in a bachelor's degree program and planning to take the SAT or ACT. Third, counselors can initiate discussions with parents about college. While again we do not know who prompted these conversations, students with parents who had talked about college with counselors or teachers had greater odds of having bachelor's degree intentions. Holding these conversations with parents may in turn shape parents' educational expectations for their children, which are also significantly related to ninth graders' perceptions of college affordability and their bachelor's degree plans.

We recognize that high schools and counselors do not only serve ninth graders and that the actions of high schools and counselors may have different effects on students' attitudes, aspirations, plans, and steps actually taken later on in their transition to college. These relationships will be examined in future reports that will be conducted as each new follow-up wave of HSLS data is released.

TABLE 6. SUMMARY TABLE: SIGNIFICANT PREDICTORS OF FIRST-GENERATION COLLEGE STUDENTS' COLLEGE ATTITUDES AND PLANS

		Student disagrees or strongly disagree with the statement: "Even if you study, your family cannot afford to pay for you to attend college."	Student plans to enroll in a bachelor's degree program in the first year after high school	Of those planning to enroll in a bachelor's degree program in the first year after high school, student has taken or plans to take the SAT or ACT
Counseling characteristics	Counselor caseload			
	Percentage of hours counseling staff spent on college readiness, selection, and applications	✓		
	Postsecondary priority level			
	School assists students with finding financial aid for college			
	Student reports talking to school counselor about going to college		✓	✓
	Parent respondent reports that someone in family has talked with counselor or teacher about postsecondary admission requirements		✓	
School characteristics	School type	✓	✓	
	Four-year college-going rate			✓
	Percentage of student body that is black			
	Percentage of student body that is Hispanic/Latino/Latina			
Student characteristics	Student's standardized mathematics score	✓	✓	✓
	Sex		✓	
	Race			
Parent characteristics	Highest educational attainment parent respondent expects child to ever receive	✓	✓	
	Parents' highest degree attained	✓		

NOTE: First-generation college students include those who do not have a parent who has attained a bachelor's degree.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Appendix

Appendix Table 1: Percentage Distribution of School Characteristics Examined

	Percentage
School type	
Public	76.1
Private	23.9
Four-year college-going rate	
Low (0-33%)	27.2
Middle (34-67%)	23.0
High (68-100%)	23.5
Missing	26.4
School size	
0-500	54.4
501-1,000	21.0
1,000-1,500	10.6
1,501-2,000	7.1
More than 2,000	5.5
Missing	1.4
Locale	
Urban	21.2
Rural	39.6
Suburban	22.7
Town	16.6
Hispanic students' representation	
0-50%	87.1
More than 50%	6.4
Missing	6.5
Black students' representation	
0-50%	88.2
More than 50%	5.3
Missing	6.6
Among public schools only, percentage of students receiving free or reduced-price lunch	
0-19	9.4
20-39	26.9
40-59	31.1
60 or More	25.0
Missing	7.7

NOTES: Estimates are weighted by W1SCHOOL. Details may not sum to totals due to rounding.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Appendix Table 2: International Baccalaureate Programs, by Locale

	Percentage
Urban	5.1
Suburban	4.5
Town	1.5
Rural	1.0

NOTES: Estimates are weighted by W1SCHOOL.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Appendix Table 3: Among Public High Schools, The Percentage Offering AP Courses On Site and The Percentage that Enroll Students in Special Programs That Help Them Plan or Prepare for College, Such As Upward Bound, GEAR UP, AVID, or MESA, by Percentage of Students Receiving Free or Reduced-price Lunch

	Offer AP courses On Site (%)	Offer College-prep Program Like Upward Bound (%)
Percentage of Students Receiving Free or Reduced-price Lunch		
0-19	93.8	28.2
20-39	76.3	33.4
40-59	49.6	47.6
60 or More	75.3	64.5

NOTES: Estimates are weighted by W1SCHOOL.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Appendix Table 4: The Percentage of Schools with a Counselor Whose Primary Responsibility is Assisting Students with College Readiness, Selection and Applications, by High School Type and Four-year College-going Rate

	Percentage
School type	
Public	62.2
Private	67.6
Four-year college-going rate	
Low (0-33%)	56.7
Middle (34-67%)	59.1
High (68-100%)	71.5

NOTES: Estimates are weighted by W1SCHOOL.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.

Appendix Table 5: Counseling Characteristics That Do Not Differ Significantly by High School Type

	Public (%)	Private (%)
Percentage of hours counseling staff spent on college readiness, selection and applications		
0-10%	16.5	30.2
11-20%	31.9	21.5
21-50%	40.8	28.2
Greater than 50%	10.8	20.1
Where plan and prepare for postsecondary schooling falls within goals		
First goal	45.2	58.3
Second goal	32.3	26.6
Third goal	19.2	‡
Fourth goal	3.4	‡
Response to the statement: "Counselors in this school have given up on some students"		
Agree or strongly agree	13.1	14.0
Disagree	46.9	26.5
Strongly disagree	40.0	59.5

‡ Reporting standards not met.

NOTES: Estimates are weighted by W1SCHOOL.

SOURCE: US Department of Education, Institute of Education Sciences, National Center for Education Statistics. High School Longitudinal Study of 2009, Base Year Survey Restricted Use File.