

# How Can High School Counseling Shape Students' Postsecondary Attendance?

Exploring the Relationship between the High School Counseling Context and Students' Subsequent Postsecondary Enrollment



### Introduction

Recent data indicate that 89 percent of 2009 high school ninth graders received a high school diploma four years later.<sup>1</sup> Throughout the last decade, only two-thirds of high school completers attended postsecondary education within the same calendar year that they completed high school.<sup>2</sup> Of those who attended, about two-thirds attended four-year institutions, with the remaining students selecting a two-year college.

Many factors may be related to whether a student chooses to attend postsecondary education after completing high school. For example, students' academic ability, family finances, and career aspirations are likely to play a role in their enrollment decisions. Additionally, information students receive in high school from peers, parents, teachers, and counselors may also influence whether, when, and at what level they attend postsecondary education.

The two previous NACAC reports in this series, *Preparing Students* for College: What High Schools Are Doing and How Their Actions Influence Ninth Graders' College Attitudes, Aspirations and Plans and A National Look at the High School Counseling Office: What Is It Doing and What Role Can It Play in Facilitating Students' Paths to College, explored the various high school counseling services available to students across the nation and investigated the relationships between these high school counseling characteristics and students' college plans in their junior year of high school. This report extends that work by investigating the relationship between the counseling context<sup>3</sup> at students' high schools and their postsecondary attendance after high school completion.

This report uses recently released data from the High School Longitudinal Study of 2009 (HSLS:09). HSLS:09 identified a nationally representative sample of U.S. ninth graders enrolled in high schools in Fall 2009 and followed them through high school. The most recent wave of HSLS:09, the 2013 Update, was conducted in summer or fall of 2013, soon after on-time students completed high school. Using information on the high school counseling context in the students' junior year, this report explores the relationship between this counseling context and students' postsecondary attendance.

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<sup>1</sup> Dalton, B., Ingles, S., and Fritch, L. (2015). High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcript Study: A First Look at Fall 2009 Ninth-Graders in 2013 (NCES 2015-037). Washington DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education

<sup>2</sup> Digest of Education Statistics: 2014, Table 302.10: National Center for Education Statistics. Retrieved March 15, 2016, from http://nces.ed.gov/programs/digest/d14/tables/dt14\_302.10.asp

<sup>3</sup> Counseling context includes both counselor characteristics and student characteristics that counselors may be able to influence, both of which are discussed in more detail in the subsequent paragraphs.

The analyses use two sets of variables to describe the counseling context at students' high schools.<sup>4</sup> The first set of variables describes the amount and types of counseling available to students, including the proportion of counselors' time spent on college preparation and the different types of help offered by the school to aid students in selecting colleges and securing financial aid. These characteristics were measured at the school level during students' 11<sup>th</sup>-grade year, and are shaped directly by counselors, schools, and districts.

The second set of variables related to the counseling context was measured at the student level and represents beliefs and behaviors of students and their families that may be influenced by school counseling activities. They include such factors as students' perceptions of college affordability and whether parents met with a counselor to discuss their child's options for life after high school. Most of these factors were also measured during students' 11<sup>th</sup>-grade year.

This report explores five postsecondary attendance-related outcomes that were reported in 2013, after students completed high school. The first three outcomes capture steps students took to prepare for postsecondary education while they were in high school: 1) whether the student met one on one with a high school counselor to discuss college admissions, 2) whether the student met one on one with a counselor to discuss financial aid, and 3) whether the student submitted a Free Application for Federal Student Aid (FAFSA). The fourth and fifth outcomes explore students' actual college going, capturing 4) whether students attended college at all and 5) whether they attended a bachelor's degree program.<sup>5</sup>

Main findings from the analyses include the following:

- First, several characteristics of the counseling programs in students' schools were related to whether students met one on one with a high school counselor to discuss college admissions or financial aid.
- Second, whether a student met one on one with a high school counselor to discuss college admissions or financial aid was related to the student's likelihood of completing a FAFSA, attending post-secondary education, and attending a bachelor's degree program.
- Third, several student characteristics that counselors may be able to influence were also related to students' postsecondary outcomes. These characteristics include whether a student participated in a program that provided college preparation, the proportion of the student's close friends planning to attend a four-year college, parents' expectations in ninth grade for their child's highest postsecondary degree attainment, whether the student spoke with a counselor in ninth grade about going to college, and whether parents spoke with a counselor about their child's options for life after high school by 11<sup>th</sup> grade.

Part I of this report summarizes the characteristics of 2009 ninth graders who completed high school by 2013. Part II presents results, using both descriptive statistics and regression analysis to examine the relationships between the high school counseling context and students' postsecondary attendance outcomes. The regression results measure these relationships while holding other school and student characteristics constant. These results are generally similar to the findings from the descriptive statistics. The report's conclusion synthesizes the results across the students' various postsecondary attendance-related decisions.



<sup>4</sup> Data on counseling characteristics used in this report were collected in 2012 from the schools that students attended as ninth graders in 2009. For the 11 percent of high school graduates who changed schools between Fall 2009 and Spring 2012, the counseling characteristics they experienced in 11th grade may have differed from what was reported by their ninth-grade school in 2012. However, they would have experienced their ninth-grade school's counseling characteristics for at least some of high school. Two percent of graduates transferred during ninth grade, 5 percent transferred during 10th grade, and 4 percent transferred during 11th grade would have experienced their grade. For more information on data collection, see the Data and Methods Appendix.

<sup>5</sup> Data for the 2013 Update were collected between June and December 2013. Outcomes for students interviewed in the beginning of the data collection period captured anticipated attendance as of November 2013, whereas outcomes for students interviewed toward the end of data collection captured actual attendance as of November 2013. For more information on data collection, see the Data and Methods Appendix.

The analyses in this report focus on 2009 ninth graders who completed high school on time, i.e., students who graduated with a diploma or earned a General Education Development (GED) credential or other high school equivalency credential four years after their 2009 ninth grade year.<sup>6</sup> This subset of 2009 ninth graders would have been eligible to enter postsecondary education in Fall 2013.<sup>7</sup> All analyses focus specifically on high school completers; however, throughout the report, findings may sometimes refer to "students" instead of "high school completers."

To help inform the results in the subsequent sections of the report, Part I provides a portrait of these 2013 high school completers, focusing on factors thought to be related to postsecondary attendance. This portion of the report first presents these students' demographic characteristics. It then addresses the counseling characteristics of the schools that students attended and the student characteristics that counselors may have been able to influence. The overview concludes by examining these students' preparation for and participation in postsecondary education as of 2013.

#### **STUDENT CHARACTERISTICS**

The following student characteristics are included in subsequent analyses to control for differences among students that may have begun prior to their school experiences or may be related to the schools they attend and, therefore, the counseling programs they experienced:

- gender and race/ethnicity;
- whether the student's high school was public or private, a proxy measure of school resources;
- parental education, a measure of family socioeconomic status;
- future college enrollment plans as of ninth grade, a measure of postsecondary aspirations; and
- 11<sup>th</sup>-grade mathematics exam scores, a measure of academic ability.

Overall, about half (51 percent) of 2013 high school completers were female (Table 1). Fifty-three percent of completers were white, 13 percent were black, 21 percent were Hispanic, and 4 percent were Asian. The vast majority of completers attended a public high school; only 8 percent attended private high schools. About two-fifths of completers (38 percent) had a parent who had earned a bachelor's degree, and another two-fifths (40 percent) had parents with no postsecondary education. About two-thirds of completers, 65 percent, planned when they were in ninth grade to enroll in an associate's or bachelor's degree program after high school. Sixteen percent of high school completers were from the lowest quintile of 11<sup>th</sup>-grade mathematics scores, while 24 percent were from the highest quintile of scores.

#### **COUNSELOR CHARACTERISTICS**

Counselors have many demands on their time. They must divide their time among students' school and personal problems, high school course scheduling, academic testing, job placement, career planning, and college preparation. For this analysis, the characteristics of the counseling programs in students' ninth-grade schools were measured in 2012, when most students were in 11<sup>th</sup> grade.<sup>8</sup>

Sixteen percent of 2009 ninth graders who completed high school on time had attended a school where counselors spent 10 percent or less of their time on college preparation (Table 1). Thirty-eight percent had attended a school where counselors spent 11 to 20 percent of their time on college preparation, and about half (47 percent) had attended a school where counselors spent 21 percent or more of their time on college preparation. About two-fifths (41 percent) of on-time high school completers attended a high school where at least one counselor's primary responsibility was assisting students with college applications or college selection.

High school counseling programs engage in a variety of activities to help students prepare for postsecondary education and future careers. Ninety-two percent of completers had attended a school that held or participated in a college fair, 98 percent attended a school that helped students identify criteria for selecting colleges, 76 percent attended a school that sent out reminders of FAFSA deadlines, 88 percent attended a school that offered informational meetings on sources of financial aid, and 78 percent attended a school that helped students and families complete the FAFSA.<sup>9</sup>

#### STUDENT CHARACTERISTICS THAT COUNSELORS MAY BE ABLE TO INFLUENCE

Students' and their families' beliefs and behaviors related to postsecondary education may be influenced by counselors and may also affect students' receptivity to other counseling activities. For example, student perceptions of college affordability in 11th grade may have been influenced by high school counseling efforts during ninth or 10<sup>th</sup> grades. In addition, students' perceptions of college affordability may make them more or less likely to take advantage of counseling resources concerning college attendance. Other student and parent characteristics that are related to postsecondary preparation and could affect or be affected by counseling activities include student participation in programs that provided college preparation, the proportion of a student's close friends who planned to attend a fouryear college, parents' expectations for their child's postsecondary attendance, whether a student met with a counselor in ninth grade to discuss going to college, and whether a parent met with a counselor by 11<sup>th</sup> grade to discuss their child's options for life after college.

<sup>6</sup> The students in the HSLS:09 sample who completed high school in 2013 do not represent all 2013 high school completers but rather the subset who were in ninth grade in high schools in Fall 2009. It excludes, for example, ninth graders who were in middle schools in Fall 2009 or students who graduated in 2013 but were in ninth grade in 2010. For more information on the HSLS:09 sample, see the Data and Methods Appendix.

<sup>7</sup> The analysis was also run on all students, including noncompleters, and the results were similar. See the Data and Methods Appendix for more detail on the sample selection.

<sup>8</sup> See footnote 4 and the Data and Methods Appendix for more details.

<sup>9</sup> This report focuses on these counseling characteristics. For more information on a greater number of activities pursued by counselors, see the two previous NACAC reports in this series. Preparing Students for College: What High Schools Are Doing and How Their Actions Influence Ninth Graders' College Attitudes, Aspirations and Plans and A National Look at the High School Counseling Office: What Is It Doing and What Role Can It Play in Facilitating Students' Paths to College.

#### Table 1: Descriptive Statistics of 2013 High School Completers Who Were Ninth Graders in 2009

Variables	Percent	N
Student characteristics		
Female	51	14,700
Race/ethnicity		
White	53	14,700
Black	13	14,700
Hispanic	21	14,700
Asian	4	14,700
Other race <sup>1</sup>	9	14,700
Attended a private high school	8	14,500
Parents' highest degree attained		
High school diploma or lower	40	14,700
Associate's degree or certificate	22	14,700
Bachelor's degree or higher	38	14,700
In ninth grade, student planned to enroll in an associate's or bachelor's degree program in the year after high school	65	14,300
Quintile of 11th grade mathematics exam score		
First (lowest)	16	14,700
Second	18	14,700
Third	20	14,700
Fourth	22	14,700
Fifth (highest)	24	14,700
Counseling characteristics in 11th grade		
Percentage of hours counseling staff spent on college prepara	ition	
10% or less	16	12,500
11% to 20%	38	12,500
21% or more	47	12,500
School had one or more counselors whose primary responsi- bility was college applications and/or college selection	41	12,800
School held or participated in college fairs	92	12,800
School helped students identify criteria for selecting colleges	98	12,800
School sent reminders of FAFSA deadlines	76	12,800
School offered informational meetings on sources of finan- cial aid	88	12,700
School helped students/families complete FAFSA	78	12,800

Variables	Percent	N
Student characteristics counselors may be able to influe	ice	
Perceptions of college affordability in 11th grade		
Strongly disagreed that college is affordable	7	14,300
Disagreed that college is affordable	23	14,300
Agreed that college is affordable	49	14,300
Strongly agreed that college is affordable	21	14,300
Participated in a program that provided college preparation by 11th $\ensuremath{grade}^2$	21	14,600
Proportion of close friends who planned in 11th grade to atter college in Fall 2013	ıd a four-y	ear
Less than half	34	14,600
More than half	51	14,600
Don't know	15	14,600
Parent's expectation when child was in ninth grade for the hig education child would achieve	chest level	of
High school or lower	6	11,800
Some college but no bachelor's degree	9	11,800
Bachelor's degree	31	11,800
Graduate degree	42	11,800
Don't know	11	11,800
Student reported having talked to high school counselor in ninth grade about going to college	18	14,300
When child was in 11th grade, parent reported having talked with a high school counselor about child's options for life after high school	50	6,000
Outcomes		
Met one on one with counselor to discuss college admissions in 12th $\ensuremath{grade}$	78	12,400
Met one on one with counselor to discuss financial aid in 12th grade	55	12,500
Submitted a FAFSA by Fall 2013	76	13,400
Attended postsecondary education in Fall 2013	80	12,500
Attended a bachelor's degree program in Fall 2013	50	12,500
<sup>1</sup> "Other race" includes non-Hispanic American Indian/Alaska Natives, non-Hispanic Islanders, and students of more than one race.	: Native Hawai	iian/Pacific

<sup>2</sup> Includes college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

Note: The counseling characteristics were asked when students were in 11th grade of staff at the student's base-year school, even if the student had transferred to a new school. By 11th grade, 11 percent of high school graduates had transferred to another high school (2 percent during their ninth-grade year, 5 percent during their 10th-grade year, and 4 percent during their 11th-grade year). Estimates were weighted by W3W1W2STU.

Among 2013 high school completers who were ninth graders in 2009, about half (49 percent) agreed that college was affordable, and 21 percent strongly agreed (Table 1). One-fifth (21 percent) had participated by 11<sup>th</sup> grade in a program that prepared students for college. One-half (51 percent) reported that a majority of their friends planned to attend a four-year college after high school graduation. About a third (31 percent) of high school completers had parents who expected their highest postsecondary degree to be a bachelor's degree, and another 42 percent had parents who expected them to earn a graduate degree. Some 18 percent of high school completers had spoken with a counselor in ninth grade about going to college, and 50 percent of completers had a parent who had spoken with a counselor about the student's options for life after high school by the time the child was in 11<sup>th</sup> grade.

#### **OUTCOMES**

A majority of completers attended postsecondary education by 2013 or had taken steps toward doing so. Seventy-eight percent of high school completers reported that, during their senior year of high school, they met one on one with a high school counselor to discuss admission to college, and 55 percent reported meeting with a counselor to discuss financial aid (Table 1). About three-quarters (76 percent) of high school completers submitted a FAFSA, which is critical because, without submitting a FAFSA, students have no access to federal loans and grants, severely limiting their ability to receive any financial aid. Four-fifths (80 percent) of completers attended some postsecondary education in Fall 2013, and half of completers started in a bachelor's degree program. The next section details the relationship between these outcomes and the counseling context at the student's high school.



Part II examines in more depth the postsecondary outcomes of 2009 ninth graders who completed high school on time. Each outcome first includes descriptive statistics that connect that outcome with a school's counseling context (counseling context includes both counselor characteristics and student characteristics that counselors may be able to influence). The specific types of counseling characteristics are more likely to be related to some outcomes than to others, so each analysis focuses on the most pertinent counseling characteristics.<sup>10</sup>

The figures in this section depict the subset of counseling characteristics that have a statistically significant relationship to the outcomes in both the descriptive figures and subsequent regression analysis.<sup>11</sup> A full set of the descriptive statistics examined for each outcome are available in Appendix Tables A1 and A2.

Following these descriptive findings are results from regression analyses. The regression analyses capture the relationships between the counseling context and the students' outcomes, while

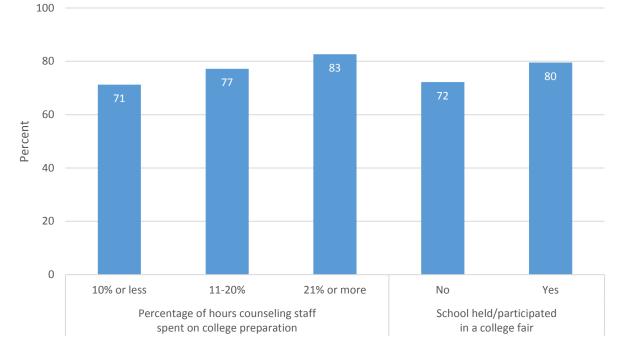
 Including all counseling characteristics in every regression is not possible because many of the factors are highly correlated with each other, sometimes causing the regression to not converge.
For more information on statistical significance, see the Data and Methods Appendix. holding constant other school and student characteristics related to postsecondary entry. Holding these factors constant is important because counseling context variables and students' demographic characteristics are often related to one another. For example, such student attributes as high school type (public or private), 11<sup>th</sup>-grade mathematics score, parents' highest level of education, students' postsecondary degree goals, and students' race/ethnicity and gender are often related to both the counseling students receive and their postsecondary outcomes. The regressions therefore include these demographic variables to isolate their effects from those of the counseling variables.

#### Outcome 1: Meeting One on One with a Counselor to Discuss College Admissions During 12th Grade

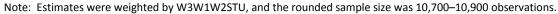
Meeting with a counselor to discuss college admissions may serve as a first step toward attending college and may provide students with information they need to make an informed postsecondary decision.<sup>12</sup>

12 There is no information on whether this meeting was initiated by the student or the counselor but, regardless,

#### Figure 1



Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Met One on One with a High School Counselor to Discuss College Admissions in 12th Grade, by Various Counselor Characteristics



#### **COUNSELOR CHARACTERISTICS**

#### **Time Spent on College Preparation**

The amount of time counselors spend on college preparation corresponds positively with meetings with students. Among completers who attended high schools where counselors spent 10 percent or less of their time on college preparation, 71 percent of completers had met one on one with a counselor to discuss college admissions (Figure 1). In contrast, 77 percent of completers who attended schools where counselors spent 11 to 20 percent of their time on college preparation had done so, as did 83 percent of completers who attended schools where counselors spent 21 percent of their time or more on college preparation.

Regression results indicate that, even after controlling for student and school characteristics, the time counselors spent on college preparation was related to whether high school completers met with counselors to discuss college admissions. Compared with students who attended schools where counseling staff spent 10 percent or less of their time on college preparation, students who attended schools where counselors spent 11 to 20 percent of their time on college preparation had 41 percent higher odds<sup>13</sup> of meeting with a counselor to discuss college admissions (Table 2). Students who attended schools where counselors spent 21 percent or more of their time on college preparation had 81 percent higher odds of meeting with a counselor to discuss college admissions.

#### **Types of College Help Schools Provided**

High schools may provide a variety of resources to help students plan for education and/or work after high school. Actions that may be particularly likely to foster meetings between students and counselors include schools offering access to college fairs and helping students identify criteria for selecting colleges.

About 72 percent of students who attended a high school that did not offer a college fair met with a counselor to discuss college admissions, compared with 80 percent of students who attended schools that offered college fairs (Figure 1). Whether students' schools held a college fair was also significantly related to meeting with a counselor to discuss college admissions once controls were added in the regression model. Compared with their peers whose schools did not offer college fairs, students who attended schools that participated in college fairs had 37 percent higher odds of meeting with a counselor to discuss college admissions (Table 2).<sup>14</sup>

#### **Characteristics with No Effect**

Two counseling characteristics examined in the regression model were not related to meeting with a counselor to discuss college admissions: whether a school had a counselor whose primary responsibility was college applications or selection and whether the school helped students identify criteria for selecting colleges (Table 2).

#### STUDENT CHARACTERISTICS THAT Counselors may be able to influence

### Participating in a Program That Provided College Preparation

Programs that provide college preparation, for example, Upward Bound, Talent Search, or GEAR UP, work to give students the tools they need to apply to and be accepted by a postsecondary institution, and schools and counselors may be able to facilitate students' participation in these programs. Seventy-six percent of high school completers who had not participated in a program that provided college preparation met with a counselor to discuss college admissions, compared with 84 percent of their peers who did participate in such a program (Figure 2).

The regression model also showed that, independent of other variables' effects, attending programs that provided college preparation was associated with meeting with a counselor one on one to discuss college admissions. Students who participated in a college preparation program had 45 percent higher odds of meeting with a counselor to discuss admissions to college than did their peers who did not attend such a program (Table 2).

### Proportion of a Student's Close Friends Who Planned to Attend a Four-Year College

Students' peers can affect their preferences for postsecondary education and also the information they receive about various postsecondary options. If schools and counselors are able to create a culture of four-year college going, they can influence students' behavior both directly and indirectly through their friends' college-going plans. Among high school completers who reported that fewer than half of their friends planned to attend a four-year college, 73 percent met with a counselor to discuss college admissions (Figure 2). In contrast, among students who reported that more than half of their friends planned to attend a four-year college, 83 percent had met with a counselor to discuss college admissions.

The regression model yields similar results: students who reported that more than half of their close friends planned to attend a fouryear college had 39 percent higher odds of meeting with a counselor to discuss college admissions than those who had fewer friends that planned to attend a four-year college (Table 2).

### Parent's Expectation in Ninth Grade for Child's Educational Attainment

Parents' educational expectations for their child influence students' postsecondary preparation.<sup>15</sup> Among high school completers whose parents expected, when their child was in ninth grade, that a high school diploma would be their child's highest educational attainment, 63 percent met with a counselor to discuss college admissions. In comparison, 84 percent of those whose parents expected them to earn a graduate degree had met with a counselor to discuss college admissions (Figure 2).

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this outcome is likely important to subsequent college going.

<sup>13</sup> For more information on understanding odds ratios, see the Data and Methods Appendix.

<sup>14</sup> It is important to remember that the analysis does not estimate the effect of a student attending a college fair but instead estimates the effect of attending a school that offered one.

<sup>15</sup> See the previous NACAC report A National Look at the High School Counseling Office: What Is It Doing and What Role Can It Play in Facilitating Students' Paths to College.

#### Table 2: Logistic Regression Results: Whether 2013 High School Completers Who Were Ninth Graders in 2009 Met One on One with a Counselor to Discuss College Admissions in 12th Grade

	Variable	Odds Ratio	P>IzI			
cs	Percentage of hours counseling staff spent on college readiness, selection, and applications					
Counseling characteristics	(10% or less)	-	_			
	11% to 20%	1.410	0.001 **			
	21% or more	1.811	0.000 ***			
	School had one or more counselors whose primary responsibility was college applications and/or college selection	1.042	0.610			
	School held or participated in college fairs	1.370	0.027 *			
Co	School helped students identify criteria for selecting colleges	1.446	0.242			
	Perceptions of college affordability in 11th grade	0.999	0.534			
	Participated in a program that provided college preparation by 11th grade <sup>1</sup>	1.452	0.000 ***			
шау	Proportion of close friends who planned in 11th grade to attend a four-year college in Fall 2013					
\$101	(Less than half)	_	_			
	More than half	1.389	0.000 ***			
ience	Don't know	0.822	0.057 †			
ractensucs unat cou be able to influence	Parent's expectation when child was in ninth grade for the highest level of education child would achieve	· · · · · ·				
e to	(High school or less)	_	_			
e abl	Some college	1.057	0.768			
pe	Bachelor's degree	1.340	0.070 †			
Student characteristics that counselors may be able to influence	Graduate degree	1.724	0.001 **			
Inuc	Don't know	1.105	0.647			
0	Student reported having talked to high school counselor in ninth grade about going to college	1.268	0.017 *			
	When child was in 11th grade parent reported having talked with a high school counselor about child's options for life after high school	1.426	0.003 **			
	School type	· · · · · · · · · · · · · · · · · · ·				
	(Public)	_	_			
	Private	2.193	0.000 ***			
	Quintile of 11th grade mathematics exam score	1.091	0.003 **			
	Parents' highest degree attained					
	(High school diploma or lower)	_	_			
	Associate's degree or certificate	1.249	0.021 *			
	Bachelor's degree or higher	1.234	0.012 *			
s	In ninth grade, student planned to enroll in an associate's or bachelor's degree program in the year after high school	1.111	0.194			
Controls	Race/ethnicity					
CO	(White)	_	_			
	Black	1.559	0.003 **			
	Hispanic	1.200	0.100			
	Asian	1.062	0.735			
	Other race <sup>2</sup>	1.190	0.142			
	Sex					
	(Male)	_	_			
	Female	1.146	0.065 †			
	Telliale	1.110	0.000			

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

<sup>1</sup> Includes college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

<sup>2</sup> "Other race" includes non-Hispanic American Indian/Alaska Natives, non-Hispanic Native Hawaiian/Pacific Islanders, and students of more than one race.

Note: Dummy variables indicating missing information for each variable were included in the model but not reported here. The results were similar when observations with missing data were dropped instead of including such dummy variables. Estimates were weighted by W3W1W2STU, and the rounded sample size was 12,400 observations.

Holding all else constant, the regression model shows similar findings. Relative to students whose parents expected no postsecondary enrollment, those whose parents expected them to earn a graduate degree had 72 percent higher odds of meeting with a counselor to discuss college admissions (Table 2).

#### Meeting with a Counselor in Ninth Grade to Discuss Going to College

Interaction with a counselor early in high school may be related to whether a student seeks out a counselor for more specific college advice later in high school. Among students who had not met with a counselor in ninth grade to discuss going to college, 77 percent met one on one with a counselor in 12<sup>th</sup> grade to discuss college admissions (Figure 2). In comparison, 83 percent of students who did meet with a counselor in ninth grade to discuss going to college met with a counselor to discuss college admissions in 12<sup>th</sup> grade.

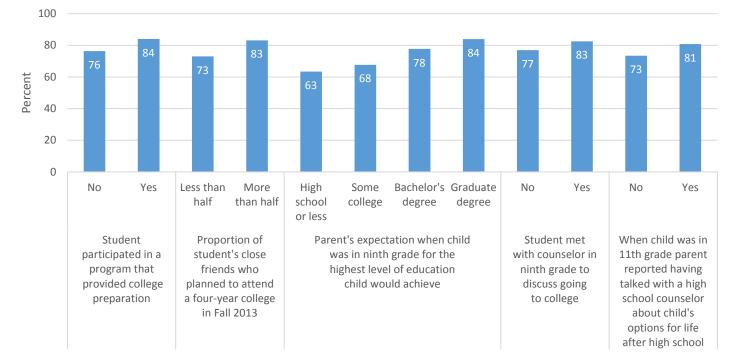
The regression results confirm this finding, indicating that students who met with a counselor in ninth grade to discuss going to college had 27 percent higher odds of meeting with a counselor during  $12^{th}$  grade to discuss college admissions (Table 2).

## Parent Meeting with a Counselor by 11th Grade to Discuss Child's Options for Life after High School

Parents who meet with a high school counselor to discuss their child's future may have different expectations about their child's postsecondary options or college affordability than other parents do. They may also be better able to help their child attend postsecondary education. Among students whose parents did not meet with a counselor by the time their child was in 11<sup>th</sup> grade to discuss options for the child's life after high school, 73 percent met with a high school counselor to discuss college admissions (Figure 2). Among students whose parents did meet with a counselor, relatively more (81 percent) met with a counselor themselves.

Again the regression results confirm these findings. Students whose parents met with a counselor to discuss their child's options for life after high school by the child's 11<sup>th</sup> grade year had 43 percent higher odds of meeting with a counselor themselves to discuss college admissions during their senior year (Table 2).

#### Figure 2



Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Met One on One with a High School Counselor to Discuss College Admissions in 12th Grade, by Various Student Characteristics Counselors May Be Able to Influence

Note: Programs that provided college preparation include college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA. Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,200–12,300 observations for all analyses except whether a parent met with a counselor by 11th grade, which had a rounded sample size of 5,100.

#### **Characteristics with No Effect**

One student characteristic that counselors may be able to influence that was examined in the regression model—student perceptions of college affordability in 11<sup>th</sup> grade—was not related to meeting with a counselor about college admissions (Table 2).

#### Outcome 2: Meeting One on One with a Counselor to Discuss Financial Aid During 12th Grade

Students' postsecondary entry may be shaped by conversations with their counselors about topics beyond college admissions. Additionally, meeting with a counselor to discuss financial aid may help encourage students to attend postsecondary education by supplying them with information on the various ways higher education can be financed and how to access such funding.

#### **COUNSELOR CHARACTERISTICS**

#### Schools Had a Counselor Whose Primary Responsibility Was College Selection and/or Admissions

Counseling departments that have at least one counselor whose primary responsibility is college selection and/or admissions may be

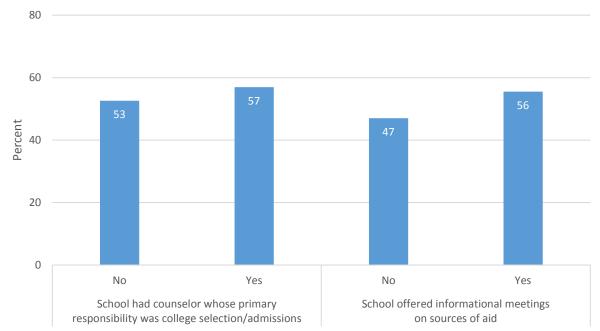
better able than counseling departments without such a specialist to assist students in their transition to college. In fact, 53 percent of students who attended a school without a counselor focused on college selection and/or admissions met with a counselor to discuss financial aid, compared with 57 percent of students attending schools with such a counselor (Figure 3).

While the descriptive difference is small, the effect remains significant after controlling for other variables in the regression model. Students who attended high schools that had a counselor whose primary responsibility was college selection and/or applications had 16 percent higher odds of meeting with a counselor to discuss financial aid (Table 3).

#### **Types of College Help Schools Provided**

Forty-seven percent of completers who attended schools that did not offer informational meetings on sources of aid met with a counselor to discuss financial aid, compared with 56 percent of students at schools that offered such help (Figure 3). Whether a school offered informational meetings on sources of financial aid was related to meeting with a counselor to discuss financial aid in the regression model as well. Students who attended schools that provided such meetings had 40 percent higher odds of meeting with a counselor to discuss financial aid (Table 3).

#### Figure 3



Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Met One on One with a High School Counselor to Discuss Financial Aid in 12th Grade, by Various Counselor Characteristics

Note: Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,900–11,000 observations. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09), Base Year, 2009–10; First Follow-up, 2011–12; and 2013 Update.

### Table 3: Logistic Regression Results: Whether 2013 High School Completers Who Were Ninth Graders in 2009 Met One on One with a Counselor to Discuss Financial Aid in 12th Grade

	Variable	Odds Ratio	P> z			
Counseling characteristics	Percentage of hours counseling staff spent on college readiness, selection, and applications					
	(10% or less)	-	_			
	11% to 20%	1.063	0.476			
	21% or more	1.117	0.197			
	School had one or more counselors whose primary responsibility was college applications and/or college selection	1.158	0.021 *			
	School sent reminders of FAFSA deadlines	1.039	0.573			
	School offered informational meetings on sources of financial aid	1.404	0.002 **			
	Perceptions of college affordability in 11th grade	0.996	0.072 †			
У	Participated in a program that provided college preparation by 11th grade <sup>1</sup>	1.367	0.000 ***			
s ma	Proportion of close friends who planned in 11th grade to attend a four-year college in Fall 2013					
Student characteristics that counselors may be able to influence	(Less than half)	-	_			
e	More than half	0.982	0.796			
at co ienc	Don't know	0.971	0.757			
acteristics that cou be able to influence	Parent's expectation when child was in ninth grade for the highest level of education child would achieve					
stic: e to	(High school or less)	-	_			
cteri e abl	Some college	1.057	0.767			
be be	Bachelor's degree	1.296	0.118			
nt ch	Graduate degree	1.429	0.035 *			
ndeı	Don't know	1.279	0.237			
St	Student reported having talked to high school counselor in ninth grade about going to college	1.224	0.007 **			
	When child was in 11th grade parent reported having talked with a high school counselor about child's options for life after high school	1.278	0.009 **			
	School type					
	(Public)	-	_			
	Private	1.110	0.225			
	Quintile of 11th grade mathematics exam score	1.024	0.323			
	Parents' highest degree attained					
	(High school diploma or lower)	-	_			
	Associate's degree or certificate	1.069	0.421			
	Bachelor's degree or higher	0.625	0.000 ***			
s	In ninth grade, student planned to enroll in an associate's or bachelor's degree program in the year after high school	1.073	0.293			
Controls	Race/ethnicity					
C01	(White)	_	_			
	Black	2.428	0.000 ***			
	Hispanic	1.494	0.000 ***			
	Asian	1.390	0.007 **			
	Other race <sup>2</sup>	1.336	0.002 **			
	Sex					
	(Male)	_	_			
	· · ·					
	Female	1.317	0.000 ***			

- Reference category, no estimate calculated.

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

 $^{\rm 1}$  Includes college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

<sup>2</sup> "Other race" includes non-Hispanic American Indian/Alaska Natives, non-Hispanic Native Hawaiian/Pacific Islanders, and students of more than one race.

Note: Dummy variables indicating missing information for each variable were included in the model but not reported here. The results were similar when observations with missing data were dropped instead of including such dummy variables. Estimates were weighted by W3W1W2STU, and the rounded sample size was 12,400 observations.

#### **Characteristics with No Effect**

Two of the counselor characteristics examined in the regression model were not related to meeting with a counselor to discuss financial aid. The amount of time counseling staff spent on college readiness, selection, and applications and whether the school sent out reminders of FAFSA deadlines were not related to meeting with a counselor to discuss financial aid (Table 3).

#### STUDENT CHARACTERISTICS THAT COUNSELORS MAY BE ABLE TO INFLUENCE

### Participating in a Program That Provided College Preparation

Participating in a college preparation program was also related to meeting with a counselor one on one to discuss financial aid. Fifty-two percent of high school graduates who did not participate in a program that provided college preparation met with a counselor to discuss financial aid, compared with 64 percent of those who participated in such a program (Figure 4).

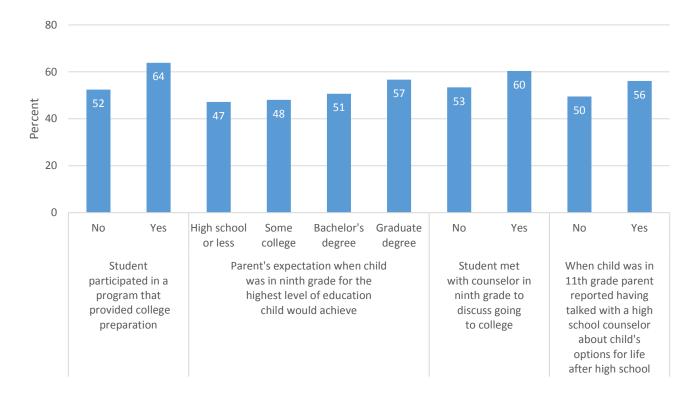
Similarly, in the regression model, students who participated in a college preparation program had 37 percent higher odds of meeting with a counselor to discuss financial aid, compared with those who did not participate in such a program (Table 3).

### Parent's Expectation in Ninth Grade for Child's Educational Attainment

Among high school completers whose parents expected, when their child was in ninth grade, that their child would graduate from high school but not attend college, 47 percent met with a counselor to discuss financial aid. In contrast, 57 percent of those whose parents expected them to earn a graduate degree met with a counselor to discuss financial aid (Figure 4).

#### Figure 4

Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Met One on One with a High School Counselor to Discuss Financial Aid in 12th Grade, by Various Student Characteristics Counselors May Be Able to Influence



Note: Programs that provided college preparation include college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA. Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,300–12,400 observations for all analyses except whether a parent met with a counselor by 11th grade, which had a rounded sample size of 5,100.

The regression analysis confirms this finding: relative to students whose parents expected no postsecondary enrollment, students whose parents expected graduate degree attainment had 43 percent higher odds of meeting with a counselor to discuss financial aid (Table 3).

#### Meeting with a Counselor in Ninth Grade to Discuss Going to College

Just as meeting with a counselor in ninth grade was related to meeting with a counselor to discuss college admissions in 12<sup>th</sup> grade, ninth-grade counselor meetings were also related to subsequent meetings about financial aid. Fifty-three percent of students who had not met with a counselor in ninth grade to discuss going to college met with a counselor specifically to discuss financial aid in 12<sup>th</sup> grade. In contrast, 60 percent of students who met with a counselor in ninth grade to discuss going to college also met with a counselor in 12<sup>th</sup> grade to discuss financial aid (Figure 4).

Similarly, the regression results indicate that students who met with a counselor in ninth grade to discuss going to college had 22 percent higher odds of meeting with a counselor specifically to discuss financial aid during 12<sup>th</sup> grade, compared with students who had not met with a counselor as a ninth grader (Table 3).

#### Parent Meeting with a Counselor by 11th Grade to Discuss Child's Options for Life After High School

Whether students' parents met with a counselor to discuss their child's options for life after high school was also associated with whether students met with a counselor to discuss financial aid specifically. Fifty percent of students whose parents did not meet with a counselor to discuss options for life after high school met with a counselor during 12<sup>th</sup> grade to discuss financial aid, compared with 56 percent of students whose parents met with a counselor (Figure 4).

This relationship is also significant in the regression model. Students whose parents met with a counselor to discuss their child's options for life after high school had 28 percent higher odds of meeting with a counselor to discuss financial aid (Table 3).

#### **Characteristics with No Effect**

Two student characteristics that counselors may be able to influence were not statistically significant in the regression model. Student perceptions of college affordability and the proportion of a student's close friends with four-year college plans were not related to meeting with a counselor to discuss financial aid (Table 3).<sup>16</sup>

### Outcome 3: FAFSA Submission by Fall 2013

Submitting a FAFSA allows students to access federal financial aid, decreasing the financial burden of attending college. Lowering the financial burden of going to college may in turn increase college attendance and persistence.

#### **COUNSELOR CHARACTERISTICS**

#### **Characteristics with No Effect**

None of the counseling characteristics examined—the percentage of hours counseling staff spent on college readiness, selection, and applications; whether the school had at least one counselor whose primary responsibility was college applications or selection; whether the school sent reminders of FAFSA deadlines; and whether the school helped students and families complete the FAFSA—were related to FAFSA submission in the regression model (Table 4).

#### STUDENT CHARACTERISTICS THAT COUNSELORS MAY BE ABLE TO INFLUENCE

#### Meeting with a Counselor to Discuss Financial Aid During 12th Grade

Because meeting one on one with a counselor to discuss financial aid may also be related to whether students submit a FAFSA, this previous outcome variable was included as an explanatory variable in the regression model measuring FAFSA submission. With this variable included in the model, it is possible to assess whether meeting with a counselor to discuss financial aid has an effect on whether students submit a FAFSA independent of the variables that predict meeting with a counselor.

Only 61 percent of students who did not meet with a counselor during  $12^{\text{th}}$  grade to discuss financial aid submitted a FAFSA, compared with 91 percent of students who met with a counselor (Figure 5).

The regression results confirm this finding and show that meeting with a counselor to discuss financial aid had a large effect on FAFSA completion net of the other factors examined. Students who met with a counselor to discuss financial aid had odds of submitting a FAFSA that were 6.8 times higher than those of students who did not meet with a counselor (Table 4).

## Proportion of a Student's Close Friends Who Planned to Attend a Four-Year College

Among high school completers who reported that a minority of their friends planned to attend a four-year college, 70 percent submitted a FAFSA, compared with 82 percent of students reporting that a majority of their friends planned to attend a four-year college (Figure 5). The regression model also identified that the proportion of a student's friends who planned to attend a four-year school had an effect on FAFSA submission. Holding all else constant, students who reported that a majority of their friends planned to attend a four-year college had 59 percent higher odds of submitting a FAFSA than those who had a lower proportion of friends who planned to attend a four-year college (Table 4).

<sup>16</sup> Student perceptions of affordability was significant at the 0.10 level but not at the 0.05 level.

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### Parent's Expectation in Ninth Grade for Child's Educational Attainment

Parents' postsecondary expectations were also related to students' FAFSA submission. Only 51 percent of high school completers whose parents expected their highest education to be a high school diploma completed a FAFSA, compared with 80 percent of completers whose parents expected them to earn a bachelor's degree and 83 percent of those whose parents expected them to earn a graduate degree (Figure 5).

A similar effect was found in the regression model. Relative to students whose parents expected no postsecondary attendance, those whose parents expected bachelor's degree attainment had odds of submitting a FAFSA that were 2.2 times as high, and those whose parents expected graduate degree attainment had odds of submitting a FAFSA that were 2.1 times as high (Table 4).

#### **Characteristics with No Effect**

A few of the student characteristics that counselors may be able to influence—perceptions of college affordability, participation in a program that provides college preparation, meeting with a counselor in ninth grade to discuss going to college, and a parent meeting with a counselor to discuss the child's options for life after high school—were not significant in the regression model (Table 4).<sup>17</sup>

# Outcome 4: Postsecondary Attendance in Fall 2013

The fourth outcome is Fall 2013 attendance in any postsecondary institution. As with the regression analysis of FAFSA submissions, this regression also includes an indicator related to previous outcome variables—in this case, whether a student met with a counselor to discuss either college admissions or financial aid.

#### **COUNSELOR CHARACTERISTICS**

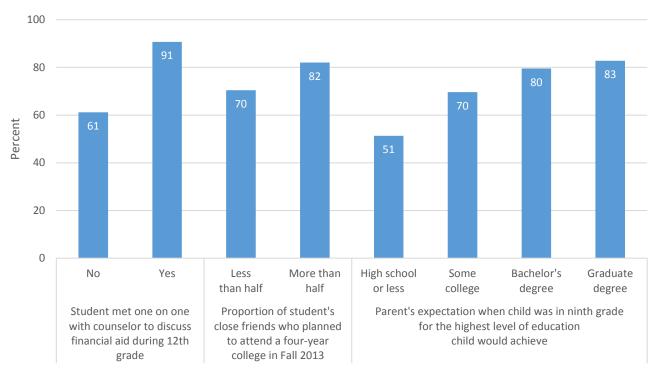
#### **Characteristics with No Effect**

Most of the counseling characteristics examined—the percentage of hours counseling staff spent on college readiness, selection, and applications; whether the school had at least one counselor whose primary responsibility was college applications or selection; and whether the school held college fairs—were not related to post-

17 Student perceptions of affordability was significant at the 0.10 level but not at the 0.05 level.

#### Figure 5

Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Submitted a FAFSA, by Various Student Characteristics Counselors May Be Able to Influence



Note: Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,900–13,300 observations. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09), Base Year, 2009–10; First Follow-up, 2011–12; and 2013 Update.

S	Variable	Odds Ratio	P>IzI			
ics	Percentage of hours counseling staff spent on college readiness, selection, and applications					
Counseling characteristics	(10% or less)	-	-			
racte	11% to 20%	1.101	0.364			
chai	21% or more	1.030	0.774			
ing	School had one or more counselors whose primary responsibility was college applications and/or college selection	0.935	0.379			
Inse	School sent reminders of FAFSA deadlines	0.964	0.665			
Cot	School helped students/families complete FAFSA	0.896	0.189			
	Student met one on one with a counselor to discuss financial aid during 12th grade	6.816	0.000 ***			
	Perceptions of college affordability in 11th grade	0.996	0.096 †			
lay	Participated in a program that provided college preparation by 11th grade <sup>1</sup>	1.086	0.456			
ILS II	Proportion of close friends who planned in 11th grade to attend a four-year college in Fall 2013					
Iselo	(Less than half)	_	_			
coun	More than half	1.586	0.000 ***			
hat ( fluer	Don't know	0.981	0.856			
Student characteristics that counselors may be able to influence	Parent's expectation when child was in ninth grade for the highest level of education child would achieve					
eristi ble t	(High school or less)	_	_			
acte oe a	Some college	1.793	0.003 **			
char	Bachelor's degree	2.233	0.000 ***			
ent	Graduate degree	2.092	0.000 ***			
Stud	Don't know	1.426	0.112			
	Student reported having talked to high school counselor in ninth grade about going to college	0.977	0.789			
-	When child was in 11th grade parent reported having talked with a high school counselor about child's options for life after high school	1.171	0.155			
	School type					
-	(Public)	_	_			
-	Private	0.728	0.115			
	Quintile of 11th grade mathematics exam score	1.235	0.000 ***			
-	Parents' highest degree attained					
-	(High school diploma or lower)	_	_			
-	Associate's degree or certificate	1.411	0.000 ***			
-	Bachelor's degree or higher	1.139	0.158			
s	In ninth grade, student planned to enroll in an associate's or bachelor's degree program in the year after high school	1.437	0.000 ***			
Controls	Race/ethnicity					
Cor	(White)	_	_			
-	Black	1.740	0.000 ***			
-	Hispanic	1.050	0.676			
-	Asian	1.154	0.354			
-	Other race <sup>2</sup>	1.224	0.102			
-	Sex		0.102			
-	(Male)	_	_			
-	Female	1.569	0.000 ***			
		0.188	0.000 ***			

#### Table 4: Logistic Regression Results: Whether 2013 High School Completers Who Were Ninth Graders in 2009 Submitted a FAFSA by Fall 2013

- Reference category, no estimate calculated.

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

<sup>1</sup> Includes college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

<sup>2</sup> "Other race" includes non-Hispanic American Indian/Alaska Natives, non-Hispanic Native Hawaiian/Pacific Islanders, and students of more than one race.

Note: Dummy variables indicating missing information for each variable were included in the model but not reported here. The results were similar when observations with missing data were dropped instead of including such dummy variables. Estimates were weighted by W3W1W2STU, and the rounded sample size was 12,400 observations.

secondary attendance in the regression model. One of the counselor characteristics—whether the school sent reminders of FAFSA deadlines—was significant, although the effect was in the opposite direction of that expected (Table 5).<sup>18</sup>

## STUDENT CHARACTERISTICS THAT COUNSELORS MAY BE ABLE TO INFLUENCE

### Meeting with a Counselor to Discuss College Admissions or Financial Aid

Only 65 percent of students who did not meet with a counselor in 12<sup>th</sup> grade to discuss college admissions or financial aid attended postsecondary education in Fall 2013, compared with 87 percent of students who met with a counselor (Figure 6).

The regression analysis confirms that there is a strong relationship between meeting with a counselor to discuss college admissions or financial aid and attending college, even controlling for other factors.

18 It is unlikely that sending out reminders of FAFSA deadlines is harmful to students' college attendance. More likely there is variation across schools in students' socioeconomic background that is not being completely controlled for in the regression model. For example, the previous NACAC report A National Look at the High School Counseling Office: What Is It Doing and What Role Can It Play in Facilitating Students' Paths to College showed that schools with a higher proportion of students receiving free or reduced-priced lunch were more likely to send out reminders of FAFSA deadlines.

Students who met with a counselor to discuss college admissions or financial aid had odds of attending college that were 3.2 times higher than those who did not meet with a counselor (Table 5).

### Proportion of a Student's Close Friends Who Planned to Attend a Four-Year College

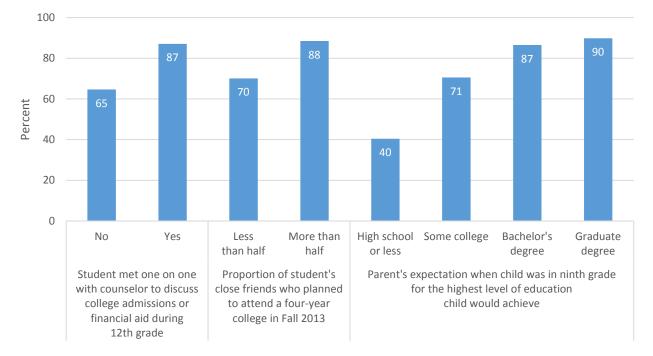
Among high school completers who reported that less than half of their friends planned to attend a four-year college, 70 percent attended postsecondary education. In contrast, 88 percent of students who had more friends planning to attend a four-year college attended postsecondary education themselves in Fall 2013 (Figure 6).

The regression results confirmed this relationship. Holding all else constant, students who reported that a majority of their friends planned to attend a four-year college had 75 percent higher odds of attending college than those who reported fewer friends planned to attend a four-year college (Table 5).

## Parent's Expectation in Ninth Grade for Child's Educational Attainment

Parents' college expectations were also related to postsecondary attendance. Among high school completers whose parents expected

#### Figure 6



Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Attended Postsecondary Education in Fall 2013, by Various Student Characteristics Counselors May Be Able to Influence

Note: Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,100–12,400 observations. SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09), Base Year, 2009–10; First Follow-up, 2011–12; and 2013 Update.

	Variable	Odds Ratio	P>IzI			
Counseling characteristics	Percentage of hours counseling staff spent on college readiness, selection, and applications	-				
	(10% or less)	-	_			
	11% to 20%	0.932	0.569			
	21% or more	0.949	0.676			
	School had one or more counselors whose primary responsibility was college applications and/or college selection	1.121	0.228			
	School held or participated in college fairs	1.167	0.336			
	School sent reminders of FAFSA deadlines	0.791	0.024 *			
	Student met one on one with a counselor to discuss financial aid during 12th grade	3.165	0.000 ***			
	Perceptions of college affordability in 11th grade	0.996	0.210			
lay	Participated in a program that provided college preparation by 11th grade <sup>1</sup>	1.098	0.420			
ors n	Proportion of close friends who planned in 11th grade to attend a four-year college in Fall 2013	1				
Student characteristics that counselors may be able to influence	(Less than half)	_	_			
coun	More than half	1.754	0.000 ***			
racteristics that cou be able to influence	Don't know	1.011	0.922			
cs t o int	Parent's expectation when child was in ninth grade for the highest level of education child would achieve					
risti ble t	(High school or less)	_	_			
acte oe al	Some college	2.279	0.000 ***			
char	Bachelor's degree	3.149	0.000 ***			
ent	Graduate degree	3.350	0.000 ***			
stud	Don't know	1.812	0.008 **			
	Student reported having talked to high school counselor in ninth grade about going to college	1.082	0.432			
	When child was in 11th grade parent reported having talked with a high school counselor about child's options for life after high school	0.981	0.884			
	School type	01001				
	(Public)	_	_			
	Private	4.280	0.000 ***			
	Quintile of 11th grade mathematics exam score	1.284	0.000 ***			
	Parents' highest degree attained	1.201	0.000			
	(High school diploma or lower)	_				
	Associate's degree or certificate	1.366	0.004 **			
	Bachelor's degree or higher	2.153	0.004			
	In ninth grade, student planned to enroll in an associate's or bachelor's degree program in the year after high school	1.652	0.000 ***			
Controls	Race/ethnicity					
Con	(White)	_				
	Black	1.059	0.706			
		1.033	0.313			
	Hispanic Asian	2.554	0.010 ***			
	Other race <sup>2</sup>	1.065	0.652			
	Sex (Male)					
	(Male)	- 1.400	-			
	Female	1.420	0.000 ***			
	Intercept	0.124	0.000 ***			

#### Table 5: Logistic Regression Results: Whether 2013 High School Completers Who Were Ninth Graders in 2009 Attended Postsecondary Education in Fall 2013

- Reference category, no estimate calculated.

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

 $^{\rm 1}$  Includes college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

<sup>2</sup> "Other race" includes non-Hispanic American Indian/Alaska Natives, non-Hispanic Native Hawaiian/Pacific Islanders, and students of more than one race.

Note: Dummy variables indicating missing information for each variable were included in the model but not reported here. The results were similar when observations with missing data were dropped instead of including such dummy variables. Estimates were weighted by W3W1W2STU, and the rounded sample size was 12,500 observations.

that their child would not pursue education beyond a high school diploma, 40 percent attended postsecondary education. In contrast, 87 percent of completers whose parents expected them to earn a bachelor's degree and 90 percent of those whose parents expected them to earn a graduate degree attended postsecondary education by Fall 2013 (Figure 6).

A similar effect was found in the regression model. Relative to students whose parents expected no postsecondary enrollment, those whose parents expected bachelor's degree attainment had odds of attending postsecondary education that were 3.1 times as high, and those whose parents expected graduate degree attainment had odds of attending college that were 3.4 times as high (Table 5).

#### **Characteristics with No Effect**

A few of the student characteristics that counselors may be able to influence—perceptions of college affordability, participation in a program that provided college preparation, meeting with a counselor in ninth grade to discuss going to college, and a parent meeting with a counselor to discuss the child's options for life after high school—were also not significant in the regression model (Table 5).

#### Outcome 5: Bachelor's Degree Program Attendance in Fall 2013

The final outcome is Fall 2013 attendance at a bachelor's degree program. As with the regression analysis of any postsecondary attendance, this regression also includes an explanatory variable indicating whether a student met with a counselor to discuss either college admissions or financial aid.

#### **COUNSELOR CHARACTERISTICS**

#### **Characteristics with No Effect**

Most of the counseling characteristics examined—whether the school had at least one counselor whose primary responsibility was college applications or selection, whether the school held college fairs, and whether the school sent reminders of FAFSA deadlines—were not significantly related to bachelor's degree program attendance in the regression model.<sup>19</sup> One of the counselor characteristics—the percentage of hours counseling staff spent on college readiness, selection, and applications—was significant for one of the groups of hours, although the effect was in the opposite direction of that expected (Table 6).<sup>20</sup>

### STUDENT CHARACTERISTICS THAT COUNSELORS MAY BE ABLE TO INFLUENCE

### Meeting with a Counselor to Discuss College Admissions or Financial Aid

Only 36 percent of students who did not meet with a counselor during 12th grade to discuss college admissions or financial aid attended a bachelor's degree program in Fall 2013, compared with 57 percent of students who met with a counselor (Figure 7).

The regression analysis confirms that meeting with a counselor to discuss college admissions or financial aid had a positive and significant effect on bachelor's degree attendance. Students who met with a counselor to discuss college admissions or financial aid had odds of pursuing a bachelor's degree program that were twice as high as those of students who did not meet with a counselor to discuss these topics (Table 6).

# Participating in a Program That Provides College Preparation

Some 49 percent of high school graduates who did not participate in a program that provided college preparation attended a bachelor's degree program, compared with 53 percent of those who participated in such a program (Figure 7). While this is a small difference, the relationship between these activities was significant in the regression model as well. Holding all else constant, students who participated in a program that provided college preparation had 21 percent higher odds of attending a bachelor's degree program, compared with their peers who had not participated in such a program (Table 6).

### Proportion of a Student's Close Friends Who Planned to Attend a Four-Year College

Among high school completers who reported that less than half of their friends planned to attend a four-year college, 30 percent attended a bachelor's degree program (Figure 7). In contrast, 66 percent of students who had more friends planning to attend a fouryear college attended a bachelor's degree program themselves in Fall 2013.

The regression results confirmed this relationship. Holding all else constant, students who reported that a majority of their friends planned to attend a four-year college had 2.6 times the odds of attending a bachelor's program compared with those who had fewer friends who planned to attend a four-year college (Table 6).

### Parent's Expectation in Ninth Grade for Child's Educational Attainment

Parents' postsecondary expectations were also related to bachelor's degree program attendance. Some 7 percent of high school completers whose parents expected that their highest education would

 $<sup>19 \</sup>quad \text{Whether a school sent reminders of FAFSA deadlines was significant at the 0.10 level but not at the 0.05 level.}$ 

<sup>20</sup> It is unlikely that it is harmful to students for counselors to spend more time on college readiness, selection, and applications, especially because the effect on the largest time category, 21 percent of time or more, is not statistically significant. More likely there is variation across schools in students' socioeconomic background that is not being completely controlled for in the regression model. For example, the previous NACAC report, A National Look at the High School Counseling Office: What Is It Doing and What Role Can It Play in Facilitating Students' Paths to College, showed that schools with 60 percent or more of their students receiving free or reduced-priced lunch were more likely than schools with 40 to 59 percent of students receiving free or reduced-priced lunch to have counselors who spent more than 20 percent of their time on college readiness, selection, and applications.

be a high school diploma attended a bachelor's degree program, compared with 55 percent of students whose parents expected them to earn a bachelor's degree and 67 percent of those whose parents expected them to earn a graduate degree (Figure 7).

A similar effect was found in the regression model. Relative to students whose parents expected no postsecondary enrollment, those whose parents expected bachelor's degree attainment had odds of attending a bachelor's degree program that were 4.1 times higher, and those whose parents expected graduate degree attainment had odds that were 5.8 times higher (Table 6).

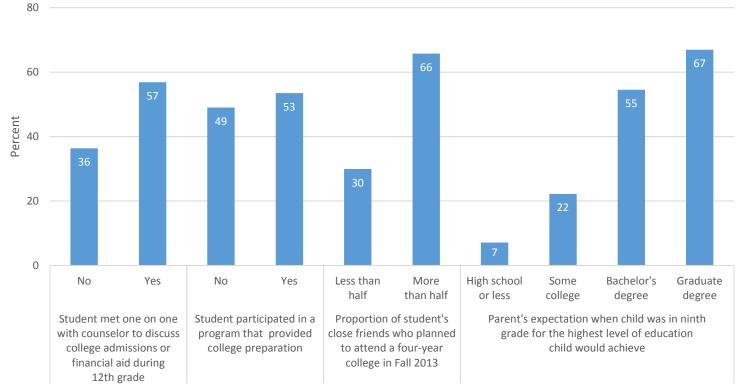
#### **Characteristics with No Effect**

A few of the student characteristics that counselors may be able to influence—perceptions of college affordability, meeting with a counselor in ninth grade to discuss going to college, and a parent meeting with a counselor to discuss the child's options for life after high school—were also not significant in the regression model (Table 6).<sup>21</sup>

21 A parent meeting with a counselor to discuss the child's options for life after high school was significant at the 0.10 level, but not at the 0.05 level.

#### Figure 7

Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Attended a Bachelor's Degree Program in Fall 2013, by Various Student Characteristics Counselors May Be Able to Influence



Note: Programs that provided college preparation include college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA. Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,100–12,400 observations.

## Table 6: Logistic Regression Results: Whether 2013 High School Completers Who Were Ninth Graders in 2009 Attended a Bachelor's Degree Program in Fall 2013

	Variable	Odds Ratio	P>IzI				
ics	Percentage of hours counseling staff spent on college readiness, selection, and applications						
Counseling characteristics	(10% or less)	_	_				
	11% to 20%	0.728	0.002 **				
	21% or more	0.884	0.231				
	School had one or more counselors whose primary responsibility was college applications and/or college selection	1.049	0.531				
Inse	School held or participated in college fairs	0.999	0.993				
Cot	School sent reminders of FAFSA deadlines	0.864	0.085 †				
	Student met one on one with a counselor to discuss financial aid during 12th grade	1.988	0.000 ***				
	Perceptions of college affordability in 11th grade	0.997	0.204				
nay	Participated in a program that provided college preparation by 11th grade <sup>1</sup>	1.214	0.035 *				
Student characteristics that counselors may be able to influence	Proportion of close friends who planned in 11th grade to attend a four-year college in Fall 2013						
Iselo	(Less than half)	_	_				
cour	More than half	2.624	0.000 ***				
:hat fluei	Don't know	1.208	0.085 †				
acteristics that cou be able to influence	Parent's expectation when child was in ninth grade for the highest level of education child would achieve						
erist ble 1	(High school or less)	_	_				
ract( be a	Some college	1.939	0.016 *				
chai	Bachelor's degree	4.063	0.000 ***				
lent	Graduate degree	5.771	0.000 ***				
Stuc	Don't know	2.615	0.000 ***				
	Student reported having talked to high school counselor in ninth grade about going to college	1.082	0.376				
	When child was in 11th grade parent reported having talked with a high school counselor about child's options for life after high school	1.190	0.091 †				
	School type						
	(Public)	_	_				
	Private	3.272	0.000 ***				
	Quintile of 11th grade mathematics exam score	1.555	0.000 ***				
	Parents' highest degree attained						
	(High school diploma or lower)	_	_				
	Associate's degree or certificate	1.249	0.021 *				
	Bachelor's degree or higher	1.986	0.000 ***				
<u>s</u>	In ninth grade, student planned to enroll in an associate's or bachelor's degree program in the year after high school	1.531	0.000 ***				
Controls	Race/ethnicity						
Co	(White)	_	_				
	Black	1.038	0.771				
	Hispanic	0.703	0.001 **				
	Asian	1.475	0.018 *				
	Other race <sup>2</sup>	0.709	0.002 **				
	Sex						
	(Male)	_	_				
	Female	1.141	0.053 †				
	Intercept	0.012	0.000 ***				
- Reference	e category, no estimate calculated.						

- Reference category, no estimate calculated.

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

 $^{\rm 1}$  Includes college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

<sup>2</sup> "Other race" includes non-Hispanic American Indian/Alaska Natives, non-Hispanic Native Hawaiian/Pacific Islanders, and students of more than one race.

Note: Dummy variables indicating missing information for each variable were included in the model but not reported here. The results were similar when observations with missing data were dropped instead of including such dummy variables. Estimates were weighted by W3W1W2STU, and the rounded sample size was 12,500 observations.

#### SYNTHESIZING REGRESSION RESULTS ACROSS OUTCOMES

Examining the regression results simultaneously across the five outcomes can help synthesize which counseling factors are most strongly related to students entering postsecondary education. As Table 7 indicates, several of the counseling characteristics were significantly related to meeting with counselors either about college admissions or financial aid (outcomes 1 and 2). Although none of these characteristics was related to both outcomes, several were related to one, including the percentage of time counselors spent on college preparation, whether the school had a counselor whose primary responsibility was college applications or selection, whether the school held or participated in a college fair, and whether the school offered informational meetings on sources of financial aid.

Only two of these counseling characteristics, however, were related to outcomes 3, 4, and 5, and the effects were in the opposite direction expected.<sup>22</sup> Whether a school sent out FAFSA deadline reminders was inversely related to postsecondary attendance; and the percentage of hours counseling staff spent on college readiness, selection, and applications was inversely related to bachelor's degree program attendance.

The finding that most counseling characteristics were not directly related to students' postsecondary outcomes indicates that these counseling characteristics are related to the outcomes indirectly, that is, because they encourage one-on-one meetings with a counselor to discuss college applications or financial aid, which in turn is related to postsecondary attendance. Specifically, students' meeting one on one with a counselor to discuss financial aid was predictive of FAFSA submission. Additionally, students' meeting one on one with a counselor to discuss college admissions or financial aid predicted both college attendance and bachelor's degree program attendance. The effects of these one-on-one meetings with counselors were considerable. The one-on-one meetings increased the odds of the last three outcomes (FAFSA submission, postsecondary attendance, and bachelor's degree program attendance, for the bachelor's degree program attendance, and bachelor's degree program attendance, for the bachelor's degree program attendance, and bachelor's degree program attendance, for the bachelor's degree program attendance, and bachelor's degree program attendance, for the bachelor's degree program attendance,

Also significant for most outcomes were 1) participation in a program that provided college preparation (three outcomes), 2) the proportion of a student's close friends who planned to attend a four-year college

(four outcomes), and 3) parents' educational expectations for their child (all five outcomes). Whether the student met with a counselor in ninth grade to discuss going to college and whether a parent met with a counselor to discuss the child's options for life after high school were significant predictors of whether students met with counselors to discuss college admissions or financial aid during  $12^{\rm th}$  grade only.

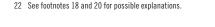
All of the control variables were also related to the postsecondary outcomes examined. Students' high school type, 11<sup>th</sup>-grade math achievement, parents' highest level of education, college plans in ninth grade, race/ethnicity, and gender predicted students' postsecondary outcomes independent of the counseling context factors. This is not surprising given that these controls were included specifically because of their known relationship with postsecondary attendance.

#### **DISCUSSION AND CONCLUSIONS**

This report used both descriptive statistics and regression models to measure the relationship between the counseling context at students' high schools and students' postsecondary outcomes. The majority of the statistically significant relationships measured in this report appeared in both types of analyses.

The goal of this report was to measure the relationships between a school's counseling context and students' postsecondary attendance outcomes but not to demonstrate *causal* relationships. Even though the logistic regression models controlled for a host of student characteristics, many unobserved student factors (e.g., grit and determination, social and emotional characteristics, and other family influences) could affect the postsecondary outcomes examined. Therefore, the findings indicate correlations and do not prove that counseling characteristics *cause* certain student outcomes.

Nevertheless, the analyses do indicate that many counseling characteristics and student characteristics that counselors may be able to influence were consistently and sometimes quite strongly related to whether students met with a counselor to discuss college admissions and financial aid. In turn, whether a student met with a counselor to discuss these topics was related to the likelihood of FAFSA submission, postsecondary attendance, and bachelor's degree program attendance. This research suggests that many actions a counselor takes may have a key impact on students' postsecondary attendance.





#### Table 7: Summary Table: Significant Predictors in Logistic Regressions Examining Students' Postsecondary Enrollment Outcomes in Fall 2013

	Variable	Whether Student Met One on One with Counselor to Discuss College Admissions in 12th Grade	Whether Student Met One on One with Counselor to Discuss Financial Aid in 12th Grade	Whether Student Completed a FAFSA by Fall 2013	Whether Student Attended Postsecondary Education in Fall 2013	Whether Student Attended a Bachelor's Degree Program in Fall 2013
	Percentage of hours counseling staff spent on college readiness, selection, and applications	$\checkmark$				$\checkmark$
ristics	School had one or more counselors whose primary responsibility was college applications and/or college selection		$\checkmark$			
aracte	School held or participated in college fairs	$\checkmark$	_	_		
Counseling characteristics	School helped students identify criteria for selecting colleges		_	_	_	_
Couns	School sent reminders of FAFSA deadlines	-			$\checkmark$	
_	School offered informational meetings on sources of financial aid	_	$\checkmark$	_	_	_
	School helped students/families complete FAFSA	_	_		_	_
	Student met one on one with a counselor to discuss financial aid during 12th grade	_	_	$\checkmark$	_	_
D)	Student met one on one with a counselor to discuss college admissions or financial aid during 12th grade	-	-	-	$\checkmark$	$\checkmark$
nat Iuence	Perceptions of college affordability in 11th grade					
Student characteristics that counselors may be able to influence	Participated in a program that provided college preparation by $11 \mbox{th}\xspace{ grade}$	$\checkmark$	$\checkmark$			$\checkmark$
characte nay be al	Proportion of close friends who planned in 11th grade to attend a four-year college in Fall 2013	$\checkmark$		~	~	$\checkmark$
Student nselors n	Parent's expectation when child was in ninth grade for the highest level of education child would achieve	~	$\checkmark$	~	~	$\checkmark$
COUL	Student reported having talked to high school counsel- or in ninth grade about going to college	✓	$\checkmark$			
	When child was in 11th grade parent reported having talked with a high school counselor about child's options for life after high school	$\checkmark$	$\checkmark$			
	School type	$\checkmark$			$\checkmark$	$\checkmark$
	Quintile of 11th grade mathematics exam score	✓		$\checkmark$	$\checkmark$	✓
	Parents' highest degree attained	✓	$\checkmark$	$\checkmark$	✓	✓
Controls	In ninth grade, student planned to enroll in an asso- ciate's or bachelor's degree program in the year after high school			~	$\checkmark$	$\checkmark$
	Race/ethnicity	✓	$\checkmark$	$\checkmark$	✓	$\checkmark$
	Sex		$\checkmark$	$\checkmark$	$\checkmark$	

– Variable not included in regression.

<sup>1</sup> Includes college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

Note: Blank cells indicate that variable was included in the regression, but was not statistically significant at the p<.05 level.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, High School Longitudinal Study of 2009 (HSLS:09), Base Year, 2009–10; First Follow-up, 2011–12; and 2013 Update.

HOW CAN HIGH SCHOOL COUNSELING SHAPE STUDENTS' POSTSECONDARY ATTENDANCE? • NATIONAL ASSOCIATION FOR COLLEGE ADMISSION COUNSELING • PAGE 22 OF 27



The two previous NACAC reports in this series also used data from the High School Longitudinal Study of 2009 (HSLS:09). The first report, *Preparing Students for College: What High Schools Are Doing and How Their Actions Influence Ninth Graders' College Attitudes, Aspirations and Plans,* used data from the base year of HSLS:09, which took place during 2009–10. The second report, *A National Look at the High School Counseling Office: What Is It Doing and What Role Can It Play in Facilitating Students' Paths to College,* used data from the first follow-up of HSLS:09, which took place during 2011–12, when on-time students were in 11<sup>th</sup> grade. The current report uses data from the 2013 Update to HSLS:09, which took place in summer or fall of 2013, when on-time students had just finished high school.

HSLS:09 is the fifth in a series of longitudinal studies conducted by the National Center for Education Statistics (NCES) since 1972. NCES designed each of these studies to provide data on students' paths through high school and into the labor market and postsecondary education. In each study, students, including those who leave high school without graduating, complete an initial academic assessment and survey in the base year of the study. They also complete follow-up surveys multiple times during and after their high school years. To obtain information regarding these students' school and family experiences, data are also collected from parents, teachers, school administrators, and school counselors during some waves of data collection.

The following sections briefly describe the design of HSLS:09 and the methods employed in these analyses, with the goal of providing readers with contextual information for interpreting the findings in this report.

#### **HSLS:09 DATA**

#### **Overview**

HSLS:09 began with a sample of 944 U.S. public and private high schools.<sup>23</sup> Because HSLS:09 is a sample of ninth graders *in high schools*, ninth graders in other types of schools, such as middle schools, were not included. Each high school provided a list of all ninth graders enrolled in Fall 2009, and a sample of approximately 25,000 eligible students was selected. Data collection in 2009 included a questionnaire and a mathematics assessment completed by each student, as well as questionnaires completed by the students' parents, mathematics and science teachers, school administrator, and the lead counselor in the school.

The first follow-up, conducted in 2012, also included a student questionnaire and mathematics assessment, as well as a survey of the principal and counselor (typically a lead counselor) of each student's 2009 school. Both the principals and counselors reported on characteristics and activities of the school but not on individual students.

For students who had transferred to a different school between the base year in 2009 and the first follow-up in 2012, one school administrator from each transfer school was asked to complete an abbreviated version of the school administrator questionnaire. Counselors at transfer schools were not asked to complete a questionnaire. Therefore the counselor characteristics used in this analysis come from the base-year school for all students, regardless of transfer, although the characteristics used were measured in 2012 (and not the base year). So for the 11 percent of high school completers who transferred between the base year and 2012, the counselor information in the analysis describes a school they attended at some point but not a school they attended at the end of their 11<sup>th</sup> grade year. (Two percent of completers left their base-year school during ninth grade, 5 percent transferred during 10<sup>th</sup> grade, and 4 percent transferred during 11<sup>th</sup> grade.)<sup>24</sup>

The first follow-up data collection also included parent surveys, providing data on individual students' families and home lives, which were administered for a subsample of parents. Approximately 21,000 students completed a first follow-up student survey, and almost 9,000 had a first follow-up survey from their parents.

The 2013 Update survey took place between June and December 2013. The survey, which could have been completed by either the sample member or a parent, was designed to gather basic information about the sample member's high school completion status, postsecondary education and work plans, and the college application and financial aid process. Questions were adapted so that parent respondents could provide information about their child's activities and plans, although some subjective questions (e.g., about the reasons for choosing a college) were also asked, and responses may systematically differ between parents and children. The survey was administered over a number of months that preceded and overlapped with the traditional start of college classes in the fall. Therefore, a number of questions were anchored to November 1, 2013, and designed to elicit the anticipated or realized activities of respondents on a common date. In total, approximately 19,000 sample members had a 2013 Update response.

#### **Sample Weights and Missing Information**

In all of its sample surveys, NCES provides weights that analysts may use to ensure that estimates obtained from the sample respondents represent statistics for the national population. For example, because some students failed to have a 2013 Update survey, a weight was computed for each student so that estimates generated from the 2013 Update data take into account 2013 Update nonresponse.

Each analysis in this report used the weight W3W1W2STU, which is intended for analyses that use data from the base year, first follow-up in 2012, and 2013 Update. This weight makes the analyses representative of all Fall 2009 ninth-grade students as of Summer/ Fall 2013.

The weight adjusts for students who did not participate in one wave of data collection or another and therefore are missing whole surveys. Students who submit a survey, however, do not always respond to all

<sup>23</sup> The original sample contained 1,889 schools, and 944 schools agreed to participate in the survey.

<sup>24</sup> The results were qualitatively similar when students who transferred between the base year in 2009 and the first follow-up in 2012 were dropped from the analysis.



the questions, and, if a student does not answer a question, the variable is missing for that student. For some variables, statisticians imputed such missing data, that is, they estimated a value for each student who did not respond to the question. Statisticians do not impute date for every variable, however, and students who are missing information on a variable are dropped from logistic regression analysis. Dropping these students decreases the sample size and raises concerns that the sample may no longer be representative. To retain all observations in the analysis, binary dummy variables for missing control variables were added to the model.<sup>25</sup> Because the odds ratios for these missing variable indicators are not interesting in themselves, they are not reported in the results. Further detail concerning the methods employed in collecting HSLS:09 data and weights is available in the data file documentation for the 2013 Update.<sup>26</sup>

#### **Sample Restrictions**

In Summer/Fall 2013, most 2009 ninth graders had earned a high school diploma or a high school equivalency credential (89 percent). All analyses in this report are limited to this 89 percent of students because these students are eligible for postsecondary attendance in Fall 2013. It should be noted, however, that estimates based on the entire sample of students are qualitatively similar to those presented in this report on just high school completers. Please note that, for ease of exposition, the terms "students" and "high school completers" are used interchangeably in this report.

#### **ANALYSIS METHODS**

#### **Research Questions**

The analyses presented in this report answer the following two research questions:

- 1. What is the relationship between the counseling context at a student's high school and the student's postsecondary outcomes?
- 2. What counseling context factors are associated with a student's postsecondary outcomes, holding other student and school characteristics constant?

This report addresses these questions using two analysis techniques: testing for significance in descriptive statistics using a Student's *t*-test and employing logistic regression.<sup>27</sup>

#### **Descriptive Statistics**

The figures in this report and Appendix Tables A1 and A2 show descriptive statistics. These figures and tables report the percentage of students who achieved various postsecondary outcomes among groups of students who experienced different counseling contexts at their high school. The HSLS:09 sampling design and weighting procedures ensure that the estimates derived from these data accu-

rately represent the practices and activities of U.S. high school students and their schools, school counselors, principals, and parents. To assess whether observed differences were the result of chance, Student's *t*-tests were conducted to warrant all claims of differences made in the text. These tests confirmed that each difference reported was statistically significant at the 0.05 level.

#### **Logistic Regressions**

Previous research has demonstrated that differences among schools are likely to occur together, or to covary, with other characteristics of the schools and the students they serve. For example, schools that serve students with higher family incomes may be more likely to have a counselor whose primary responsibility is college admissions.

To begin to tease apart the independent effects of characteristics that covary, this report includes results from logistic regression analyses that estimate the effect of a given counseling or student characteristic on an outcome of interest while taking into account the effects of other student and school characteristics. For example, if a school characteristic (e.g., whether the school's counseling staff spends a large portion of its time on college preparation) is less common among public schools than private schools, logistic regressions estimate the independent effects of these variables on student outcomes. In this example, the effect of attending a school where the counseling staff spends more of its time on college preparation is estimated separately from the effect of whether the school is public or private.

#### **Odds Ratios**

Logistic regressions are used in this report because the outcomes are binary (i.e., a student did something or the student did not), and the results of the regressions are expressed as odds ratios. To understand odds ratios, it can be useful to review the concept of odds, which is related to percentages.

Odds, in simple terms, are the ratio of the number of times an event occurs to the number of times it does not occur (or vice versa). As noted in the report, for example, 80 percent of students whose high school held a college fair met with a counselor to discuss college admissions, compared with 72 percent of students whose schools did not hold a college fair (Figure 1). In this example, the odds that the first group (those whose schools held a college fair) met with a counselor are 4 to 1. The 4 is computed as follows: 80/(100-80). The odds that the second group (those whose schools did not hold a college fair) met with a counselor are 2.6 to 1, where the 2.6 is computed in the same way: 72/(100-72). Although both the percentages and the odds indicate that those whose schools held a college fair are more likely to meet with a counselor, the numerical values of these two measures are different, and the relationship between these two sets of values is not intuitive.

An odds ratio can be used to represent the relationship between the odds that the members of two groups experience the same outcome. The odds ratio is calculated by dividing the odds for the first group by the odds for the second group. An odds ratio of 1.000 indicates that

<sup>25</sup> However, the results were qualitatively similar when observations with missing data were dropped and, instead, such indicator variables for missing information were not included.

<sup>26</sup> See High School Longitudinal Study of 2009 (HSLS:09) 2013 Update and High School Transcripts Data File Documentation. Retrieved March 15, 2016, from: https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015036.

<sup>27</sup> The assumptions for Student's *t*-tests and logistic regressions were met, or were assumed to be met.

### Data and Methods Appendix

the odds of the two groups are the same. An odds ratio greater than 1.000 indicates that students in the first group are more likely than those in the second group to experience the outcome. Odds ratios of less than 1.000 indicate that students in the first group are less likely than those in the second group to experience the outcome.

In the example discussed above, the odds ratio corresponding to whether college fairs are related to meeting with a counselor is 4/2.6 or 1.538. This ratio indicates that the odds that a student meets with a counselor are 54 percent higher among students whose schools held a college fair than among students whose schools did not.

The odds ratio above was calculated from simple percentages. In logistic regressions, the odds ratio for an independent variable is computed taking into account, or adjusting for, the relationships among all the other independent variables in the model. For example, the adjusted odds ratio for the effect of college fairs on whether a student meets with a counselor is 1.370 (Table 2). This indicates that, once other variables are taken into consideration, students whose schools hold a college fair have 37 percent higher odds of meeting with a counselor. The difference between these two odds ratios, 1.538 - 1.370, or 0.168, occurs because whether a student speaks with a counselor covaries with other variables in the model that also have a relationship with whether a student attends a school that holds a college fair.

Each of the adjusted odds ratios in this report has been tested for statistical significance at various confidence levels. Statistically significant odds ratios are indicated with asterisks (indicating they are significant at the 0.05 level or lower).



Table A1: Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Took Various Steps Toward Postsecondary Education, by Various Counselor Characteristics

	Whether student met one on one with counselor to discuss college admissions in 12th grade	Whether student met one on one with counselor to discuss financial aid in 12th grade	Whether student completed a FAFSA by Fall 2013	Whether student attended postsecondary education in Fall 2013	Whether student attended a bachelor's degree program in Fall 2013
Total	78	55	76	80	50
Percentage of hours counseling staff spent on college preparation $^{\rm L,2,3}$					
10 percent or less	71	53	75	80	51
11-20 percent	77	54	78	80	46
More than 20 percent	83	55	78	83	56
School had at least one counselor whose primary responsibility was college applications and/or selection <sup>1,4</sup>					
Yes	78	53	77	81	51
No	81	57	77	82	52
School held or participated in college fairs <sup>1</sup>	·				
Yes	72	_	_	80	52
No	80	_	_	82	51
School helped students identify criteria for selecting colleges <sup>1</sup>					
Yes	65	-	_	-	-
No	79	_	_	-	-
School sent reminders of FAFSA deadlines <sup>3, 4</sup>		1	I	1	1
Yes	_	51	77	83	55
No	_	56	77	81	50
School offered informational meetings on financial aid <sup>4</sup>			1	1	
Yes	_	47	_	_	_
No	_	56	_	_	_
School helped students/families complete FAFSA			1	1	
Yes	-	-	78	_	_
No	_	_	77	_	-
	1	1	1	1	1

- Variable not included in regression.

1 Differences in whether a student met with a counselor to discuss college admissions are significant at the p<0.5 level for this predictor.

2 Differences in whether a student attended postsecondary education are significant at the p<0.5 level for this predictor.

3 Differences in whether a student enrolled in a bachelor's degree program are significant at the p<0.5 level for this predictor.

4 Differences in whether a student met with a counselor to discuss financial aid are significant at the p<0.5 level for this predictor.

Note: Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,600-11,700 observations.

Table A2: Among 2009 Ninth Graders Who Completed High School by Spring 2013, Percentage Who Took Various Steps Toward Postsecondary Education, by Various Student Characteristics Counselors May Be Able to Influence

	Whether student met one on one with counselor to discuss college admissions in 12th grade	Whether student met one on one with counselor to discuss financial aid in 12th grade	Whether student completed a FAFSA by Fall 2013	Whether student attended postsecondary education in Fall 2013	Whether student attended a bachelor's degree program in Fall 2013
Total	78	55	76	80	50
Student met one on one with counselor to discuss financial aid in $\ensuremath{1}$	2th grade <sup>1</sup>				
No	_	_	61		_
Yes	_	_	91	_	_
Student met one on one with counselor to discuss college admission	ns or financial aid in	12th grade <sup>2, 3</sup>			
No	-	-	-	65	36
Yes	_	-	—	87	57
Perceptions of college affordability in 11th grade1, <sup>2, 3, 4, 5</sup>					
Strongly disagreed that college is affordable	70	58	74	61	27
Disagreed that college is affordable	73	59	72	71	34
Agreed that college is affordable	79	56	79	82	52
Strongly agreed that college is affordable	83	48	77	91	67
Participated in a program that provided college preparation by 11th	1 grade <sup>1, 3, 4, 5, 6</sup>				
Yes	76	52	75	80	49
No	84	64	81	82	53
Proportion of close friends who planned in 11th grade to attend a for	our-year college in Fa	III 2013 <sup>1, 2, 3, 4</sup>			
Less than half	73	56	70	70	30
More than half	83	54	82	88	66
Don't know	69	53	68	70	34
Parent's expectation when child was in ninth grade for the highest	level of education ch	ild would achieve <sup>1, 2, 3</sup>	, 4, 5	·	
High school or less	63	47	51	40	7
Some college	68	48	70	71	22
Bachelor's degree	78	51	80	87	55
Graduate degree	84	57	83	90	67
Don't know	72	55	71	73	37
Student reported having talked to high school counselor in ninth gr	ade about going to co	ollege <sup>1, 2, 3, 4, 5</sup>			1
Yes	77	53	76	80	50
No	83	60	80	83	53
When child was in 11th grade parent reported having talked with a	high school counseld	or about child's option	ns for life after high s	school <sup>1, 3, 4, 5</sup>	
Vaa					
Yes	73	50	74	79	47

1 Differences in whether a student submitted a FAFSA are significant at the p<0.5 level for this predictor.

2 Differences in whether a student attended postsecondary education are significant at the p<0.5 level for this predictor.

3 Differences in whether a student enrolled in a bachelor's degree program are significant at the p<0.5 level for this predictor.

4 Differences in whether a student met with a counselor to discuss college admissions are significant at the p<0.5 level for this predictor.

5 Differences in whether a student met with a counselor to discuss financial aid are significant at the p < 0.5 level for this predictor.

6 Programs that provided college preparation include college preparation camp, Upward Bound, Talent Search, GEAR UP, AVID, and/or MESA.

Note: Estimates were weighted by W3W1W2STU, and the rounded sample size was 10,200 - 13,300 observations for all analyses except whether a parent met with a counselor by 11th grade, which had a rounded sample size of 5,100–5,500.