

Replacement or Reinforcement?
The Association Between Parental Educational Attributes and
Guidance Counselors' College Application Assistance

Michelle Bellessa Frost
Princeton University
Revised February, 2006

Introduction

The completion and submission of college applications is an essential precursor to college enrollment and is considered by some to be *the* most crucial component of college attendance (Cabrera and LaNasa 2000; Hossler, Braxton, and Coppersmith 1989; Manski and Wise 1983). Depending on institutional admission selectivity, applications can be lengthy and complex--requiring essays, transcripts, portfolios, and recommendations. Students who apply to several universities find requirements and stress multiplied while they simultaneously manage high school coursework. Because the application process is often overwhelming, assistance preparing applications can increase the likelihood that applications are completed and submitted on time, and that applicants are admitted and subsequently enrolled. High school guidance counselors are uniquely situated between the spheres of secondary and higher education, combining an understanding of university application requirements with a knowledge of strong application content and experience assembling successful applications. Together, these factors make high school college counselors powerful school agents of application assistance.

Students may receive application help from many sources including teachers, counselors, siblings, peers, and especially parents (McGinty 2002). However, parents vary in their educational orientations, experiences, and their capacity to assist children in completing university applications. Students whose parents are unable to help with the college application process in particular need

counselor assistance, but it is not clear whether this actually happens. If counselors are influential guides in the application process, which students are privy to their assistance? Because there is relatively little research about which students counselors assist, I investigate the characteristics of college bound students who receive counselor guidance with their college applications in this paper.

Specifically, I evaluate two related but not mutually exclusive hypotheses about how parents and counselors support the college application process. First, it is possible that guidance counselors act more often as *replacements* for assistance that parents cannot or do not provide. If this is the case, students who are in the greatest need of outside assistance receive help from their high school counseling department, while those students with alternative sources of help from parents receive less counselor attention. Alternatively, parents with high educational ambitions for their children and with strong educational credentials might actively position their children to obtain help from multiple sources, including guidance counselors, in order to increase the chances of admission to top choice colleges. This implies that counselors act more often as *reinforcements* to those parents who are highly capable of assisting, supporting, and shaping their children's educational pursuits.

Additionally, I consider whether the relationship between parental characteristics and counselor application assistance differs by school climate. Again, my concern is whether schools and counseling departments more often reinforce or replace parental assistance with college applications. Stated as a

question, in schools with strong college-going traditions, do students whose parents are less able to assist with applications have more or less access to counselors than similar students who attend high schools with less orientation towards college preparation? That is, do parental attributes become more or less important in explaining which students receive counselor application assistance in schools with different academic climates? By analyzing guidance counselor application assistance, I not only provide new evidence for a little researched intersection between family background and guidance counselor assistance, but also indirectly address how schools and their agents in exacerbate or diminish inequality in access to college.

My paper proceeds as follows. First, I review existing literature to formulate hypotheses about likely relationships between counselor exposure, school climate, and parental characteristics, including their educational attitudes and ability to assist with their children's college applications. I next discuss why survey data from the Texas Higher Educational Opportunity Project are well suited to test the hypotheses and outline the analytic plan. Using results from multilevel Poisson models, I test the reinforcement and replacement hypotheses. Results indicate that counselors play a reinforcing role by providing guidance more often to college bound students whose parents are also assisting with applications and who have strong pro-educational attitudes than to similar students without this parental support. I also find evidence that school climate is associated with the amount of counselor application assistance obtained, and

that more academic school settings are linked with decreased disparities in counselor contact. The final section discusses implications of my findings.

Counseling for Higher Education

As part of their job responsibilities, high school guidance counselors are tasked with encouraging and assisting students in formulating college plans, preparing applications, and making enrollment decisions. Acting as the key agents linking high schools and post-secondary institutions, counselors have access to valuable information and resources related to post-secondary requirements and admissions standards, tuition and financial aid, and application and enrollment procedures, especially with regard to local institutions (Cabrera and LaNasa 2000; Fallon 1997; Johnson and Stewart 1991). Thus, the relationship between students and guidance counselors represents a form of school-based social capital (Jordan and Plank 1998). Coleman (1988) describes social capital as an individual's ability to access resources, including information, guidance, and assistance through social networks and relations. Stanton-Salazar and Dornbusch (1995: 117) conceive of student social capital similarly. They describe the benefits of student relationships with "institutional agents-- those individuals who have the capacity and commitment to transmit directly or to negotiate the transmission of institutional resources and opportunities." As the formal school repository of college information and assistance, guidance counselors are powerful institutional agents and sources of social capital relevant for college enrollment.

Several factors influence student access to counselors and the quality of guidance they receive. In some high schools, counselors' responsibility for college advising can be relegated to lower priority while counselors manage record keeping, course scheduling, and task monitoring. Advising loads are another factor that curbs their potential guidance for students' post-secondary plans. Large numbers of students served by relatively few counselors limit their availability (Corwin, Venegas, Oliverez, and Colyar 2004a; Lee and Ekstrom 1987; McDonough 1997). For example, McDonough (1994: 433) reports that public high schools like the ones she studied in Los Angeles with student-counselor ratios greater than 1000 "have effectively divested themselves of any college advisement." (See also Corwin, Venegas, Oliverez, and Colyar 2004b; McDonough 1997) National statistics show a slightly different picture than case studies of overcrowded urban schools. A recent study by the Department of Education showed that, on average, there are 284 students for every guidance counselor in public high schools (Parsad, Alexander, Farris, and Hudson 2003).

Despite large case loads, it is natural to assume that counselor assistance with college planning and applications, when available, can influence whether and which students apply to and enroll in college. A few studies have used rigorous empirical methods to evaluate how contact with high school guidance counselors is associated with various college-going behaviors. For example, Cabrera and La Nasa (2000) find that counselors' assistance with college applications and essays is associated with an increased likelihood of students'

completion and submission of college applications.¹ Interaction with counselors about college plans is linked with an increased understanding of college admissions policies and the odds of enrolling in a 4-year institution (Frost 2005; Horn and Chen 1998; King 1996; Plank and Jordan 1997; 2001). Furthermore, McDonough (1997) reports that counselors can have a strong influence on the kinds of colleges to which students apply and attend (e.g. community college vs. four year institution).

Given the limited time and large case burdens that high school guidance counselors carry, along with their potential to aid students with college plans, it is instructive to ask which students obtain counselor assistance with college applications. Accordingly, I consider the relationship between parental characteristics, including their ability to provide meaningful application help and their educational attitudes, and the likelihood that their child will obtain help from counselors with college applications. I examine the evidence for two potential explanations. Counselors can act more often to either replace parental involvement where it is lacking or reinforce the efforts of capable and involved parents.

DiMaggio (1982) develops a related line of thought in his examination of the role of cultural capital on school success by examining two hypotheses. He proposes a cultural reproduction model, where elite groups pass on social advantage in the form of school success to their children through cultural capital, and a cultural mobility model, where returns to cultural capital, again school

¹ Not all guidance counselor discussion and assistance with college applications results in completed applications.

success, are greater for low status youth than for their high status counterparts. Although his general theoretical framework shares some similarity to my reinforcement/replacement hypotheses, the broader theme of intergenerational transmission of social advantage plays a more central role in his work. However, both papers speak to how the intersection of school processes and family background contribute to student inequality. I develop the reinforcement/replacement hypotheses in greater detail below, after elaborating the specific parental attributes that are suggestive of college application assistance they can provide to their children.

Parental Characteristics

I consider two general categories of parental characteristics that are relevant for students' application behaviors: 1) parents' ability to assist with applications; and 2) parental attitudes toward education. Regarding the former, previous research suggests that parents who themselves attended college are better positioned to provide meaningful help based on their personal experience submitting college applications and navigating other university procedural requirements (Fallon 1997; Hill and Taylor 2004; Hoover-Dempsey, Battiato, Walker, Reed, DeJong, and Jones 2001; McGinty 2002). Additionally, parents lacking English fluency cannot proofread application materials, including the all important essay (McGinty 2002), and may be less confident in their ability to provide appropriate assistance (Hill and Taylor 2004). Finally, parental ability to assist with college applications also depends to a degree on the amount of time they can dedicate over the entire admissions season. Application assistance can

be offered on a more regular after-school basis when a parent is home upon a student's arrival from school.²

Parental educational attitudes represent a form of emotional support and the expectations they have for their child's educational attainment. Focused encouragement to attend college reveals parents' post-secondary expectations and their perceptions of children's likely success (Hirschman, Lee, and Emeka 2003; Inoue 1999; Sewell and Hauser 1992). Parental assistance with homework and awareness of academic difficulties additionally signals to children the importance of scholastic success and parents' value of educational pursuits (Hoover-Dempsey et al. 2001).

Replacement

Students with limited sources of help at home are more likely to complete and submit college applications when they have access to school-based social capital in the form of counselor guidance. Although there is some evidence that counselor guidance is associated with the fulfillment of students' college plans, very little research has analyzed the distribution of college counseling among groups of diverse students in a methodologically rigorous way. Because most available studies focus on interaction with counselors for specific types of students, little is known about how their time is divided among different kinds of students. For example, King (1996) reports that for low income students, counselor encouragement and exposure increases the likelihood of 4-year

² In this paper, I am not concerned with whether parents are working, but, rather, with whether they have time to help with applications. Working parents may, in many instances, be available after school, depending on work schedules.

college enrollment. No information, however, is provided about counselor influence for high or middle income students, or how counselors divide time and resources among potentially competing groups.

Studies that do examine differential access to high school guidance find that minority and low-income students receive counselor assistance with college plans more often than their white and middle class counterparts (Fallon 1997; Frost 2005; Johnson and Stewart 1991; Lee and Ekstrom 1987). Although these studies do not directly address relative exposure to counselors, they suggest that counselors give more help to some of the neediest students.

Furthermore, almost no research has examined whether and how parental educational attitudes and ability to support their children's educational endeavors influences counselors' assistance. Both Frost (2005) and Fallon (1997) report that students whose parents have no college education-- a measure of parental familiarity with college procedures and the ability to assist with college plans--are more likely to obtain college information from counselors than from other sources.

Thus, some studies provide limited evidence that underserved students more frequently receive counselor guidance than more privileged students. Owing to a peripheral focus on counseling access in existing studies and the overall sparseness of research addressing the questions investigated in this paper, these conclusions are preliminary. However, extending this implication to examine variation in parental characteristics, my first hypothesis suggests that counselors more often act as parental replacements for students

who lack assistance at home to complete college applications. Specifically, I consider if students with parents who are 1) capable of providing meaningful application assistance, as shown by their college experience, strong English language skills, and shared time at home with their adolescent, and who 2) hold pro-educational attitudes and goals, exhibited by college encouragement and homework monitoring and assistance, are less likely to receive application assistance from counselors than students whose parents do not share these characteristics.

Reinforcement

In the stratification research tradition, there is a long history of research on the role of schools in reproducing structural inequalities in society, such that parental abilities, attitudes, and class standings are reinforced and transmitted to their children through general school functioning (Bowles and Gintis 1976). In a landmark study about the specific role of counselors in the social differentiation of students, Cicourel and Kitsuse (1963) found that counselors acted as gatekeepers to high school college preparatory courses, serving as barriers to student aspirations and attainment. Counselor decisions on student track placement strongly corresponded to student background, with students of minority status and lower social class underrepresented in honors courses. Erickson and Schultz (1982) report a similar pattern between student background and the career guidance that counselors give in community college settings. Others have categorized counselors as the unwilling or even unwitting regulators of schools norms and climate, because of their role sorting and

stratifying students among courses (Hart and Mayes 1984; Jordan and Plank 1998). In other words, counselors act either consciously or unconsciously to mete out greater opportunities—in this case for college guidance and advice—to students who already have alternative sources of assistance.

Other studies have focused on the role of parents in the social differentiation of children within schools. They show that more affluent and educated parents transmit their social class advantages to their children beginning at young ages by using their social and cultural resources—including greater knowledge of the schooling process and stronger ties to informal networks of information—both to customize their children’s education and to maximize their scholastic achievement (Kaufman 2005; Lareau 1987; 2000). Others have shown that parental education, social class, and connections with informal and formal informational networks enables parents to manipulate course placement decisions (Horn and Chen 1998; Useem 1992; Yonezawa 1997). Consequently, economically disadvantaged students are less able to tap into school based forms of social capital (Stanton-Salazar and Dornbusch 1995). If educated parents perceive counselors as a valuable resource that can increase their child’s likelihood of admission to top choice colleges, then these parents are likely to enlist counselor assistance in the application process.

In a paper that directly examines students’ access to guidance counselors, Lee and Eckstrom (1987: 306) find that low income and minority students are less likely to receive guidance regarding curriculum track and program early in their high school careers. In their words, “the lack of counseling...is particularly

concentrated on students who are least likely to be able to turn to their families as an alternative or supplemental source of information in these matters...Students who need good advice the most probably get it the least.” Venezia, Kirst, and Antonio (2003) support this claim by showing that disadvantaged students receive inadequate counseling and opportunities for college preparation.

These studies suggest an alternative to the replacement hypothesis: counselors, either through self-direction or upon parental request, are more likely to provide college guidance to students who already have strong support for educational pursuits from their parents. If counselors are more likely to reinforce the behavior of supportive and educated parents, then 1) parental ability to provide application assistance and 2) positive parental educational attitudes will be linked with increased likelihood of counselors’ application assistance to socially advantaged students.

Figures 4.1 and 4.2 show a simple visual representation of these two hypotheses to explain the relationship between counselor assistance with college applications and parental characteristics. These two conceptualizations of counselor roles are not mutually exclusive. Guidance counselors could act in both reinforcement and replacement roles, depending on the characteristics of students to whom they supply help. Therefore, I examine whether counselors provide application assistance more often to students who have parental support

Figure 4.1. Replacement Hypothesis

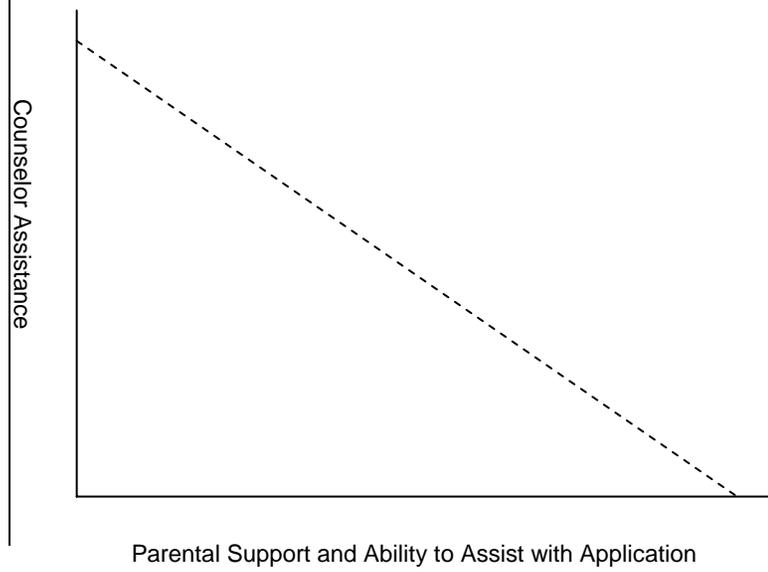
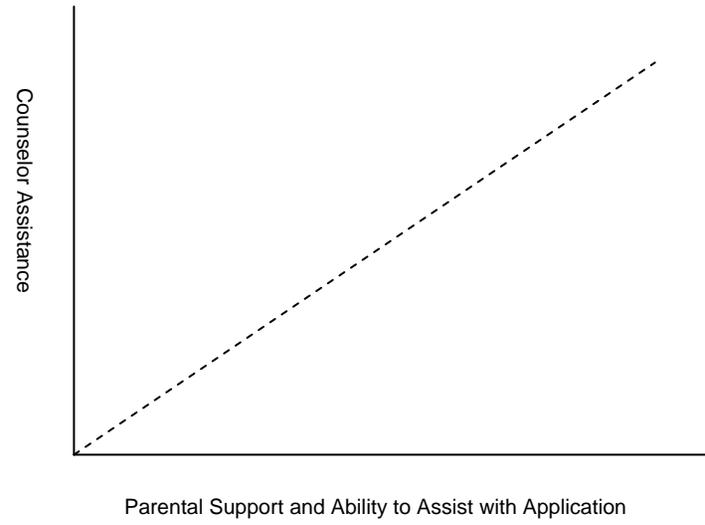


Figure 4.2. Reinforcement Hypothesis



or those who do not. More generally, this line of inquiry addresses whether, as a group, high school guidance counselors act to amplify or reduce inequalities between students.

School Climate

There is even less research about how school climate is associated with students' receipt of counselor guidance in college planning. High schools that emphasize college preparation and attendance allocate counseling staff time to assist students with their college preparation, more so than in settings that lack a strong college-going tradition. Without a supportive school climate, it is possible that lower levels of student application completion could result. McGinty (2002) reports that more than 50 percent of students either discontinued or severely procrastinated application completion of college applications in undercounseled school settings. Students from higher quality high schools have greater access to college related materials and college help from teachers and counselors than their counterparts attending weaker schools (Strayer 2002). Furthermore, high schools' college guidance programs both reflect and contribute to school climate (Corwin et al. 2004a; Fallon 1997; McDonough 1997; Yonezawa 1997).

McDonough (1997) claims that both the academic orientation of counseling departments and the relative counselor availability influenced students' postsecondary destinations.

The interaction between parental characteristics and school climate on counselor assistance merits special attention. In schools with a strong academic focus that emphasize college preparation, are parental characteristics more or

less important in predicting which students obtain counselor assistance? Some evidence suggests that school climate narrows educational differentiation based on family background. In Catholic and other schools that foster an atmosphere of high standards and strong academic curricula for all students, overall student achievement is higher and less dependent on family background. Furthermore, gaps in achievement between poor and middle class and between minority and non-minority students are less severe than in other schools (Bryk, Lee, and Holland 1993; Coleman and Hoffer 1987; Greeley 1982; Rock, Ekstrom, Goertz, and Pollack 1986). Additionally, Yonesawa (1997) contends that over time counselors have adopted more active roles as “change agents” and “critical guides”, “transforming their school climates into educationally and culturally enriching” environments (see also Jordan and Plank, 1998). Thus, it is conceivable that the influence of family background on educational outcomes becomes less important for students attending schools with strong post-secondary traditions and where counselors strive to adapt schools for the betterment of disadvantaged students.

Prior research suggests two testable hypotheses regarding the influences of school climate on counseling access. First, students should have more contact with counselors for application assistance in schools with a strong college focus and where guidance loads are low. Second, parental support for post-secondary educational pursuits and their ability to provide application assistance in particular, will be less important in explaining contact with counselors for application assistance in schools with a strong focus on college

preparation, compared to similar students in schools that do not emphasize academics as strongly.

Other factors

In order to isolate the influence of parental characteristics on students' access to counselor assistance with college applications, other potentially confounding factors that also are linked with counselor contact and aid must be formally included in the analysis. For example, students' academic achievement and motivation influence demand for college counseling (Kirst and Bracco 2004; Lee and Ekstrom 1987; Venezia et al. 2003). Statistical models take these factors into account to control for student predisposition to seek counselor guidance. Furthermore, students who are applying to selective schools usually rely more on guidance counselors, as these applications tend to be more demanding. Finally, minority students differ from whites in their contact with guidance counselors. Mau (1995) and Lee and Ekstrom (1987) both find that black students are more likely to utilize counselors for college assistance, although findings for minority students' access to other varieties of counseling are mixed. With these controls, results indicate whether difference in contact with high school guidance counselors for application assistance exist for academically similar students of the same racial background, applying to comparable post-secondary institutions, with varying levels of parental support.

Data, Measures, and Analytic Plan

Data for this study come from the Texas Higher Education Opportunity Project (THEOP). During the spring of 2002, baseline data was collected from high school seniors within 96 sampled schools using an in-school paper and pencil survey. The survey asked respondents about their course-taking, extra-curricular activities, educational experiences, and knowledge and perceptions of college admissions. Essential for the purposes of this study, students were asked a series of questions about their interactions with high school counselors, their parents' educational and language attributes, their parents' awareness of their academic progress at school, and parental encouragement regarding potential post-secondary possibilities.

For my study sample I drop all cases that lack valid responses on either of the two dependent variables, both measuring guidance counselor assistance with college applications materials, excluding 5.1% of the cases. To address the other individual-level missing data in the independent variables,³ I used predictive mean matching, a form of hotdeck imputation, to impute an observed value that is closest to the predicted value (Landerman, Land, and Pieper 1997; Little 1988).⁴ This strategy assumes that the data are missing at random, in that

³ 73% of sample cases included complete information for all variables, while another 20% are missing data for just two items.

⁴ In order of the variable with most missing data to that with the least missing, I regressed each variable with missing values on all the other individual-level variables used in the analyses, and then sorted the data based on predicted values for the variable of interest. I then divided my sample into bins of 50 respondents each to locate donors for missing values. Within each bin, I randomly selected a non-missing value to impute a value for missing cases. I repeated this process for each of the variables with missing data and flagged all instances where data were

missing cases do not depend on the outcomes of interest or unobserved covariates, but may depend on observed covariates (Little and Rubin 1987). This assumption, unfortunately, is not verifiable from the data. I use this imputation method to preserve enough student responses by school to enable multilevel analysis. Finally, in order to focus on the group of students who could reasonably benefit from counselor application assistance, I exclude the 30% of students who report that they have no plans to attend college in the fall following their high school graduation. I make the reasonable assumption that when students meet with guidance counselors to discuss college applications, they *already* hold plans to attend college and that these specific interactions with a counselor do not shape who is college bound. Although student discussions with counselors about their long-term educational plans, their choice of college, or other school matters might influence whether or not they plan to attend college, contact with counselors about college applications occurs *after* plans for college attendance have been settled. My final analytic sample, thus, consists of 9,358 senior high school students who plan to take academic courses at a two- or four-year college in the fall after their senior year.

To measure counselor assistance with students' college application materials, I created two dependent variables. The constructs measure how many times during their senior year students talked with high school counselors about their 1) college application materials in general and 2) college application essays in particular. Possible student responses in the survey are top-coded as

imputed. This process was completed separately for each of the variables with missing data and flagged all instances where data were imputed.

“three or more times” and I code these responses as 3 visits, leading to a deflated estimate of counselor visits.⁵ I discuss the implications of this for my analysis below. Appendix 1 reports all variables and their operational definitions Table 4.1 shows that college bound Texas high school students average at least 1.4 counselor visits to discuss college applications.⁶ A closer look at the frequency of visits shows that 30% of student intending to enroll in college have never discussed college applications with a counselor, while 25% did so 3 or more times.

Table 0.1. Means, standard deviations, and frequencies of dependent variables: college Bound Seniors.

Dependent Variables	
<i>Number of times talked with counselor about college applications</i>	
Mean	1.368
Standard Deviation	1.158
Frequency	
0	0.305
1	0.273
2	0.173
3+	0.250
<i>Number of times talked with counselor about college essays</i>	
Mean	0.517
Standard Deviation	0.917
Frequency	
0	0.702
1	0.155
2	0.067
3+	0.076
Sample Size	9358

⁵ Appendix 4.1 reports all variables and their operational definitions.

⁶ The average is underestimated due to the top coding discussed earlier.

Counselor visits to discuss college application essays occur even less frequently. This is unsurprising because students receiving help on essays are a specialized subset of all students receiving help preparing for college. This group of students is applying to more selective universities that require an application essay. While the sample averages .5 visits per student for this purpose (again a deflated mean), it is noteworthy that over two-thirds of college bound seniors reported never having discussed application essays with a guidance counselor. Thus, a relatively small subset of students is utilizing a substantial amount of counselor time for guidance regarding their application essays.

Table 4.2 displays the descriptive statistics for the key independent variables used in the analysis. The first two groups show the six items that measure parental capacity to assist with college applications and educational attitudes. Parental educational experience is the first proxy of parental efficacy in helping with applications. Students whose parents did not attend college cannot benefit from parent experiences in preparing for and applying to college and may receive little assistance from their parents who have no direct college experience (Fallon 1997; Hill and Taylor 2004; Hoover-Dempsey et al. 2001; Horn and Chen 1998). More than one-quarter of college-bound students have parents who lack college experience. Second, students were asked to report how often a parent is home upon their arrival from school. Here, I conjecture that parents who are frequently present when their children return from school are more likely to be available to assist with student applications throughout the college application

Table 0.2. Means and percentages of independent variables: college bound seniors

(Standard deviations for continuous variables)

Independent Variables	Mean	Standard Deviation
<i>Parental Ability to Help with Applications</i>		
Parents have no college experience	26.9%	
Parent often home after school	54.9%	
Parents speak language other than English	15.7%	
<i>Parental Educational Attitudes</i>		
Parent knows when child is having problems with homework	56.2%	
Parent helps with homework	51.5%	
Parents only encourages college attendance	33.8%	
<i>Educational Characteristics and Motivations</i>		
GPA	3.28	(0.59)
College prep curriculum track	71.5%	
Number of AP courses taken	1.280	(1.62)
Attitudes about education	2.74	(0.49)
Number of hours spent doing homework each week	6.03	(6.78)
<i>Background Characteristics</i>		
Black	10.7%	
Hispanic	29.2%	
Asian	4.8%	
Foreign-born	10.0%	
<i>Application Selectivity</i>		
Didn't apply	23.5%	
Applied, but no reported preference	13.8%	
Applied to non-competitive school	22.2%	
Applied to somewhat competitive school	31.4%	
Applied to very competitive school	9.1%	
<i>School Characteristics</i>		
Feeder School	10.3%	
Counselors per 100 students	0.587	(0.190)
Percentage students encouraged by teachers to go to college	85.9%	(5.1)
School achievement	54.8%	(16.4)
Sample Size	9358	

season. Overall, 55% of college bound students reported that a parent is often home when they arrive from school. The final proxy of parental capacity to provide application assistance measures whether students speak a language other than English with their parents. I have no direct way of measuring parental English competence or the reason why other languages are spoken in the home—whether to preserve students’ second language ability or for practical reasons (i.e., parents don’t speak English). Presumably, parents who don’t speak English with their children are less able to help with application materials because of inadequate English skills. Approximately 15% of students don’t primarily speak English with their parents.

Three indicators measure parents’ educational attitudes. Students detailed the encouragement that parents gave them for a variety of post-secondary activities, including college or vocational school attendance, military enlistment, and full-time employment. Virtually all college-bound seniors (95%) reported that their parents encouraged them to attend college. However, by examining those students who were encouraged by their parents to attend college but did not receive encouragement for other post-secondary activities, I can better target parental expectations for their children. Fully one in three parents encouraged college attendance, but not other alternatives.

Two dichotomous measures indicate whether parents provide homework assistance and their awareness of academic problems in school. Parental involvement and knowledge of academic work both signals the importance they place on education and conveys their willingness to support educational

endeavors (Hill and Taylor 2004; Hoover-Dempsey et al. 2001). Involved parents are also more likely to assist with college applications than parents who are less attuned to homework requirements and academic problems. Table 4.2 shows that, on average, parental involvement is moderately high, with more than half of students who anticipated attending college in the fall following high school graduation reporting parental involvement in their academic activities.

Table 4.3 reports bivariate relationships between parental characteristics and the frequency of counselor application assistance. The column on the left lists the components of each dichotomous variable. The remaining two columns show the average number of counselor visits for both general application and for essay assistance for each of the parent subgroups.⁷ Students whose parents lack college experience average 1.38 visits to a counselor for application assistance, while students whose parents have attended some college average 1.43 visits. And, students with parents who are aware of homework problems average .63 visits to discuss college essays compared to .47 visits for students whose parents are unaware of academic problems. With few exceptions, students whose parents who have pro-educational attitudes and ability to assist with applications visit counselors more frequently for application assistance than other students whose parents cannot provide the same level of help.⁸ These results provide initial support to the reinforcement hypothesis. However, in order to fully isolate the relationship between parental characteristics and counselor.

⁷ Because 3 or more visits to a counselor are coded as 3 visits, these estimates are deflated compared to the actual means.

⁸ Students whose parents do not speak English at home average slightly more visits to a counselor for essay assistance than students whose parents do primarily speak English at home.

Table 0.3. Parental attributes by frequency of counselor application assistance: college bound seniors

	Number of visits to counselor for application help	Number of visits to counselor for essay help
<i>Parental Ability to Help with Applications</i>		
Parent has attended college	1.429 ***	0.566 ***
Parents have no college experience	1.378	0.557
Parent often home after school	1.496 *	0.630 ***
Parent not often at home after school	1.322	0.474
Parents speak English with child	1.437 ***	0.559
Parents do not speak English with child	1.414	0.567
<i>Parental Educational Attitudes</i>		
Parent knows when child is having homework problems	1.468 ***	0.629 ***
Parent doesn't know when child is having homework problems	1.353	0.471
Parent often helps child with homework	1.453 ***	0.618 ***
Parent does not often help child with homework	1.381	0.499
Parent only encourages college attendance	1.489 **	0.592
Parent encourages other post-secondary activities besides college	1.382	0.543
Sample Size	9358	9358

SOURCE: THEOP 2002

* significant at 5%; ** significant at 1%; *** significant at the .1%

application assistance, it is necessary to simultaneously adjust for other factors that could influence exposure to counselors.

By including several measures of student educational characteristics-- curriculum track, number of AP courses taken, and GPA—I can compare student of similar academic achievement. All variable means are reported in Table 4.2. In addition to scholastic accomplishments, I use two measures of student educational motivation to ascertain who is more likely to seek counselor assistance regardless of academic preparation. These include student educational attitudes and the amount of time spent on homework each week. (Appendix 1 details how these variables were created) Additionally, I include race and immigrant status to ascertain exposure to counselor help for traditionally disadvantaged students.

I also include information about college selectivity to control for the difficulty of college applications. An important factor in how much contact students have with counselors for application assistance is the types of schools they are applying to. More selective schools have more taxing application requirements, leading to a greater need among students for help. I make the assumption that when students come to counselors for application help, they have already decided to apply to certain colleges. In other instances where counselors give guidance and help such as the general discussion of college plans, it is possible that the counselor can influence what kind of school the student applies to. However, in the instance considered here, it is probable that the student has already determined what schools to apply to. Thus, there is little

chance that discussing applications with counselors might shape the kinds of schools a student applies to.

Students were asked to rank schools they were likely to attend by their order of preference. For each school identified, students were then asked a series of questions, including whether they had applied to the specific schools. Thus, I am able to determine the selectivity of their most preferred university or college to which students actually applied, although some students who apply to a college report no preferences. From this information, I obtain five categories of college-bound students: those who had not applied by the spring of their senior year, and for students who did apply, those with no preference, and those with a preference for either a non-competitive, a somewhat competitive, or very competitive college. Although all students in the sample report plans to attend college in the fall following high school graduation, almost one-quarter of students had not applied to any type of college at the time of the survey,⁹ while 9% applied to the most competitive universities.

Four measures portray the academic and college preparatory climate of a high school. First, feeder schools are affluent high school with a strong college-going tradition, that send large numbers of students to the two public flagship institutions in the state—UT-Austin and Texas A&M. Feeder status is given to the 20 Texas high schools from which the most students are admitted to both

⁹ Many non-applicants enrolled in some type of post-secondary institution because of open-door admissions policies.

UT-Austin and Texas A&M in 2000.¹⁰ Because of considerable overlap between the two groups, 28 schools are designated as feeders (Tienda and Niu 2005), of which four are represented in the THEOP survey data. Overall, 10% of college-bound seniors hail from feeder schools.

Second, I measure counselor availability as the number of counselors per 100 students using data supplied by the Texas Education Agency (TEA). This is the most often reported indication that counselors are overworked and unable to fulfill their job responsibilities. The sample average is .587 counselors for each 100 students, representing 1 counselor per 170 students.¹¹

A contextual school-level variable gauges the high school prevalence of teacher encouragement to attend college. This measure represents the overall school attitude towards college attendance and is not highly correlated with the outcome variables of interest. Within schools, an average of 86% of college-bound seniors received teacher encouragement to attend college.

Finally, the statistical model also includes a school-level variable measuring overall school achievement. This indicator, also reported by the TEA, measures the proportion of students in a school who have met or exceeded state standards as assessed by state examinations. On average, college-bound students attend schools where just over half of all students have met state devised benchmarks on exams.

¹⁰ At UT-Austin, the top 20 feeder schools accounted for 23% of admitted students; at Texas A&M, the top 20 feeder schools accounted for 15% of admitted students (Tienda and Niu, 2005).

¹¹ Appendix 1 also contains the range for each variable.

Methods

In order to estimate how parental educational attributes are related to the frequency of student visits to counselors for application assistance, I estimate a series of models for both dependent variables, namely how many times college bound seniors saw a counselor to discuss 1) general college application materials; and 2) college application essays. Although both dependent variables measure the *number* of times a student consulted a guidance counselor, their distribution is not Poisson due to the right-censoring of the top-coded dependent variables.¹² In spite of this, I choose to utilize a multilevel *Poisson* model over fitting a logit, ordered logit, and probit models, the possible alternatives. With a simple logit model, the dependent variables become only whether students had any contact with a guidance counselor for application assistance, while ignoring the amount of contact. Furthermore, ordered logits and probits, which could handle the right censored dependent variables, would produce results that would be more difficult to interpret. With under-dispersed dependent variables, a multilevel Poisson model results in overestimated standard errors and conservative coefficient and intercept estimates. However, given the low mean number of visits, it's likely that this downward bias is not substantial (probably less than 10%). Given the tradeoffs of the alternative models and the relatively small cost of the conservative estimate of effects, I choose a multilevel Poisson model to estimate the effects of parental characteristics on student contact with counselors for application assistance.

¹² In the case where the dependent variable is not truncated, its distribution would be Poisson conditional on the school random effect.

Poisson models utilize a log-linear estimation, and the model estimates are interpreted by exponentiating the coefficients, similar to other regression methods that utilize the log-link. I fit a *multilevel* Poisson model because students clustered within schools are not statistically independent observations, and traditional regression models produce downwardly biased standard errors, which can lead to incorrect inferences about the statistical and substantive importance of school context variables (Guo and Zhao 2000). However, multilevel models explicitly adjust for the nonindependence of sample members who share a context, such as a school (Raudenbush and Bryk 2002). These models are estimated with Stata's multilevel Poisson functionality using a gamma distribution for the random effect. This method provides an exact solution and is preferable to approximations available with other methods. Included in the two tables of results is an estimate of the variance of the school random effect.

The first model includes only parental characteristics to obtain their baseline effect on the amount of student contact with counselors for college application assistance. The subsequent two models sequentially include covariates in order to examine how the relationship between parental characteristics and counselor assistance changes in their presence. These sets of variables include student educational and racial characteristics, and university application selectivity. I then estimate a full student-level model with all covariates included. Finally, I introduce school characteristics into the full student model. The first of these adds the school climate covariates, and in the

last model includes interactions between school climate and parental attributes to determine whether the association between parental characteristics and exposure to counselor application assistance varies by school climate.

Results

Tables 4.4 and 4.5, respectively, report results for counselor college application and essay assistance. Baseline results in column 1 of Table 4.4 support the reinforcement hypothesis. For example, students whose parents are aware of their children's academic progress see guidance counselors 11% more often for help with college applications than students with less parental involvement with academic work. Also, college bound seniors whose parents have not attended college and who do not speak English fluently, two proxies for parental ability to provide meaningful application assistance, average 9% fewer counselor visits for help with college applications than do students whose parents have college experience and English language fluency. Furthermore, parental presence at home after school is positively related to the receipt of counselor assistance in preparing applications.

The pattern of results for student contact with counselors for college essay assistance located in Table 4.5 is somewhat similar to that found in Table 4.4, lending further support for the reinforcement hypothesis. Students whose parents frequently help with homework visit a guidance counselor for assistance with essays 11% more often than their counterparts whose parents do not offer this assistance, and students whose parents lack English competency average 18% fewer counselor visits for college essay help than students with fluent

parents. All three statistically significant coefficients for both dependent variables (parent often at home after school, parent language, and parent knowledge of homework problems) have the same direction, but a larger magnitude for the more select group of students obtaining counselor help on essays. This suggests that parental characteristics are more important in shaping exposure to counselors for essay assistance than for general college application guidance.

Adding educational and racial characteristics

The second set of models adds covariates measuring student educational and racial characteristics. Students with greater scholastic accomplishments and academic motivation are more likely to see counselors for application help than their less accomplished and motivated counterparts. Point estimates suggest that a senior in the college preparatory curriculum track sees a counselor for general application assistance 16% more frequently than a senior enrolled in the general curriculum track. Similar results obtain for counselor essay assistance. For example, each additional AP class taken is related to a 5% increase in the number of counselor visits for help with college essays. The positive relationship between school achievement and motivation and counselor application assistance remains consistent and strong throughout all forthcoming models as well.

Table 0.4. Coefficients from multilevel Poisson models for counselor assistance with college applications

	1	2	3	4	5
Intercept	0.326 *** (0.038)	-0.826 *** (0.081)	-0.074 + (0.042)	-0.912 *** (0.081)	-3.037 *** (0.417)
Parental Ability to Help with Applications					
Parents have no college experience	-0.066 ** (0.022)	-0.037 + (0.022)	-0.004 (0.022)	-0.008 (0.023)	-0.009 (0.023)
Parent often home after school	0.038 * (0.019)	0.017 (0.019)	0.034 + (0.019)	0.016 (0.019)	0.015 (0.019)
Parents speak language other than English with student	-0.058 * (0.026)	-0.076 * (0.030)	-0.033 (0.026)	-0.066 * (0.030)	-0.067 * (0.030)
Parental Educational Attitudes					
Parent knows when child is having problems with homework	0.100 *** (0.021)	0.065 ** (0.021)	0.094 *** (0.021)	0.061 ** (0.021)	0.062 ** (0.021)
Parent helps child with homework	0.016 (0.021)	0.017 (0.021)	0.028 (0.021)	0.021 (0.021)	0.020 (0.021)
Parent only encourages college attendance	0.050 (0.019)	0.014 (0.020)	-0.022 (0.020)	-0.022 (0.020)	-0.020 (0.020)
Educational Characteristics and Motivations					
College prep curriculum track		0.149 *** (0.023)		0.105 *** (0.023)	0.103 *** (0.023)
Number of AP courses taken		0.038 *** (0.006)		0.017 ** (0.006)	0.017 *** (0.006)
GPA		0.072 *** (0.017)		0.026 (0.018)	0.025 (0.018)
Educational attitudes		0.252 *** (0.020)		0.240 *** (0.020)	0.238 *** (0.020)
Amount of time spent doing homework each week		0.005 *** (0.001)		0.005 *** (0.001)	0.005 *** (0.001)
Race (White omitted)					
Black		0.244 *** (0.031)		0.205 *** (0.031)	0.202 *** (0.031)
Hispanic		0.079 ** (0.029)		0.087 ** (0.029)	0.084 ** (0.029)
Asian		0.062 (0.045)		0.029 (0.045)	0.028 (0.045)
Foreign-born		-0.028 (0.032)		-0.004 (0.032)	-0.003 (0.032)

Table 4.4 continued on next page

Table 4.4 continued

	1	2	3	4	5
Application Selectivity (didn't apply omitted)					
Applied, but no reported preference			0.386 *** (0.033)	0.338 *** (0.033)	0.335 *** (0.033)
Applied to non-competitive school			0.468 *** (0.029)	0.394 *** (0.030)	0.392 *** (0.030)
Applied to somewhat competitive school			0.514 *** (0.028)	0.427 *** (0.030)	0.424 *** (0.030)
Applied to very competitive school			0.651 *** (0.036)	0.531 *** (0.040)	0.529 *** (0.040)
School Characteristics					
Feeder High School					0.166 (0.125)
Percentage students meeting state standards, all tests					-0.002 (0.002)
Counselors per 100 students					0.149 (0.096)
Percentage students encouraged by teachers to go to college					0.0025 *** (0.005)
Variance of the school random effect	0.082 (0.014)	0.077 (0.013)	0.075 (0.013)	0.067 (0.012)	0.042 (0.008)
Observations	9358	9358	9358	9358	9358

SOURCE: THEOP 2002

+ significant at 10%; * significant at 5%; ** significant at 1%; *** significant at the .1%

Table 0.5. Coefficients from multilevel Poisson models for counselor assistance with college essays

	1	2	3	4	5	6
Intercept	-0.750 *** (0.063)	-2.472 *** (0.136)	-1.285 *** (0.073)	-2.564 *** (0.137)	-5.576 *** (0.713)	-6.413 *** (0.781)
Parental Ability to Help with Applications						
Parents have no college experience	-0.057 (0.035)	-0.001 (0.036)	0.032 (0.036)	0.037 (0.037)	0.037 (0.037)	0.035 (0.037)
Parent often home after school	0.100 *** (0.030)	0.071 * (0.031)	0.100 *** (0.030)	0.072 * (0.031)	0.071 * (0.031)	1.776 ** (1.560)
Parents speak language other than English with student	-0.168 *** (0.043)	-0.163 *** (0.050)	-0.130 ** (0.044)	-0.144 ** (0.050)	-0.145 ** (0.050)	-3.319 *** (0.868)
Parental Educational Attitudes						
Parent knows when child is having problems with homework	0.272 *** (0.035)	0.223 *** (0.035)	0.263 *** (0.035)	0.214 *** (0.035)	0.215 *** (0.035)	0.415 *** (0.034)
Parent helps child with homework	0.101 ** (0.034)	0.107 ** (0.034)	0.119 *** (0.034)	0.111 *** (0.034)	0.111 *** (0.034)	0.106 ** (0.034)
Parent only encourages college attendance	-0.005 (0.032)	-0.052 (0.033)	-0.111 *** (0.033)	-0.107 *** (0.033)	-0.105 *** (0.033)	-0.105 ** (0.033)
Educational Characteristics and Motivations						
College prep curriculum track		0.258 *** (0.038)		0.195 *** (0.038)	0.193 *** (0.038)	0.194 *** (0.038)
Number of AP courses taken		0.049 *** (0.009)		0.021 * (0.010)	0.022 * (0.010)	0.022 * (0.010)
GPA		0.133 *** (0.028)		0.070 * (0.029)	0.069 * (0.029)	0.069 * (0.030)
Educational attitudes		0.319 *** (0.033)		0.308 *** (0.034)	0.306 *** (0.034)	0.304 *** (0.034)
Amount of time spent doing homework each week		0.010 *** (0.002)		0.010 *** (0.002)	0.010 *** (0.002)	0.010 *** (0.002)
Race (White omitted)						
Black		0.465 *** (0.048)		0.436 *** (0.048)	0.438 *** (0.049)	0.449 *** (0.049)
Hispanic		0.091 * (0.047)		0.113 * (0.047)	0.111 * (0.047)	0.114 * (0.047)
Asian		0.078 (0.076)		0.047 (0.077)	0.047 (0.077)	0.077 (0.077)
Foreign-born		-0.046 (0.053)		-0.022 (0.053)	-0.020 (0.053)	-0.024 (0.053)

Table 4.5 continued on next page

Table 4.5 continued

	1	2	3	4	5	6
Application Selectivity (didn't apply, omitted)						
Applied, but no reported preference			0.476 *** (0.055)	0.378 *** (0.056)	0.376 *** (0.056)	0.372 *** (0.056)
Applied to non-competitive school			0.519 *** (0.051)	0.386 *** (0.052)	0.383 *** (0.052)	0.381 *** (0.052)
Applied to somewhat competitive school			0.750 *** (0.048)	0.599 *** (0.050)	0.595 *** (0.050)	0.589 *** (0.050)
Applied to very competitive school			0.865 *** (0.061)	0.664 *** (0.066)	0.662 *** (0.066)	0.662 *** (0.066)
School Characteristics						
Feeder High School					0.315 (0.222)	0.137 (0.233)
Percentage students meeting state standards, all tests					-0.314 (0.265)	0.0002 (0.003)
Counselors per 100 students					0.055 (0.169)	0.259 (0.187)
Percentage students encouraged by teachers to go to college					0.036 *** (0.008)	0.042 *** (0.009)
School Interactions						
Parents speak language other than English* teacher encouragement						0.036 *** (0.100)
Parent knows when child is having homework problems* counselors per 100 student						-0.324 * (0.146)
Parent often home after school*Feeder School						0.302 * (0.129)
Parent often home after school*Percentage of students meeting state standards						-0.005 ** (0.002)
Parent often home after school*teacher encouragement						-0.016 ** (0.006)
Variance of the school random effect	0.233 (0.041)	0.212 (0.038)	0.272 (0.038)	0.196 (0.036)	0.141 (0.028)	0.137 (0.027)
Observations	9358	9358	9358	9358	9358	9358

SOURCE: THEOP 2002

+ significant at 10%; * significant at 5%; ** significant at 1%

Standard errors adjusted for school clustering

I also include minority and immigrant status, factors traditionally associated with disadvantaged student status in model 2. I find that black and Hispanic students see guidance counselors for application assistance more often than their white counterparts, and this association is maintained in all models. For example, black students visit counselors 28% and 59% more often than white students with similar parental attributes for general application and essay assistance, respectively. Immigrant status is unrelated to counselor exposure once parental education and language fluency are considered.

It is conceivable that some supportive parental activities reflect students' academic achievement and college plans.¹³ Thus, by controlling for these student factors, the relationship between parental characteristics and counselors' application assistance could change. This is what happens to some degree. Parental frequent parental presence at home after school is no longer significantly related to counselor application guidance, while parental educational experience becomes borderline significant. (See Table 4.4.) These results suggest that being prepared and motivated to attend college are more influential in explaining student contact with counselors assistance with general application materials than parental educational experience and presence at home after school. However, the relationship between parental English competency and counselor assistance remains statistically significant, with an increased

¹³ It is also possible that supportive parental activities vary by race, resulting in a change in the relationship between parental attributes and counselor application assistance. However, additional analysis shows that these factors do little to change the effects of the parental characteristics on counselor application assistance.

magnitude, suggesting that they are more unable than their academically similar counterparts to obtain counselor application assistance.

The counterpart results for counselor essay assistance with adjustments for student academic experience and motivation and race are shown in column 2 of Table 4.5 do not exhibit this same pattern. Only two of the coefficients diminish substantially in magnitude and all estimates significant in model one remain so. Parental awareness of academic progress and helping with homework is associated with more frequent contact with counselors for assistance with college application essays compared with students with less involved parents. The magnitude of the coefficient measuring parental knowledge of homework problems is 18% smaller compared with the results in column one. This suggests that parents of more academically accomplished and motivated students have a somewhat greater awareness of their children's academic progress than do parent of students with lower levels of achievement and academic motivation. However, the magnitude of the coefficients measuring parental homework help remains essentially the same, implying that this parental assistance for college bound students does not vary by academic achievement.

Adding college selectivity

Model 3 adds information on the selectivity of schools to which students applied in order to adjust estimates for the difficulty of the application materials. It is reasonable to expect that students who have easier applications will not require counselor assistance as often as students with more difficult applications.

This is born out by the analysis and shown in column 3 of both Tables 4.4 and 4.5. Institutional selectivity is strongly related to the amount of exposure that seniors' have with guidance counselors regarding application materials. For example, students applying to highly competitive schools visit counselors about college application essays 1.38 times as often as college bound seniors who had not applied to any college by the date of the survey data collection.

Moreover, the addition of college application selectivity does little to alter the effect of parental attributes on the likelihood of obtaining counselor help with college essays. The most notable exceptions is that once students are equalized on the type of application submitted, seniors whose parents have only encouraged college attendance average 11% fewer visits to a counselor for essay assistance compared with students whose parents encouraged a broader range of post-secondary options. This is the first piece of empirical evidence suggesting any kind of replacement role of counselors.

The statistical significance of parental education and language on general application assistance disappears, as shown in columns 1 and 3 of Table 4.4, once adjusting for application difficulty, while that of parental presence at home weakens to borderline significance. This suggests that children whose parents are less able to offer college application help are also applying to less selective colleges which do not require the same level of assistance as applications from more selective colleges. I now join all student level factors in one model to analyze the association between parental characteristics and counselor application assistance once other relevant factors are included together.

Complete student-level models

Column five of Table 4.4 indicates a pattern of counselor reinforcement of some parental abilities and educational attitudes. Students whose parents monitor academic problems and progress and who speak English with them obtain counselors assistance more often with general application assistance than students whose parents do not share these attributes. For example, students whose parents are aware of homework problems visit counselors 6% more for application assistance relative to comparable students lacking this form of parental involvement. Once estimates are adjusted for academic achievement and motivations, school selectivity, and racial status parental college experience, presence at home when returning from school, homework aid, and encouragement for college are unrelated to the amount of counselor application assistance students obtain.

Results obtained from the full model estimating the effect of parental attributes on student contact with counselors for help with college essays are shown in column 5 of Table 4.5. The strong, positive relationships between parental presence after school, parental awareness of academic issues, parental homework assistance, and counselor essay assistance persists which lends support to the reinforcement hypothesis. A student with a parent offering homework help, for example, visits a counselor 12% more than a similar student whose parents help only infrequently with homework. Also, the negative relationship between parental English language difficulty and counselor contact persists. Students whose parents do not speak in English have 13% fewer

counselor visits for application assistance compared with their statistically similar counterparts whose parents speak to them primarily in English. The only evidence suggesting a counselor replacement role, as seen earlier, derives from parental encouragement to attend college. Students who receive focused parental encouragement to attend college visit counselors 11% less often for essay assistance than similar students whose parents encourage a broader range of options.

Adding school characteristics

The final two models include first school characteristics, representing school climate, and then interaction terms to assess whether the influence of parental characteristics on counselor application assistance is uniform across varied high school settings. Column 6 in both Tables 4 and 5 shows that only the overall school level of support for college, indexed by the pervasiveness of college encouragement from teachers, is significantly associated with the frequency of counselor application assistance that students obtain. Specifically, an increase of 5 percentage points in the proportion of students that teachers encourage to attend college is associated with 20% ($\exp\{5 \cdot .036\}$) more counselor visits for essay assistance for all students in that school. This result is obtained net of considerable differences in school achievement levels and student background.¹⁴

¹⁴ The school level of teacher encouragement for college is clearly linked to school achievement. More teacher encouragement for college is given in schools with higher levels of achievement. But, the effect of teacher encouragement on counselor application assistance is statistically significant even controlling for average school achievement levels.

The number of counselors per 100 students is unrelated to counselor application assistance net of controls for the school composition of students and other school variables. However, a bivariate analysis shows that even in the absence of all other variables, no significant relationship exists between the physical availability of counselors and how often students receive their help with college applications or essays. Thus, in the high schools across the state of Texas, the variation in per capita counselors, which is frequently cited as a measure of access to counselors, is not related to how often students receive counselor assistance with college application materials. Furthermore, enrollment in a feeder school does not guarantee more exposure to counselor assistance compared with non-feeder high schools, net of student background characteristics.

By interacting measures of school climate and parental characteristics that distinguish parental ability and propensity to provide meaningful application help, I can analyze whether schools increase or diminish the inequalities in counselor assistance by parental attributes that were observed earlier. Repeating the hypothesis discussed earlier, I expect that a school climate focused on academics and college preparation can mitigate differences in counselor assistance that exist by student background. I focus on the parental attributes that exhibit the most consistent relationship to counselor exposure in earlier models, including parental help with homework, awareness of academic problems, English language ability, and parental presence at home upon a child's arrival from school. Because inclusion of 16 interactions terms produces

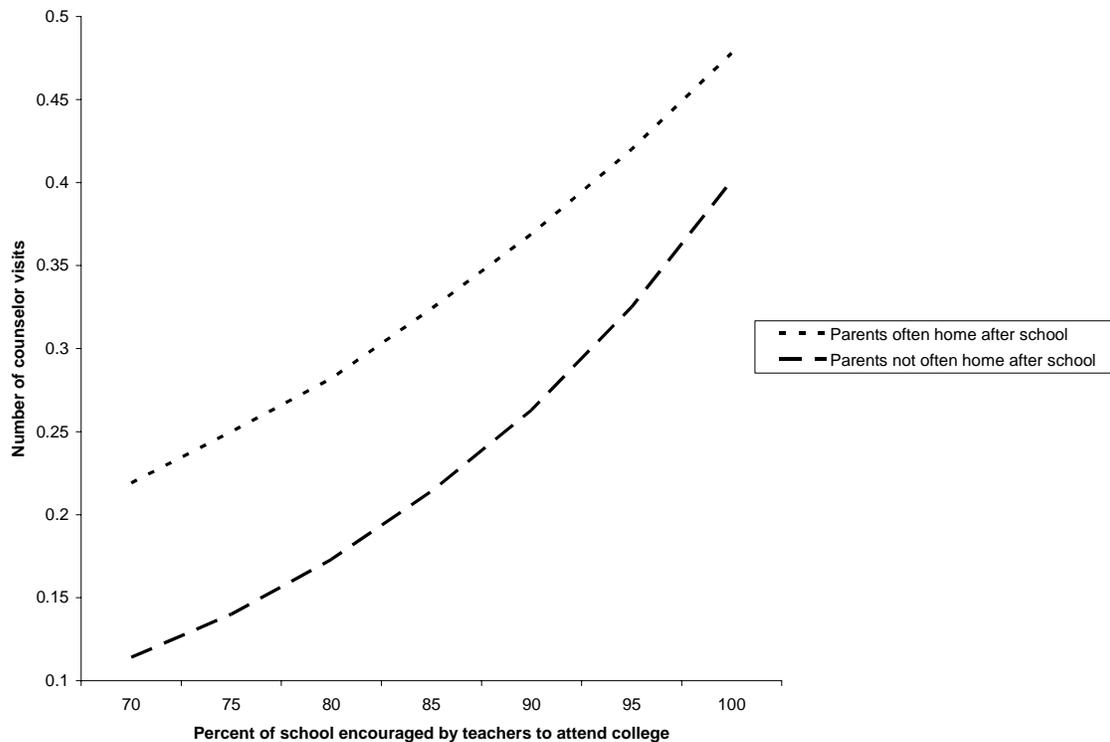
problems with multicollinearity (Kreft and de Leeuw 1998), I begin with four simpler models that include four interaction terms for each parental attribute of interest.

Results reported in Table 4.6 indicate the statistical significance and direction of the point estimates. Because differences in schools climate do not alter the effects of parental attributes on counselor assistance with general application materials show by the insignificance of all the interaction terms, I evaluate no further models for this dependent variable. However, this is not the case for counselor essay assistance, as shown in the third column of Table 4.6. Here, differences in some school climate attributes influence the manner in which some parental characteristics are associated with student contact with counselors regarding their college essays. Therefore, I include these statistically significant interactions in one final model.

Table 0.6. Interaction models

	Application Assistance	Essay Assistance
Parental presence at home after school, main effect	0.220 (0.349)	1.861 *** (0.568)
x feeder high school (interaction effect)	0.029 (0.078)	0.300 * (0.129)
x counselors per 100 students (interaction effect)	-0.103 (0.092)	-0.276 (0.146)
x teacher encouragement (interaction effect)	-0.001 (0.004)	-0.015 * (0.006)
x student achievement (interaction effect)	-0.001 (0.001)	-0.006 ** (0.002)
Parental help with homework, main effect	0.470 (0.343)	0.623 (0.559)
x feeder high school (interaction effect)	-0.005 (0.077)	-0.009 (0.128)
x counselors per 100 students (interaction effect)	-0.073 (0.089)	-0.163 (0.141)
x teacher encouragement (interaction effect)	-0.064 (0.004)	-0.003 (0.006)
x student achievement (interaction effect)	-0.001 (0.001)	-0.002 (0.002)
Parental awareness of homework problems, main effect	0.466 (0.348)	0.630 (0.576)
x feeder high school (interaction effect)	-0.074 (0.078)	-0.051 (0.129)
x counselors per 100 students (interaction effect)	0.020 (0.090)	-0.347 * (0.147)
x teacher encouragement (interaction effect)	-0.005 (0.004)	-0.002 (0.006)
x student achievement (interaction effect)	-0.0002 (0.002)	-0.001 (0.002)
Parental English language ability, main effect	0.402 (0.534)	-3.046 *** (0.917)
x feeder high school (interaction effect)	0.096 (0.141)	0.185 (0.236)
x counselors per 100 students (interaction effect)	-0.171 (0.123)	-0.152 (0.194)
x teacher encouragement (interaction effect)	-0.003 (0.006)	0.035 *** (0.010)
x student achievement (interaction effect)	-0.003 (0.002)	-0.002 (0.003)

Figure 0.3. Interaction between parental presence at home after school and school level of teacher encouragement for college.



The idea that parental attributes are less important for student exposure to counselor essay assistance in a school with a strong academic climate compared with weaker academic settings finds some support in Table 4.5. For example, the gap in counselor visits for essay assistance between students who do and do not have a parent at home after school is smaller in schools with more teacher encouragement for college attendance than in schools with lower levels of encouragement. This is shown graphically in Figure 4.3, which shows the absolute differences in counselor visits with varying school levels of teacher

encouragement.¹⁵ In schools where 70% of students receive teacher encouragement to attend college, a difference of .11 counselor visits exists between students whose parents are home after school compared with those whose parents are seldom home. This difference narrows to .017 visits, though, in schools where all students receive teacher encouragement for college. Although students who can easily interact with parents in their homes after school still remain more likely to visit a counselor for essay assistance, the difference between the two groups is smaller for students whose high schools focus on college encouragement than for similar students in a school with less emphasis on college preparation.¹⁶

Several other results conform to this pattern. Parental awareness of homework problems is less consequential for counselor access for essay help in schools that have more counselors per student. Thus, the difference in counselor exposure between students whose parents are and are not aware of academic problems is smaller in schools with more counselors per students. Additionally, in schools with higher levels of teacher encouragement for college attendance, having a parent who speaks English fluently is less influential for students' access to counselor essay assistance than for students whose parents also speak fluent English, but who attend schools with lower levels of teacher encouragement for college.

¹⁵ I used the coefficient estimates in column 7 of Table 4.5, with mean values substituted for all variables except those of interest. I allowed teacher encouragement to vary from 70-100% (the range found in the data) for both $\text{parenthome}=1$ and $\text{parenthome}=0$ to obtain the estimates presented.

¹⁶ Note that the interaction effect discussed here is attained after equalizing schools on academic achievement.,

In all, four of the five significant interaction effects suggest that parental attributes are less important for explaining student contact with counselors for essay assistance in schools with a more academic school climate. This provides preliminary evidence that schools with a focus on academics and college preparation compensate to some degree for the inequalities in counselor help by parental attributes. The interaction between enrollment in a feeder school and parental presence at home after school is the only significant coefficient that points to a reinforcing role of schools. In feeder schools, parental presence at home after school, which consistently showed a positive relationship to counselor access, is more influential than for similar students in non-feeder schools.

Discussion

In this study, I examine how parental characteristics are associated with student contact with counselors for assistance with college application materials. I proposed two possible relationships. Counselors could more frequently provide assistance to students whose parents were unable to do so, or counselors could act more often to reinforce desires and abilities of motivated and supportive parents by providing help to students whose parents also help with college applications. In large part, my findings provide more support for the reinforcement hypothesis. With two dependent variables and six measures of parental attributes, half (6 of 12) corroborate the claim that parents' pro-educational attitudes and supportive behaviors are conducive to students obtaining greater amounts of counselor assistance in preparation for college. Only one coefficient suggests a negative relationship between supportive

parental attributes and counselor assistance (replacement), and the remaining 5 point estimates show no relationship at all. Thus, my most important finding is that net of differences in scholastic achievement and motivation, application difficulty, and racial status, students whose parents are well positioned to provide college application help and support also have the most contact with counselors for application assistance. Counselor application assistance is acquired less often by students whose parents have limited involvement with their educations and who are not as able to provide application assistance as for similarly qualified high school college bound seniors, completing applications of comparable difficulty, whose parents can better assist. I find, then, the lack of college counseling specifically with regard to applications is concentrated among students who are least able to turn to parents for assistance. In the words of Lee and Ekstrom (1987), “students who need good advice [from counselors] the most probably get it the least.”

These results support claims that parents use their advantages to shape the educational system for the academic benefit of their children and provide evidence that schools, and in particular counselors, increase inequalities among students through their support of college preparation. A comparison of the results in Table 4.4 with Table 4.5 sheds some additional, but inconclusive, light on the question of inequality. Only two of the coefficient measuring the effect of parental attributes on general application assistance reached statistical significance (see Table 4.4). Additionally, the magnitudes of these two coefficients, including parental language ability and awareness of homework

problems, were larger for counselor essay assistance. This group of students who obtained counselor essay assistance is a selective and more academically prepared subset of all students obtaining general application assistance. Although these results are not directly comparable, this implies that parental characteristics are more important in student ability to obtain counselor assistance for one of the most difficult and time-intensive portions of the college application—the essay. As an example of particular importance in a state with many immigrants, students whose parents do not speak fluent English and cannot help with the formulation and editing of the essay have 14% fewer contacts with counselors for essay help than similarly qualified students, completing applications of comparable difficulty. In a similar comparison, they receive 7% fewer visits for general application assistance.

Unfortunately, this survey provides no information on the mechanisms of parental support—thus, it is not clear why parental characteristics are linked with counselor access, and we are forced to speculate for possible reasons. Do motivated and proactive parents seek out counselor assistance on behalf of their children? Is there some aspect of student behavior that predisposes them to obtain counselor help that is not included here, but is linked with parental characteristics? Or is there some bias within school counseling departments toward students with strong parental support and assistance that predisposes counselors to assist them in greater amounts? I utilize only proxies for parental ability to provide application assistance. I have no direct information about specific help given, or even whether parents provided any assistance at all.

Ideally, data detailing specific application help from both parents and counselors would provide a better sense of the relationship between these two sources of student help. Regardless of the pathways of influence and the lack of direct measures of parental helping behaviors, it is clear that students who have parental support for their educational endeavors and are better able to provide meaningful assistance also enjoy a greater connection with counselors, the official school agents of post secondary information and assistance.

I also find that minority, and in particular black, students see guidance counselors more often than their academically similar white counterparts who are completing comparable applications for college application assistance. Although race was not a focus in this paper, this finding is somewhat surprising as minority students on average tend to have more tenuous connections with official school personnel (McDonough, 2005). Perhaps counselors are specifically targeting black students for assistance.

I also consider how the relationship between parental characteristics and counselor assistance changes with differing school climates. I theorized that schools with a strong focus on academics and college preparation could partly serve to offset disparities in access due to differences in student background. Although for the most part I find little evidence of any difference in the relationship between parental attributes and counselor assistance by school characteristics, 4 of the 5 significant interaction coefficients indicate that stronger academic environments are related to diminished inequalities in counselor application assistance by parental characteristics. Thus, the evidence on school

influences is more mixed and less conclusive. More extensive research on the relationship between parental characteristics, school climate, and guidance counseling is needed. Specifically, more detailed information on school counseling staff, including refined totals of guidance counselors per school, their part-time or full-time status, and the proportion of time spent in college counseling could shed light on why the number of students served per counselor did not influence access to counselors. Other more focused measures of school climate, such as the presence of high academic standards and networks that support college expectations, the commitment of staff to college preparation, and the amount of resources devoted to advising college-bound students, would help illuminate whether specific elements of school climate are influential in understanding who has access to counseling resources.

Much more research is needed on the role of counselors in providing information, support, and assistance to students for college planning purposes. In this paper, I focus on counselor help with college applications to college-bound senior students. However, counselor guidance is needed at much earlier stages of college planning. High school curriculum choice, starting from the freshman year, is an essential area for counselor input (Lee and Ekstrom 1987; McDonough 2005). Future research should address counselor access for college planning at younger ages, even dating to pre-high school. A broader discussion of college counseling is necessary in order to understand the role of counselors over the entire course of a student's high school career. While I focused on application assistance, better understanding of counselors' role in

course selection and track placement (whether college prep or other), in selecting a college choice set and application subset, and in discussions of financing a college education is needed. Finally, the consequences of counseling on student outcomes deserve further attention as well. Do students who have contact with counseling actually experience improved educational outcomes, such as higher levels of college preparedness or a greater likelihood of enrolling in a 4-year, post-secondary institution? And are these outcomes similar for all students or are there groups of students, such as those with strong parental support for education, who experience greater benefit from the same counselor exposure? All these questions are essential to obtain a more comprehensive understanding of college counseling.

High school counselors play an essential role in the college access process. As stated by McDonough (2005), "Within schools, no professional is more important in improving college enrollments than counselors." However, I find that students who are in the greatest need of counselor assistance are the least likely to receive it. Improving student access to college guidance from counselors would have a significant influence on the most needy students, providing them with information and assistance to help enable college enrollment.

- Bowles, Samuel and Herbert Gintis. 1976. *Schooling and Capitalist America: Educational Reform and the Contradictions of Economic Life*. New York: Basic Books.
- Bryk, Anthony S., Valerie E. Lee, and Peter B. Holland. 1993. *Catholic Schools and the Common Good*. Cambridge, MA: Harvard University Press.
- Cabrera, Alberto F. and Steven M. LaNasa. 2000. "Overcoming the Tasks on the Path to College for America's Disadvantaged." *New Directions for Institutional Research* 107:31-43.
- Cicourel, Aaron and John Kitsuse. 1963. *The Educational Decision Makers*. Indianapolis, IN: Bobbs-Merrill.
- Coleman, James. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94:S95-S120.
- Coleman, James and Thomas Hoffer. 1987. *Public and Private High Schools*. New York: Basic Books.
- Corwin, Zoe Blumberg, Kristan M. Venegas, Paz Maya Oliveres, and Julia E. Colyar. 2004a. "School Counsel: How Appropriate Guidance Affects Educational Equity." *Urban Education* 39:442-457.
- . 2004b. "School Counsel: How Appropriate Guidance Affects Educational Equity." *Urban Education* 39:442-457.
- DiMaggio, Paul. 1982. "Cultural Capital and School Success: The Impact of Status Culture Participation on the Grades of US High School Students." *American Sociological Review* 47:189-201.
- Erickson, F. and J Schultz. 1982. *The Counselor as Gatekeeper: Social Interaction in Interviews*. New York: Academic Press, Inc.
- Fallon, Marcia V. 1997. "The School Counselor's Role in First Generation Students' College Plans." *The School Counselor* 44:385-393.
- Frost, Michelle Bellessa. 2005. "Texas Students' Knowledge of University Admissions Policies and Standards: Do High School Counselors Matter?"
- Greeley, Andrew M. 1982. *Catholic High Schools and Minority Students*. New Brunswick, NJ: Transaction Books.
- Guo, G. and H. X. Zhao. 2000. "Multilevel modeling for binary data." *Annual Review of Sociology* 26:441-462.
- Hart, P. and A. Mayes. 1984. "A thought piece on counseling."
- Hill, Nancy E. and Lorraine C. Taylor. 2004. "Parental School Involvement and Children's Academic Achievement: Pragmatics and Issues." *Current Directions in Psychological Science* 13:161-164.
- Hirschman, Charles, Jennifer C. Lee, and Amon S. Emeka. 2003. "Explaining Race and Ethnic Disparities in Educational Ambitions." in *The UW Beyond High School in Washington State Project*. Seattle, Washington.
- Hoover-Dempsey, Katherine V., Angela C. Battiato, Joan M. T. Walker, Richard P. Reed, Jennifer M. DeJong, and Kathleen P. Jones. 2001. "Parental Involvement in Homework." *Educational Psychologist* 36:195-209.

- Horn, Laura J. and Xianglei Chen. 1998. "Toward Resiliency: At-Risk Students Who Make it to College." U.S. Department of Education, Office of Educational Research and Improvement, Washington, D.C.
- Hossler, Don, J Braxton, and G Coppersmith. 1989. "Understanding student college choice." in *Higher Educational: Handbook of theory and research*, edited by J. Smart. New York: Agathon Press.
- Inoue, Yukiko. 1999. *The Educational and Occupational Attainment Process: The Role of Adolescent Status Aspirations*. New York: University Press of America.
- Johnson, Richard G. and Norman R Stewart. 1991. "Counselor Impact on College Choice." *School Counselor* 39:84-91.
- Jordan, Will J. and Stephen B. Plank. 1998. "Sources of Talent Loss Among High-Achieving Poor Students." Center for Research on the Education of Students Placed at Risk (CRESPAR).
- Kaufman, Peter. 2005. "Middle-Class Social Reproduction: The Activation and Negotiation of Structural Advantages." *Sociological Forum* 20:245-270.
- King, Jacqueline E. 1996. "The Decision to go to College: Attitudes and Experiences Associated with College Attendance Among Low-Income Students." College Board, Washington, DC.
- Kirst, Michael W. and Kathy Reeves Bracco. 2004. "Bridging the Great Divide: How the K-12 and Postsecondary Split Hurts Students and What Can Be Done About It." Pp. 1-30 in *From High School to College*, edited by A. Venezia. San Francisco, CA: Joss-Bassey.
- Kreft, Ita and Jan de Leeuw. 1998. *Introducing Multilevel Modeling*. London: Sage Publications.
- Landerman, Lawrence R., Kenneth C. Land, and Carl F. Pieper. 1997. "An Empirical Evaluation of the Predictive Mean Matching Method for Imputing Missing Values." *Sociological Methods and Research* 26:3-33.
- Lareau, Annette. 1987. "Social Class Differences in Family-School Relationships: The Importance of Cultural Capital." *Sociology of Education* 60:73-85.
- . 2000. *Home Advantage: Social Class and Parental Intervention in Elementary Education*. Lanham, MD: Rowman and Littlefield.
- Lee, Valerie E. and Ruth B. Ekstrom. 1987. "Student Access to Guidance Counseling in High School." *American Educational Research Journal* 24:287-310.
- Little, Roderick J. 1988. "Missing-Data Adjustment in Large Surveys (with Discussion)." *Journal of Business and Economic Statistics* 6:287-301.
- Little, Roderick J. and Donald B. Rubin. 1987. *Statistical Analysis with Missing Data*. New York City, NY: John Wiley & Sons, Inc.
- Manski, Charles F. and David A. Wise. 1983. *College Choice in America*. Cambridge, MA: Harvard University Press.
- Mau, Wei-Cheng. 1995. "Educational-Planning and Academic-Achievement of Middle School Students - a Racial and Cultural Comparison." *Journal of Counseling and Development* 73:518-526.

- McDonough, Patricia M. 1994. "Buying and Selling Higher Education: The Social Construction of the College Applicant." *Journal of Higher Education* 65:427-446.
- . 1997. *Choosing Colleges: How Social Class and Schools Structure Opportunity*. Albany, NY: State University of New York Press.
- . 2005. "Counseling and College Counseling in America's High Schools." National Association for College Admission Counseling, Alexandria, VA.
- McGinty, Sarah M. 2002. "Issues of Access: The College Application Essay." *The Journal of College Admission* 177:26-30.
- Parsad, Basmat, Debbie Alexander, Elizabeth Farris, and Lisa Hudson. 2003. "High School Guidance Counseling." U.S. Department of Education, National Center for Education Statistics, Washington, DC.
- Plank, Stephen B. and Will J. Jordan. 1997. "Reducing Talent Loss: The Impact of Information, Guidance, and Actions on Postsecondary Enrollment." Center for Research on the Education of Students Place at Risk (CRESPAR).
- . 2001. "Effects of Information, Guidance, and Actions on Postsecondary Destinations: A Study of Talent Loss." *American Educational Research Journal* 38:947-979.
- Raudenbush, Stephen W. and Anthony S. Bryk. 2002. *Hierarchical Linear Models: Applications and Data Analysis Methods*, Edited by R. A. Berk. Thousand Oaks, CA: Sage Publications.
- Rock, D. A., Ruth B. Ekstrom, M. E. Goertz, and J. Pollack. 1986. "Study of excellence in high school education: Longitudinal study, 1980-1982 final report." Department of Education, OERI, Center for Statistics, Washington, DC.
- Sewell, William H. and Robert M. Hauser. 1992. "A Review of the Wisconsin Longitudinal Study of Social and Psychological Factors in Aspirations and Achievements 1963-1992." Center for Demography and Ecology University of Wisconsin, Madison.
- Stanton-Salazar, Ricardo D. and Sanford M. Dornbusch. 1995. "Social Capital and the Reproduction of Inequality: Information Networks among Mexican-origin High School Students." *Sociology of Education* 68:116-135.
- Strayer, Wayne. 2002. "The Returns to School Quality: College Choice and Earnings." *Journal of Labor Economics* 20:475-503.
- Tienda, Marta and Sunny Xinchun Niu. 2005. "Flagships, Feeders, and the Texas Top 10% Law: A Test of the "Brain Drain" Hypothesis." *Forthcoming in the Journal of Higher Education*.
- Useem, Elizabeth L. 1992. "Middle Schools and Math Groups: Parents' Involvement in Children's Placement." *Sociology of Education* 65:263-279.
- Venezia, Andrea, Michael W. Kirst, and Anthony L. Antonio. 2003. "Betraying the College Dream: How Disconnected K-12 and Postsecondary Education Systems Undermine Student Aspirations." Stanford University's Bridge Project. Stanford Institute for Higher Education Research, Stanford, CA.

Yonezawa, Susan. 1997. "Making Decisions About Students' Lives: An Interactive Study of Secondary School Students' Course Placement Decisions." Education, University of California, Los Angeles, Los Angeles.