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Student Perceptions of College Opportunities The Boston COACH Program

Christopher Avery and Thomas J. Kane

8.1 Introduction

Despite spending large sums to promote widespread access to college, we know surprisingly little about the impact of alternative public interventions on students' and parents' investment decisions. A large share of public subsidies to higher education come in the form of direct state appropriations to public postsecondary institutions, which totaled \$63 billion annually in 2002 (see Grapevine database at <http://www.coe.ilstu.edu/grapevine/50state.htm>). In addition, the federal government provided more than \$8 billion in means-tested grants to undergraduates during the 2000–2001 school year and guaranteed \$37 billion in student loans (and paying the interest on roughly half of that loan volume while students are in school; College Board 2001). States added \$5 billion in grant aid to students, much of it means-tested. Yet the gaps in college enrollment by family income did not close during the 1970s, when the main federal grant program for low-income students was initiated. Moreover, the gaps in college enrollment by race and by family income seem to have been widening since

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1980, as the earnings differentials associated with college degree completion rose dramatically.

In this paper, we present evidence on student perceptions of the economic benefits of college and the college application and financial aid process. We then use our results to assess the likely effectiveness of several policy responses aimed at reducing the gap in educational attainment between high- and low-income youths.

The first hypothesis asserts that low-income students are relatively unlikely to attend college because they simply do not believe that it is profitable: They overestimate tuition, underestimate financial aid opportunities, and/or underestimate the market differential in wages for college versus high school graduates. We find limited support for this hypothesis. Students in the Boston public schools and in a comparison (affluent) suburban school tend to overestimate tuition, but they also tend to overestimate the wage benefits of going to college. Despite their obvious differences in background, the expectations of these two samples of youths are strikingly similar. Approximately 75 percent of the students in each group report estimates that indicate that the net present value of a BA degree is positive (using their expectations of tuition costs, forgone wages, and post-college wage expectations). For these students, the imputed present value of a college degree is not a strong predictor of enrolling in a two-year or a four-year college.

The second hypothesis asserts that low-income students are discouraged by the complexity of the process of applying for financial aid and college admissions, even if they are qualified and enthusiastic about going to college. We find somewhat more support for this hypothesis. More than 65 percent of the Boston public school students in the study reported at the start of their senior year in high school that they planned to attend a four-year college immediately after high school graduation, but less than 25 percent of them actually did so. Many of these students did not have the academic qualifications to gain admission to a four-year college. Still, among students with at least a 3.0 grade point average (meaning that they probably could be admitted to one of the public four-year colleges in Massachusetts), only 65 percent of those who originally intended to go to a four-year college did so. Most of these students were far behind their suburban counterparts in the college application process at the beginning of the senior year; some were sufficiently far behind that they never submitted an application to a four-year college.

An alternate, third hypothesis is that some Boston public school students reported that they wanted to go to college yet either believed that they were not qualified and/or never intended to pursue postgraduate education in the first place. This hypothesis is consistent with our findings that some Boston public school students who said that they wanted to go to a four-year college did not take the SAT exam, while others took the SAT but

then never completed an application to a four-year college. The requirements of completing the SAT and an application essay are sufficiently costly that they would deter students with only a halfhearted interest in college. Taking our survey results at face value, however, we do find that a significant percentage of Boston public school students want to go to a four-year college and have sufficient academic qualifications to do so yet do not complete the application process successfully.

The implications of these findings are ambiguous. However, they do suggest that the low-income students in the study are not deterred from going to college because they are overly pessimistic about costs of college or about their own qualifications. If anything, the Boston public school students are overconfident about their prospects for admission to college and about their future wages at each possible level of educational attainment. Thus, an intervention that only provides information about tuition, financial aid, and likely wages is unlikely to be effective at changing the percentage of low-income students who go to college.

8.2 Persistent and Widening Gaps in College-Going by Income and Race

There are large gaps in college-going by family income. As reported in Ellwood and Kane (2000), 80 percent of the students from the top income quartile attended some type of postsecondary institution within twenty months of their high school graduation, as compared with 57 percent of those from the lowest income quartiles.¹ The gaps by family income were particularly large in four-year college entrance, with 55 percent of the highest-income youths attending a four-year college at some point and only 29 percent of the lowest-income youths.

Clearly, the gaps are not entirely due to the causal effect of family income differences. Higher-income parents may have stronger “tastes” for college; children of higher-income parents typically score higher on measures of academic achievement. However, although the evidence is somewhat more sparse, these gaps appear to be widening over time. After constructing similar measure of income for the High School and Beyond and National Education Longitudinal Study samples, Ellwood and Kane (2000) reported that, although college entry rates grew for all groups between the high school classes of 1980² and 1992, the increases were larger for middle- and higher-income families. For example, there was a 10 percentage point increase in the proportion of youths from the highest income quartile at-

1. These data rely upon the parent-reported family income data, rather than the less-reliable student responses. If students attended more than one type of postsecondary institution, they were categorized as four-year college students if they ever attended a four-year college and, if not, as two-year college entrants if they ever attended a two-year college.

2. The 1980 sample is actually a combined sample of the high school classes of 1980 and 1982.

tending some postsecondary institution between 1980/92 and 1992. Moreover, the increase in postsecondary schooling was largest for high-income youths attending four-year colleges, rising from 55 percent to 66 percent. In contrast, there was only a 3 percentage point rise in postsecondary entry for youths from the lowest income quartile and a 1 percentage point decline (albeit statistically insignificant) in the proportion of low-income youths attending a four-year college.

Racial differentials appear to be widening as well. While the Current Population Survey makes it difficult to track college-going rates by parental income level, it is possible to track college-going rates by race. Between 1980 and 1998, the proportion of white eighteen-to-twenty-four-year-olds enrolled in college increased from 27 percent to 41 percent. Enrollment rates for African American youths also increased over that period—from 19 to 29 percent. But the magnitude of the increase for African Americans (10 percent) was smaller than the magnitude of the increase for white non-Hispanics (14 percent).³ It is important to note that, while gaps in college enrollment were widening between the late 1970s and late 1980s, racial gaps in high school graduation and achievement test scores in the National Assessment of Educational Progress were closing.

However, even if the gaps in college-going by family income and by race were not widening, the rising payoff to college since 1980 has magnified the consequences of the preexisting gap in college entry by family income. While the gap in postsecondary training between the highest and lowest income quartiles grew by one-third (from 23 percentage points to 30 percentage points), the earnings differentials between college entrants and high school graduates more than doubled between 1980 and 1992.

8.3 Conflicting Evidence on the Impact of Tuition and Financial Aid Subsidies

Over the years, a large literature has developed that studies the impact of various types of tuition and financial aid policies on college-going. In their review of the literature on student responsiveness to changes in college cost, Leslie and Brinkman (1988) report a consensus estimate that a \$1,000 change in college costs (in 1990 dollars) is associated with an approximately 5 percentage point difference in college enrollment rates. Such estimates are quite large, particularly in light of the college-going response to the rise in the labor market payoff to schooling. (Between 1980/82 and 1992, Ellwood and Kane [2000] reported a 7 percentage point rise in college-going.)

Table 8.1 summarizes the results from three recent sets of studies, pub-

3. The increases over the time period were larger for women than for men. See table 139 in National Center for Education Statistics (1999).

Table 8.1 Estimated Impact of a \$1,000 Change in Direct Cost of College on College Entry Rates College (per \$1,000 1990)

Study	Estimate	Brief Description
Literature before 1987		
Leslie and Brinkman	-.05 (.005)	Literature review of 25 articles
Based on between-state differences in tuition		
Cameron and Heckman (1998)	-.07 (.02)	State differences in public tuition charges (NLSY)
Kane (1994)	-.05 (.01)	State differences in public tuition charges (October CPS)
Kane (1999)	-.05 (.01)	State differences in public tuition charges (NELS)
Based on nontraditional financial aid		
Dynarski (1999)	-.04 (.02)	End of Social Security Student Benefit Program
Dynarski (2000)	-.03 (.02)	Hope Scholarship Program in Georgia
Before-after the Pell program was established in 1973		
Hansen (1983)		No disproportionate growth by low income students (October CPS)
Kane (1994)		No disproportionate growth by low income students (October CPS)
Manski (1993)		No disproportionate growth in BA completion by low income students (NLS-72 and HSB)

Notes: NLSY = National Longitudinal Survey of Youth. NLS = National Longitudinal Study. HSB = High School and Beyond. Standard errors are in parentheses.

lished since the Leslie and Brinkman review: those that use differences in public tuition levels between states and over time, those that evaluate the impact of financial aid policies that operate outside the usual need-analysis system, and those evaluating changes in financial aid policy operating through the regular financial aid process.

The first three papers use between-state differences in state tuition policy and essentially compare the college entry rates of otherwise similar youths in high- and low-tuition states. The empirical strategy in this literature uses the assumption that the price that is relevant for marginal students is the tuition at public institutions in their state and evaluates the effect of tuition and college-going by comparing college-going rates in high- and low-tuition states. Such studies also assume that the supply of college slots is perfectly elastic: Given a change in price, it is solely student demand that determines enrollment and not the supply of college slots.

Two characteristics of these studies deserve comment. First, although they use three different data sets—the October Current Population Survey,

the National Longitudinal Survey of Youth, and the High School and Beyond—each generates similar results. A \$1,000 difference in tuition is associated with a 6 percentage point difference in college-going. Indeed, these estimates are quite consistent with the older literature summarized by Leslie and Brinkman.

Second, a weakness of these studies is that they rely on relatively fixed differences in tuition levels between states. For instance, California has been a relatively low-tuition state for the past forty years. California has also built a number of community colleges around the state. One may be attributing to tuition policy the effect of these other policy differences, such as the construction of community colleges. As a result, Kane (1999) used administrative data to look at what happens to enrollments within a state when it raises tuition. Interestingly, one sees effects of tuition changes within states over time comparable to those one would estimate by looking across states.

Despite strong evidence of student and parent responsiveness to tuition costs, the evidence for the impact of the Pell Grant program is much weaker. Lee Hansen (1983) first noted that there had been little evidence of a disproportionate rise in college enrollment by low-income youths during the 1970s, when the Pell Grant program was established. Although that paper was criticized for relying too heavily on two years of data and for including males, whose decisions may have also been affected by the end of the Vietnam War, later work (Kane 1994) confirmed that the result was not sensitive to the choice of annual end points or to the inclusion of males.⁴ Manski (1993) also reported little evidence of a disproportionate growth in BA completion by low-income youths graduating from high school between 1972 and 1980.

One hypothesis to reconcile the estimates of tuition impacts with the failure to find an increase in enrollment by low-income youths following the establishment of the Pell Grant program is that students are expected to make a significant up-front investment to apply to college and to apply for financial aid, before they learn anything about the amount of aid available, whereas they can read about a tuition increase in the newspaper or see it in a college's application materials.

Also cited in table 8.1, Susan Dynarski has recently estimated the impact of two other programs that operated outside of the federal need-analysis framework: one looking at the impact of the cessation of tuition benefits for Social Security survivors, and the other evaluating the effect of the Helping Outstanding Pupils Educationally (HOPE) Scholarship program in Georgia. Dynarski (2003) found that after the discontinuation of the So-

4. McPherson and Schapiro (1991) also studied the time trend in college enrollment for high- and low-income youths. But their estimate of the effect of net tuition on college-going appears to be identified primarily by a rise in tuition in the early 1980s rather than the decline in net price due to the Pell Grant program in the mid-1970s.

cial Security Student Benefit program, college entry by students with deceased parents declined by 19.4 to 25.6 percentage points relative to other youths. To convert this estimate to a scale similar to that earlier reported, Dynarski calculated that the value of the benefit program had been roughly \$5,300 (in \$1990). This implies an impact of 3.7 to 4.8 percentage points per thousand-dollar change in price.

In another paper, Dynarski (2000) studied enrollment rates for youths in Georgia relative to other southern states, before and after the HOPE Scholarship program was initiated in that state. She estimates that the program increased college enrollment rates of eighteen-to-nineteen-year-olds by 7.0 to 7.9 percentage points. Given the value of the HOPE Scholarship, this estimate converts to an estimate of 3.1 to 3.5 percentage points per \$1,000 difference in cost.

Interestingly, because both of the programs evaluated by Dynarski—tuition benefits for Social Security survivors and the HOPE Scholarship program in Georgia—operated outside the typical need analysis system, eligibility was known a priori and did not require students to submit a Free Application for Federal Student Aid (FAFSA) form and wait for an award letter to know whether or not one qualified for the aid. Thus, both financial aid programs operated similarly to a tuition increase, which is relatively costless to anticipate. In contrast, the Pell Grant program requires remarkable foresight. One has to fill out a FAFSA, be assigned an expected family contribution, and receive an award letter from a school simply to learn how much federal aid is on offer.

In other words, the way in which students learn about tuition benefits and the process by which they apply may play some role in determining the impact on student college enrollment decisions. Our goal in this paper is to provide some evidence on student perceptions of the economic benefits of college and the hurdles presented by the financial aid and college application processes.

8.4 Hurdles in the College Application Process for Low-Income Students: Results from the COACH Program

Funded by the Andrew W. Mellon Foundation, the College Opportunity and Career Help (COACH) program brings students from Harvard University into three public high schools in Boston to work as coaches to help high school seniors make future plans and submit college and financial aid applications. In 2001–2002, a total of thirty-four coaches worked with a total of 282 high school seniors in three schools, with each coach working with the same set of students throughout the academic year. During the 2000–2001 and 2001–2002 academic years, program researchers surveyed the high school seniors participating in the program as well as students in two additional schools in each year. These students completed a baseline

survey in the fall of the senior year, providing information on their backgrounds and educational aspirations, and an exit survey in the spring of the senior year, providing information on their college applications and concrete plans for the following year. Here we report on the results for all COACH students in 2001–2002 in comparison to Concord-Carlisle students in 2000–2001; Concord-Carlisle was the only non-COACH school with a large enough response rate on both surveys to permit its use as a comparison school.⁵

The COACH program worked closely with three of the twelve nonexamination district high schools in Boston: Boston High School, Charlestown High School, and Dorchester High Schools.⁶ These schools have typical graduating classes of 150 to 300, with approximately 30 percent of students going directly to a four-year college after graduation and approximately 30 percent going on to either a two-year college or a vocational school after graduation. On the 2001 Massachusetts Comprehensive Assessment Test (MCAS), tenth graders at the three COACH schools ranked 304th, 274th, and 306th in English score, respectively, and 305th, 243rd, and 301st in math score among 332 public high schools in Massachusetts.

Concord-Carlisle is a regional high school that encompasses two neighboring suburban towns near Boston. Its typical graduating class consists of 200 to 250 students, with approximately 90 percent of them going directly to a four-year college after graduation. On the 2001 MCAS, tenth graders at Concord-Carlisle ranked sixteenth of 332 Massachusetts high schools in average English score and eighth in average math score.

Table 8.2 shows the response rates to the baseline survey and exit survey for both subgroups. The COACH surveys were supplemented with additional information compiled by coaches and program researchers over the course of the year. The most critical information from the baseline survey is the student's plan at the start of the senior year for the year after graduation, and the most critical information from the exit survey is the student's actual plan for next year at the time of high school graduation.⁷ With the addi-

5. Both surveys were also administered in Concord-Carlisle in 2001–2002 and East Boston High School in 2001–2002, but the exit survey response rates were less than 50 percent in each case. The initial, baseline survey was also administered at Wellesley High School in 2000–2001, but it was not possible to administer the second, exit survey at Wellesley High School that year.

6. Three public high schools in Boston are exam schools (Boston Latin, Boston Latin Academy, and the O'Bryant School for Math and Science), where the enrollment is based on the score on an entry exam. On the 2001 Massachusetts Comprehensive Assessment Test (MCAS), these three exam schools ranked 1st, 4th, and 49th of 332 public high schools in Massachusetts in average math score. (Scores and rankings are available on the Boston Globe website at www.boston.com/mcas.)

7. At present, we do not know with certainty whether students followed through on the future plans that they reported at high school graduation. The Boston Private Industry Council conducts a follow-up survey with recent Boston Public School graduates in the spring of the following year. In future analysis, we will use those survey results to refine our findings.

Table 8.2 Survey Response Rates for COACH and Concord-Carlisle Students

	COACH Students (Boston, Charlestown, Dorchester High School) 2001–2002	Suburban Students (Concord-Carlisle High School) 2000–2001
Completed baseline survey, fall 2001	239 (84.8%)/264 (93.6%)	175 (70.0%)
Completed exit survey, spring 2002	228 (80.9%)/270 (95.7%)	165 (66.0%)
Completed both surveys	197 (69.9%)/257 (91.1%)	96 (38.4%)
Sample size	282	250

Notes: The first number in the COACH column reports the number of students who completed the actual surveys. The second number reports the total number of students included in the sample after inclusion of supplemental information for initial plans for the year after high school (baseline survey) and for final plans for the year after high school (exit survey). The Concord-Carlisle class size is approximate, based on information from school reports.

tional information compiled by the program over the course of the year, we were able to identify the original plans for 93.6 percent of COACH students (264 of 282) and the final plans for 95.7 percent of them (270 of 282, including 22 who did not graduate) and to match these plans for 91.1 percent of the COACH students (257 of 282, including 18 who did not graduate).

The response rates for Concord-Carlisle students are lower than for COACH students. Still, we believe that the samples of Concord-Carlisle students for both the baseline and exit surveys are broadly representative of the school population as a whole. For example, the results from the exit survey are quite consistent with aggregate results reported by the Concord-Carlisle school committee.⁸

As is portrayed in table 8.3, the students in the COACH and Concord-Carlisle samples were very different in demographic characteristics. While 67.1 percent of the COACH students were Latino or Black non-Hispanic, only 10.6 percent of the Concord-Carlisle students were classified in these categories. Almost all of the Concord-Carlisle students were U.S. citizens, as opposed to two-thirds of the COACH students. Finally, while only 18.9 percent of the COACH students had a parent who was a college graduate, 83.1 percent of the Concord-Carlisle students had a parent who was a college graduate (indeed, 47 percent of the suburban youths had a parent with a graduate degree).

8. According to the 2001 Concord-Carlisle school report, 84.5 percent of graduates in 2000–2001 were attending four-year colleges, and 6.5 percent were attending two-year colleges. Further, although we were only able to match 38.4 percent of the baseline and exit surveys, the subset of matched applicants is broadly representative of the respondents to both the baseline and the exit surveys as well. Among students who completed both surveys, 95.8 percent (91 of 95) reported in the baseline survey that they planned to attend a four-year college in the year after graduation, while 89.6 percent (86 of 96) reported in the exit survey that they would attend a four-year college in the year after graduation. These figures are quite close to the aggregate figures for all Concord-Carlisle students completing the baseline and exit surveys, respectively.

Table 8.3 Demographic Characteristics of COACH and Suburban Students (%)

	COACH Students (Boston, Charlestown, Dorchester High School) 2001–2002	Suburban Students (Concord-Carlisle High School) 2000–2001
Race/ethnicity		
Hispanic	20.7	3.3
Black non-Hispanic	46.4	7.3
Asian or Pacific Islander	16.7	8.0
Native American/other	4.1	0.0
White non-Hispanic	12.2	81.3
Citizenship		
U.S. citizen	67.0	96.3
Parental education		
High school dropout	32.3	2.0
High school graduate	24.4	6.1
Some college	10.4	4.7
Vocational degree	13.9	4.1
BA degree	15.4	35.8
Graduate degree	3.5	47.3
Sample size	239	175

Source: Based on responses to baseline surveys administered in fall 2001 (COACH) and fall 2000 (Concord-Carlisle).

Note: The parental education calculations exclude ten COACH students and nine Concord-Carlisle students who reported that they did not know the educational attainment of their parents.

8.4.1 Similarities in Initial Educational Plans, Belied by Preparation and Actual Results

Despite the obvious differences in background between COACH and Concord-Carlisle students, these two groups of students maintained similar plans for postsecondary enrollment as late as the fall of the senior year in high school, as shown in table 8.4. In their responses to the baseline survey, virtually all of the Concord-Carlisle students reported that they planned to attend a four-year college in the fall after graduation. A similar proportion of COACH students reported that they planned to attend postsecondary institutions in the year after graduation, although not all were planning to attend four-year schools. A vast majority of both groups of students (91.1 percent of Concord-Carlisle students and 70.3 percent of COACH students) planned to eventually complete at least a BA degree.

Although the two groups were similar in educational aspirations, they differed dramatically in the extent to which they had taken concrete steps to prepare for the transition from high school to college. The results in table 8.5 are limited to those who reported that they planned to attend a four-year institution the following fall. While more than 97 percent of the Concord-Carlisle students had already taken the SAT by October of the senior year, less than one-third of COACH students had taken the test.

Table 8.4 Postsecondary Plans for COACH and Concord-Carlisle Students at the Beginning of Senior Year in High School

	COACH Students (Boston, Charlestown, Dorchester High School) 2001–2002	Suburban Students (Concord-Carlisle High School) 2000–2001
Plans for the following year		
Not going to school (%)	8.3	3.5
Vocational/trade school (%)	4.9	0.6
Two-year college (%)	21.6	2.3
Four-year college (%)	65.2	93.6
Sample size	264	171
Plans for eventual attainment		
High school diploma (%)	9.6	2.9
Vocational degree (%)	7.9	2.9
Associate's degree (%)	12.2	2.3
BA degree (%)	40.2	24.0
Graduate degree (%)	30.1	57.1
Sample size	229	156

Source: Based on responses to baseline surveys administered in fall 2001 (COACH) and fall 2000 (Concord-Carlisle).

Note: The sample size is much larger for COACH students for “Plans for the following year” because we used supplemental information from coaches to code this variable for students who did not complete the baseline survey.

Table 8.5 Specific Activities Completed by Fall of Senior Year: Students Planning to Attend a Four-Year College

	COACH Students (Boston, Charlestown, Dorchester High School) 2001–2002	Suburban Students (Concord-Carlisle High School) 2000–2001
Had taken PSAT (%)	58.6	89.7
Had registered for SAT (%)	72.3	96.6
Had taken SAT/ACT (%)	31.8	97.5
Met with guidance counselor four or more times (%)	17.1	55.4
Had visited a college (%)	34.6	83.0
Had the application from institution “most likely” to attend (%)	53.7	90.7
Had applied to a college (%)	18.2	40.9
Sample size	239	175

Source: Based on responses to baseline surveys administered in fall 2001 (COACH) and fall 2000 (Concord-Carlisle).

While more than half of the Concord-Carlisle students had spoken with a guidance counselor four or more times over the past year, less than 20 percent of COACH students had done so. While 83 percent of Concord-Carlisle students had visited a college and 91 percent had the application for the institution they were “most likely to attend,” only 35 percent of

Table 8.6 Plans for COACH and Concord-Carlisle Students at Graduation

	COACH Students (Boston, Charlestown, Dorchester High School) 2001–2002	Suburban Students (Concord-Carlisle High School) 2000–2001
Plans for the following year		
Did not graduate from high school (%)	7.8	0.0
Not going to school (%)	19.5	4.1
Vocational/trade school (%)	6.0	0.0
Two-year college (%)	32.6	3.5
Four-year college (%)	24.5	88.3
Postgraduate year or still selecting a college (%)	6.0	3.5
Plans were unknown (%)	3.5	0.6
Sample size	282	171
Plans for following year, students originally intending to go to a four-year college		
Did not graduate from high school (%)	4.1	0.0
Not going to school (%)	16.9	4.5
Vocational/trade school (%)	3.5	0.0
Two-year college (%)	32.0	2.3
Four-year college (%)	35.5	93.2
Postgraduate year or still selecting a college (%)	6.4	3.5
Plans were unknown (%)	1.7	0.0
Sample size	172	88

Source: Based on responses to baseline surveys and exit surveys administered in 2001–2002 (COACH) and 2000–2001 (Concord-Carlisle). “Plans for the following year” is based on the exit surveys for Concord-Carlisle and the exit surveys supplemented with information from coaches for the COACH students.

Note: Plans for the following year for those intending to go to a four-year college are tabulated only for Concord-Carlisle students who completed both surveys.

COACH students had visited a college, and just slightly more than half had the application for the institution they were most likely to attend.

Not surprisingly, the results for the COACH and Concord-Carlisle students diverged sharply by the end of the academic year, as shown in table 8.6. Though nearly two-thirds of the COACH students stated at the start of the academic year that they intended to enroll in a four-year college in 2002–2003, less than 25 percent of all COACH students did so.⁹ Further, only 35.5 percent of COACH students who originally intended to go to a

9. We treat the college plans reported by COACH students at the time of high school graduation to represent their actual enrollment decisions in the fall of 2002. Past history and anecdotal evidence suggest that these numbers are overestimates. Some students may change plans over the summer, and it is more likely that students who planned to go to college would not ultimately enroll than that students who did not plan to do so would change their minds over the course of the summer and both apply to and enroll in college in the fall.

four-year college did so, while 21.0 percent of the COACH students who originally intended to go to a four-year college either did not graduate from high school or decided not to continue education at all in 2002–2003. In contrast, 93.2 percent of the Concord-Carlisle students who stated initially that they wanted to enroll in a four-year college did so.

8.4.2 Further Hurdles in the College Application Process for COACH Students

We tracked the progress of COACH students carefully during the course of 2001–2002 and identified five steps that are necessary for attending a four-year college. In order of priority, these hurdles are (1) graduating from high school, (2) attaining a grade point average (GPA) sufficient for admission to a four-year college, (3) registering for the SAT, (4) taking the SAT, and (5) completing and submitting an application (and gaining admission). A sixth step, the FAFSA, is clearly of considerable importance for COACH students, but it is not an absolute requirement in the same sense as the first five requirements listed.

Figures 8.1 and 8.2 depict these steps for COACH and Concord-Carlisle students in flow charts that include conditional probabilities of completing that step among those passing all earlier steps. At stage 1, a total of 94.2 percent of COACH students attended school regularly and graduated at the end of the year.¹⁰ These graduation rates for COACH students are somewhat higher than the aggregate percentage for high school seniors in district high schools in Boston.¹¹ In contrast, we believe that more than 99 percent of Concord-Carlisle seniors graduate from high school.¹² We discuss each succeeding step in the college application process separately in the sections that follow.

The Importance of Grade Point Average

We divide students who originally intended to go to a four-year college into two groups based on self-reported grades from the baseline survey. Here, there is a striking difference between the COACH and Concord-

10. We combined “Not Graduating from high school” and “Unknown” plans at this stage. A small number of COACH students who originally planned to go to a four-year college, 1.7 percent, graduated from high school despite very limited participation in the program and (we believe) limited attendance in classes not associated with COACH. The college choices for these students were unknown to us at the end of the year; we suspect that these students were not going to continue their education in 2002–2003.

11. Our initial analysis of administrative data from the Boston Public Schools suggests that the dropout rate for high school seniors may be even higher than the 5.4 percent for COACH students in 2001–2002.

12. Our research assistant, Katherine Huyett, coincidentally a Concord-Carlisle graduate, indicated that a total of only two students failed to graduate from the school from the past three cohorts, the classes of 2000, 2001, and 2002. If one student per year in a class of 250 does not graduate, that produces a graduation rate of 99.6 percent, the figure given in table 8.10 for Concord-Carlisle students.

Graduated		GPA	REG SAT	TKSAT	APP 4 YR	GO 4 YR
Y	3.0+	Y	Y	Y	Y	Y
94.70%	38.83%	91.90%	85.90%	85.70%	88.10%	
162/172	62/162	57/62	49/57	42/49	37/42	
		N	N	N	N	N
		8.10%	14.10%	14.30%	11.90%	
		5/62	8/57	7/49	5/42	
N	<3.0	Y	Y	Y	Y	Y
5.30%	61.70%	87.00%	76.00%	48.00%	55.60%	
10/172	100/162	87/100	76/100	36/75	20/36	
		N	N	N	N	N
		13.00%	24.00%	52.00%	44.40%	
		13/100	24/100	39/75	16/36	

Fig. 8.1 Conditional probability flow chart: COACH students intending to go to four-year colleges

Graduated	GPA		REG SAT		TK SAT		APP 4 YR		GO 4 YR	
	Y	3.0+	Y	Y	Y	Y	Y	Y	Y	Y
99.60%	81.30%	74/91	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	95.90%
			74/74	74/74	74/74	74/74	74/74	74/74	74/74	71/74
			N	N	N	N	N	N	N	N
			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.10%
			0/74	0/74	0/74	0/74	0/74	0/74	0/74	3/74
N	<3.0		Y	Y	Y	Y	Y	Y	Y	Y
0.40%	18.70%	17/91	100.00%	100.00%	94.10%	94.10%	81.30%	81.30%	81.30%	92.30%
			17/17	17/17	16/17	16/17	13/16	13/16	12/13	12/13
			N	N	N	N	N	N	N	N
			0.00%	0.00%	5.90%	5.90%	18.70%	18.70%	18.70%	7.70%
			0/17	0/17	1/17	1/17	3/16	3/16	1/13	1/13

Fig. 8.2 Conditional probability flow chart: Concord-Carlisle students intending to go to four-year colleges

Carlisle students. Among those students who intended to go to a four-year college, the students at Concord-Carlisle were more than twice as likely to have a GPA of 3.0 or better than were COACH students (81.3 percent vs. 38.3 percent).¹³ A 3.0 GPA is an important milestone for these students because that is the cutoff for consideration for admission to four-year public universities in Massachusetts. The Massachusetts Board of Higher Education allows students with GPAs between 2.5 to 3.0 to qualify for admission to four-year public universities if they have sufficient SAT scores, but Boston public school students very seldom meet these SAT score requirements. In plain terms, very few COACH students with GPAs less than 3.0 can qualify for admission to public four-year universities in Massachusetts.¹⁴

Among COACH students who originally intended to attend a four-year college in the year after graduation, only 21 percent of those with self-reported grades of 3.0 or less (21 of 100) actually did so.¹⁵ None of the COACH students reporting a GPA less than 2.0 attended a four-year college in 2002–2003. By contrast, 53.3 percent of the COACH students who originally intended to attend a four-year college and had self-reported GPAs of 3.0 or better attended four-year colleges in 2002–2003. A 3.0 GPA is something of an important hurdle for Concord-Carlisle students as well, but not as much as for COACH students: 70.6 percent of Concord-Carlisle students who intended to go to a four-year college and had GPAs below 3.0 went to a four-year college immediately after graduation.

One possibility is that the grading standards are not the same at these two schools. The best, albeit limited, evidence for assessing the relative difficulty of these grading standards is to match grades to standardized test scores. For example, 86 percent of tenth graders at Concord-Carlisle scored at the “Advanced” or “Proficient” level on the 2001 MCAS English test (the lower levels are “Needs Improvement” or “Fail”), and 81 percent scored at the “Advanced” or “Proficient” level on the 2001 MCAS math test. By contrast, only 10.6 percent of tenth graders at COACH schools scored at “Advanced” or “Proficient” on the 2001 MCAS English test, and only 12.6 percent did so on the 2001 MCAS math test.¹⁶

13. Our analysis of grades for COACH and Concord-Carlisle students is based entirely on self-reported grades on our baseline survey. Subsequent results about college choices and college admissions outcomes for these students suggest that these self-reported grades are quite accurate. In subsequent analysis, we expect to be able to identify the true grades for all of the COACH students.

14. For students with GPAs between 2.5 and 3.0, the SAT score cutoff for consideration for admission to a public university in Massachusetts ranges from 920 to 1,150, with higher SAT scores required to compensate for lower grades in this range.

15. These calculations assume that students in both schools followed through on the plans that they reported in exit surveys at high school graduation.

16. These figures are taken from the following website: <http://www.boston.com/mcas/scores2001>. Percentages for COACH schools are weighted by enrollment and aggregated across the three COACH schools.

Thus, on the MCAS scoring scale, the borderline between “Proficient” and “Needs Improvement” corresponds to the 14th percentile for Concord-Carlisle students and the 89th percentile for COACH schools in English, and at the 19th percentile for Concord-Carlisle students and the 87th percentile for COACH students. A slightly higher percentage of Concord-Carlisle students are “Proficient or Better” on the MCAS than are “3.0 GPA or better,” while a conspicuously lower percentage of COACH students are “Proficient or Better” on the MCAS than are “3.0 GPA or better.” If test scores translate directly into grades, then a 3.0 GPA represents a somewhat higher level of academic achievement at Concord-Carlisle than in the COACH schools.¹⁷ In summary, although a much higher proportion of Concord-Carlisle than COACH students meet the 3.0 GPA standard that is frequently necessary for admission to public four-year universities in Massachusetts, we certainly cannot conclude that this standard favors Concord-Carlisle students over COACH students with similar academic qualifications.

Registering for and Taking the SAT

At Concord-Carlisle, registering for and completing the SAT is simply taken for granted. The district website highlights the fact that 100 percent of its recent graduates completed the SAT; our baseline survey in the fall of 2001 found that all but four of the Concord-Carlisle students who intended to go to a four-year college had completed the SAT by October of the senior year. The College Board database indicates similar numbers for Boston Latin, a public examination school in Boston: Almost all Boston Latin students register for the SAT, and 99.2 percent of Boston Latin students from the class of 2000 who registered for the SAT completed the test. But at Dorchester High School, one of the three Boston district public schools that participated in the COACH program, only 71 percent of those students who register for the SAT complete the test.¹⁸

Most of the COACH students who wanted to go to a four-year college and who had GPAs of at least 3.0 both registered for and took the SATs. Even so, nearly 10 percent of these students did not register for the exam, and nearly 15 percent of those who registered for the exam did not com-

17. It is possible to criticize the MCAS exam as a measure of a student’s academic attainment, particularly since so many COACH students are not U.S. citizens. We steer clear of this issue as much as possible, since we have no obvious way to quantify this possible objection. For students at the Boston Latin School, a selective magnet school in Boston with college-going rates similar to those at Concord-Carlisle, the senior-year students’ GPA was roughly a quarter of a point (on a four-point scale) higher than the GPA of students in the COACH schools. However, differences in standardized test scores accounted for more than 100 percent of the difference. Among those with the same standardized test scores, Latin School students’ senior year GPAs were a third of a point lower than those of the COACH school students.

18. Meri Escandon of the College Board provided us with these figures.

plete it. Thus, the seemingly innocuous requirement of completing the SAT as part of an application to a four-year college eliminated more than 20 percent of the COACH students with the highest GPAs. (Interestingly, the COACH students with lower GPAs registered for and completed the SAT at nearly the same rates as the students with the higher GPAs.)

Anecdotally, we observed several related factors that contributed to the difficulty of completing the SAT. First, COACH students were relatively unfamiliar with registration forms. Less than half of them had taken the PSATs, and it often took a full class period for a student to complete an SAT registration form. Some students began the registration form but never completed or never mailed it, even with assistance from their coaches.

Second, in a related development, COACH students frequently registered close to the deadline and routinely found themselves assigned to unfamiliar suburban test locations as much as thirty minutes away by car.¹⁹ A number of them were discouraged by the travel time, others got lost on the way to the test site, and still others arrived at the correct test site only to be turned away for lack of a registration slip or picture ID.

Finally, some COACH students simply decided at the last minute to stay home. We surmise that most had concluded, correctly or incorrectly, that they would do so poorly that their scores would cause them to be rejected by the four-year colleges that they wanted to attend.²⁰ This fear is probably reasonably founded, for Boston public school students do notoriously poorly on average on standardized tests. Of course, all of these impediments are surmountable. Most COACH students who registered for the SAT completed the test, and most of those with relatively high grades did well enough on the SAT to gain admission to a four-year college.

Writing Essays and Applying to a Four-Year College

At some point in the application process, one would expect COACH students with low grades to become discouraged, recognizing that their options are limited and that they may not be admitted to any four-year college. Figure 8.1 suggests that discouragement takes hold at the point of completing an application. At this point, it may become undeniably obvious for a student with low grades and SAT scores that a four-year college is out of reach. In addition, coaches reported that their students had con-

19. Almost all of these students were able to obtain fee waivers for the SAT, but this often slowed down the registration process as they had to submit an additional form signed by a school counselor. (Until 2001–2002, it was not possible for students to register on-line if they were submitting a fee waiver.) There were only two or three test locations in the city of Boston for most administrations of the SAT in 2001–2002, and these locations were generally over-subscribed well in advance of the registration deadline.

20. This surmise is difficult to confirm. In the cases when we were able to talk to students after the fact, few or none of them cited performance anxiety or pessimism as the reason that they did not take the test.

siderable difficulty writing an application essay. A considerable percentage, more than one-quarter of those with high grades and more than half of those with low grades, completed the SAT but never submitted an application to a four-year college. By contrast, 100 percent of the Concord-Carlisle students with high grades who intended to go to a four-year college went on to submit an application to a four-year college. In addition, more than 80 percent of the Concord-Carlisle students who intended to go to a four-year college but who had low grades submitted an application to a four-year college.

Almost all of the COACH students with high grades who completed an application were admitted to and enrolled in a four-year college. Their success in gaining admission is not surprising since, up to a point, four-year colleges are anxious to recruit promising students from the city of Boston. In addition, coaches worked carefully with students to ensure that those with sufficient credentials applied to at least one four-year college where they were very likely to be admitted.

Among the COACH students with lower grades, the majority (64.5 percent) who completed an application were still admitted to and enrolled in a four-year college. This level of success reflects careful selection of colleges on the part of these applicants and their coaches. More than half of these students were admitted to private colleges known for relatively low admission requirements, and at least two were admitted in part because of their athletic ability. Within the set of COACH students with GPAs below 3.0, it also appears that the earlier stages of the application process selectively weeded out the students who had the lowest grades and the least chance of admission. It is unlikely that such a high percentage of the others with low grades would have been admitted had they applied to four-year colleges.

8.4.3 Similarities in Educational Plans between COACH and Suburban Students at Graduation

Table 8.4 showed that COACH students and Concord-Carlisle students had broadly similar plans for long-term educational attainment at the start of the senior year. Table 8.7 shows that the similarities in expectations for eventual education attainment remained at graduation, even though a large percentage of COACH students had changed their immediate plans after high school. Although less than one-third of the COACH students who completed exit surveys were going to a four-year college,²¹ more than two-thirds of them stated that they planned to eventually complete a BA degree.

Table 8.8 compares the educational attainment plans reported by

21. Of the 218 COACH students who completed an exit survey, 66 (30.8 percent) were going to a four-year college.

Table 8.7 Plans for Educational Attainment for COACH and Concord-Carlisle Students at Graduation

	COACH Students (Boston, Charlestown, Dorchester High School) 2001–2002	Suburban Students (Concord-Carlisle High School) 2000–2001
High school diploma (%)	6.4	0.0
Vocational degree (%)	6.0	0.0
Associates degree (%)	20.6	1.9
BA degree (%)	37.2	32.3
Graduate degree (%)	29.8	65.8
Sample size	218	158

Source: Based on responses to exit surveys administered in 2001–2002 (COACH) and 2000–2001 (Concord-Carlisle).

Table 8.8 Educational Aspirations for COACH Students over the Senior Year

	COACH Students, Fall 2001	COACH Students, Spring 2002
All COACH students		
High school diploma (%)	9.9	6.6
Vocational degree (%)	7.1	5.0
Associate's degree (%)	13.2	20.3
BA degree (%)	38.5	38.5
Graduate degree (%)	31.3	31.3
Sample size	182	
Chi-squared test value	4.78 (<i>p</i> -value of .32)	
COACH students not going to 4-year college		
High school diploma (%)	13.8	8.1
Vocational degree (%)	8.1	6.5
Associate's degree (%)	19.5	28.5
BA degree (%)	34.2	39.0
Graduate degree (%)	24.4	17.9
Sample size	123	
Chi-squared test value	5.72 (<i>p</i> -value of .22)	
COACH students who intended to go to a 4-year college, not going to a 4-year college		
High school diploma (%)	8.3	9.7
Vocational degree (%)	4.2	2.8
Associate's degree (%)	5.6	19.4
BA degree (%)	52.8	48.6
Graduate degree (%)	29.2	19.4
Sample size	72	
Chi-squared test value	7.36 (<i>p</i> -value of .12)	

Source: Based on responses to baseline and exit surveys administered in 2001–2002 (COACH).

Notes: Tabulations are restricted to those students who reported their long-term plans for educational attainment on both the baseline and exit surveys. The chi-squared values are for a test for a difference in the distribution between the baseline and exit responses in each case. None of the chi-squared statistics are significant at the .10 level for four degrees of freedom.

COACH students in the baseline and exit surveys. These tabulations are restricted to those students who provided information on both surveys. Across all COACH students there was almost no change in the percentage of students expected to complete at least a BA degree (69.8 percent on the baseline survey and 68.2 percent on the exit survey).

Table 8.8 proceeds to restrict the analysis to COACH students not going to a four-year college and then to COACH students who planned to go to a four-year college but are not doing so. The results in the first of these two analyses are striking in two ways. First, more than half of the students (56.9 percent) who are not going to a four-year college immediately after graduation still expect to complete a BA degree eventually. Second, the expectations of COACH students who are not going to four-year colleges diminished very little during the senior year. The final section of the table lists the results for the seventy-two COACH students who did not fulfill their original plans to go to a four-year college (and who completed both surveys): 68.1 percent of those students still expected to complete a BA degree eventually, down from a figure of 82.0 percent on the baseline survey.²² While these results reflect some reduction in aspirations as many COACH students learned that they would not be going to a four-year college immediately after graduation, the magnitude of this change is relatively small. While twenty-three students in this group reduced their long-term plans for educational attainment, eleven actually *increased* their plans. A chi-squared test for a difference in the distributions between baseline and exit survey is not significant at the 10 percent level for any of the three cases listed in table 8.8.²³

Clearly, many COACH students had expectations for their future educational attainment that did not accord with their immediate educational prospects. This finding is consistent with the results from other national surveys. During the spring of their senior year in high school, student respondents in the National Educational Longitudinal Study (NELS) were asked to respond to the question “As things stand now, how far in school do you think you will get?” Table 8.9 presents a cross-tabulation of student responses to that question along with their subsequent postsecondary enrollment over the two years following graduation.²⁴ It is striking that 42 percent of those who expected to complete “some college” and 64 percent of those who expected to attend a vocational, trade, or business school had not enrolled in a postsecondary institution twenty months after high

22. We note that it seems contradictory that 18 percent of the students in this group reported on the baseline survey that they intended to go directly to a four-year college and yet did not expect to receive at least a BA degree.

23. Comparing the percentages of students expecting to receive at least a BA degree, the difference between the baseline and exit survey results for COACH students is insignificant in the first two cases and on the borderline of statistical significance (t -statistic of 1.95) for students who intended to go directly to a four-year college but are not doing so.

24. Rosenbaum (2001) reports similar results.

Table 8.9 Postsecondary Enrollment within Twenty Months of High School Graduation by Student Expectations as High School Seniors

“As things stand now, how far in school do you think you will get?”	Enrollment within 20 Months of High School (%)				Percent of Seniors
	None	Private <4-Year, Public <2-Year	Public 2-Year	4-Year (Public or Private)	
High school only	.904	.015	.069	.011	6.5
Vocational, trade or business school	.640	.103	.216	.040	11.0
Some college	.417	.080	.366	.138	14.0
4- or 5-year degree	.156	.028	.248	.568	35.4
Graduate school	.100	.013	.171	.717	33.1
Total	.276	.038	.224	.462	

Source: Based upon authors' tabulation of the NELS second and third follow-up.

school. Moreover, only 57 percent of those who expected to finish a bachelor's degree and 72 percent of those who expect to finish a graduate degree had ever attended a four-year college within that time. Indeed, 16 percent of those expecting a bachelor's degree and 10 percent of those expecting a graduate degree did not attend any postsecondary institution twenty months after high school.

8.4.4 Alternate Explanations of Our Findings

We consider two alternate interpretations that might also explain our main finding that there is a large discrepancy between the percentage of COACH students who want to go to college and believe that it is economically advantageous to do so and the percentage of COACH students who enroll in college.

The first alternate explanation of this finding is that our survey induces biased responses to the questions about future educational plans. For instance, it is possible that some COACH students who had no intention of pursuing higher education beyond high school graduation nevertheless reported that they wanted to go to college to avoid the possibility of disappointing their teachers or those giving the survey. It is also possible that some COACH students are deceiving both themselves and others—perhaps they know subconsciously that they cannot or will not go to college and yet refuse to admit this openly.

Table 8.10 assesses this possibility by comparing the plans reported by COACH students on baseline surveys in October 2001 to the plans of those students in January 2002, as reported by their coaches after three months of program work. Only 5.1 percent of the students reported on the baseline survey that they did not plan to enroll in further education the following year, but their coaches reported that 11.6 percent of them would not do so.

Table 8.10 Plans for COACH Students on the Baseline Survey and in January

	Plan Reported by Student, Baseline Survey, October 2001	Plan Reported by COACH, January 2002
Will not enroll	11 (5.1%)	25 (11.6%)
Vocational program	11 (5.1%)	7 (3.3%)
Two-year college	42 (19.5%)	76 (35.4%)
Four-year college	151 (70.2%)	107 (49.8%)
Total	215 (100%)	215 (100%)

This suggests that some of the students who stated that they would pursue further education had little or no commitment to that plan. In addition, the percentage of students planning to attend four-year colleges dropped by more than 20 percentage points from the baseline survey to the January assessment, while the percentage planning to attend a two-year college increased by more than 15 percentage points. This suggests that these students either exaggerated their educational plans, or that their coaches helped them to realize that they did not have the qualifications to be admitted to a four-year college.²⁵

While table 8.10 indicates that the baseline survey may not be a wholly accurate assessment of student plans, there is ample evidence to indicate that a substantial number of COACH students plan and want to go to college and yet do not do so. For instance, table 8.20 (described later) indicates that even among COACH students who have sufficient grades, who have completed at least three milestones in the application process, and who attended at least sixteen COACH sessions, more than 20 percent will not attend four-year colleges. These students appear to have invested in their plans to attend four-year colleges, yet they were unable to complete the process and bring those plans to fruition.

The second alternate explanation for our findings is that college is not actually in the economic interest of low-income students who do not currently pursue higher education beyond high school. One possibility is that the wage differentials observed in practice between those with a BA degree (or “some college”) and those with only a high school diploma are not relevant “out of sample”—that is, for those who are not currently attending college. If the wage benefits of attending college are substantially smaller for those who do not attend college than for those who do, it may not be in the economic interest of many students from low-income families to attend college. But the students’ own assessments of the costs and wage benefits to attending college impute a positive present value to attending college for

25. Among the students who reported on the baseline survey that they planned to attend a four-year college, 81.0 percent who had GPAs of 3.0 or higher still planned to attend a four-year college as of January 2002 (as reported by their coaches), while only 51.1 percent of those with GPAs of 3.0 or less still planned to attend a four-year college as of January.

the majority of them (including many COACH students who will not be enrolled in school in the fall of 2002). Assuming a 6 percent discount rate, approximately 75 percent of both COACH and Concord-Carlisle students would gain financially by completing a BA degree according to their estimates for tuition and future wages. Another possibility is that COACH and Concord-Carlisle students might have different discount rates so that, despite similar estimates of tuition and wages, it is in the economic interest of a higher percentage of Concord-Carlisle students to invest in four years of education to complete a BA degree.²⁶ But most students estimate quite large wage gains for completing a BA degree: The yearly discount rate would have to rise to 20 percent for COACH students for the present value of college to be positive for only 30 percent of COACH students—the percentage who are actually attending a four-year college.

8.5 Assessing Possible Interventions to Reduce the Gap in College Enrollment

We now use the results for the COACH students for a preliminary analysis of three possible policy interventions: (1) educating students on tuition levels, the financial aid process, and the college wage differential; (2) introducing class requirements that encourage students to get an early start on the application process (e.g., requiring all students to take the SAT, having a regimented set of meetings with a counselor to discuss college options, scheduling a college visit as a class field trip); and (3) creating outside programs such as COACH that provide regular individualized assistance with the application process.

8.5.1 Providing Accurate Information on Tuition, Financial Aid, and Wages

As we reported earlier, 65 percent of parents reported in a 1998 survey that the cost of a college education was one of their top five worries about their children's welfare. Yet, in that survey, the public greatly overestimated the costs of college tuition. Their estimated cost of in-state tuition at a community college (\$4,026) and a four-year college (\$9,694) was roughly triple the actual average cost of tuition at such institutions (\$1,501 at community colleges and \$3,111 at four year colleges).

The COACH program in Boston found similar results when it surveyed students regarding the estimates of tuition at several local institutions: The survey asked, "About how much do you think it costs to attend the following colleges *full-time* per year? (Think of the cost of full tuition. Do not ad-

26. COACH students may also have to enroll for more than four years to complete a BA degree, particularly if they have to spend the first year at college completing preliminary or bilingual courses before enrolling in regular freshman-level courses for credit.

Table 8.11 Student Estimates of Tuition at Various Institutions

	Bunker Hill Community College		University of Massachusetts, Boston	
	COACH	Concord- Carlisle	COACH	Concord- Carlisle
\$0–499	5.2%	3.3%	1.8%	0.0%
\$500–999	7.5%	2.6%	3.2%	0.0%
\$1,000–1,999	16.0%	8.5%	4.6%	1.9%
\$2,000–2,999	16.9%	17.0%	4.1%	3.2%
\$3,000–3,999	10.3%	9.2%	6.5%	3.2%
\$4,000–4,999	7.0%	13.7%	12.0%	6.5%
\$5,000–7,499	10.8%	14.4%	11.1%	12.3%
\$7,500–9,999	7.0%	14.4%	11.1%	18.8%
\$10,000–14,999	8.0%	7.8%	8.8%	29.9%
\$15,000–19,999	6.6%	7.2%	10.6%	19.5%
\$20,000+	4.7%	2.0%	25.4%	4.6%
Implied mean using midpoints of categories	\$5,941	\$6,055	\$11,525	\$11,255
Implied standard deviation using midpoints of categories	\$6,056	\$5,244	\$8,300	\$5,512
Actual		\$2,040		\$4,681

Source: Based on responses to baseline surveys administered in 2001–2002 (COACH) and 2000–2001 (Concord-Carlisle).

Notes: Table based on responses to the question “About how much do you think it costs to attend the following colleges *full-time* per year? Think of the cost of full tuition. Do not adjust for financial aid. Do not include housing, dormitory fee or food.” The tuition listed for Bunker Hill Community College and University of Massachusetts, Boston, is for 2001–2002. Concord-Carlisle students were presented with the eleven categories listed here. COACH students were presented with the first ten categories plus \$20,000–\$24,999” and “\$25,000+.” We combine responses in the top two categories for the COACH students for ease of comparison.

just for financial aid. Do not include housing dormitory fees or food.)” Students were then asked to check one of a number of categories of tuition amounts, reported in table 8.11. The actual tuition at Bunker Hill Community College in the fall of 2001 was \$2,040. Yet roughly 40 percent of the COACH students and 60 percent of the Concord-Carlisle students estimated that the tuition at Bunker Hill was more than \$4,000. The actual tuition at the University of Massachusetts-Boston in the fall of 2001 was \$4,681, yet roughly 45 percent of the COACH students and 55 percent of the Concord-Carlisle students estimated that this tuition was more than \$10,000. Using the midpoints of each of the categories and a value of \$25,000 for those estimating the costs to be above \$20,000, the mean response for both groups was between two and three times the actual tuition for each of these two schools. (As shown in table 8.12, COACH students reported slightly higher estimates of grants and aid for attending each of these colleges than did Concord-Carlisle students.)

Table 8.12 Student Estimates of Aid at Various Institutions

	COACH Students, 2001–2002	Concord-Carlisle Students, 2000–2001
Percentage of students reporting a positive value for aid		
Bunker Hill Community College	47.8	26.9
University of Massachusetts, Boston	52.1	36.0
Northeastern University	52.8	37.7
Average aid reported for those reporting a positive value for aid (\$)		
Bunker Hill Community College	3,608	2,567
University of Massachusetts, Boston	6,291	3,542
Northeastern University	9,489	5,695
Average net cost (estimated tuition – estimated aid, in \$)		
Bunker Hill Community College	4,994	5,787
University of Massachusetts, Boston	9,445	10,082
Northeastern University	13,478	16,812

Source: Based on responses to baseline surveys administered in 2001–2002 (COACH) and 2000–2001 (Concord-Carlisle).

Notes: Table based on responses to the question “About how much aid (grants, loans, and scholarships) do you think you and your family would receive to go to the following colleges next year?” The first section divides the number of positive responses by the number of surveys—effectively treating missing responses as \$0. The second section is restricted to students who reported a positive value for aid for the given college and also excludes one outlying response for Concord-Carlisle students and up to three outlying responses for COACH students that estimated more than \$50,000 in aid. The third section includes all students who completed the baseline survey except for those who reported an estimated aid value that exceeded the midpoint of the range they selected for tuition for that college. Students who did not estimate an aid level for a given college were assumed to have an estimated aid level of \$0 for the purposes of estimating the net cost for attending that college.

Perceptions of the Payoff to College

As part of the COACH survey, students were also asked to report how much they thought they would earn with and without a college degree. Specifically, students were asked to respond to the following questions: “About how much money do you think you would earn per year (or per hour) if you did not go to a vocational/trade school or college and worked full-time? (next year and at age 25)” and “About how much money do you think you would earn per year (or per hour) if you graduated from a 4-year college/university? (at age 25).”

The responses of both groups of students are reported in table 8.13, which also reports the actual wages of such workers working full-time, full-year in the Boston metropolitan area in the Current Population Survey from 1996 to 1999. Three facts reported in table 8.13 stand out. First, despite their dramatically different backgrounds, the two groups of students had remarkably similar expectations of future wages, producing almost

Table 8.13 Student Estimates of Earnings of High School and College Graduates

	As High School Graduate Next Year			As High School Graduate at Age 25			As College Graduate at Age 25		
	BPS	Suburb	CPS	BPS	Suburb	CPS	BPS	Suburb	CPS
10th	\$15,000	\$12,000	\$9,826	\$20,000	\$18,000	\$15,186	\$30,000	\$30,000	\$17,485
25th	17,000	16,000	12,817	24,000	22,000	18,478	40,000	40,000	24,931
50th	20,000	18,000	16,341	30,000	30,000	23,430	50,000	50,000	33,843
75th	24,000	22,000	21,161	40,000	40,000	29,830	80,000	70,000	45,124
90th	32,000	30,000	26,702	60,000	60,000	38,770	145,000	150,000	62,655
Mean (%)	22,851	21,109		37,702	33,464		69,848	55,892	
SD	11,461	10,676		33,912	15,697		56,076	28,856	

Source: Based on responses to baseline and exit surveys administered in 2001–2002 (COACH) and 2000–2001 (Concord-Carlisle).

Notes: Table based on responses to questions “About how much money do you think you would earn per year (or per hour) if you did not go to a vocational/trade school or college and worked full time?” (next year and at age 25) and “About how much money do you think you would earn per year (or per hour) if you graduated from a four-year college/university?” (at age 25). CPS data are for full-time workers in the Boston CMSA in the Merged Outgoing Rotation Group data. They were assumed to be working fifty-two weeks per year. Calculated means and standard deviations exclude responses below the 1st percentile or above the 99th percentile in each group of responses. SD = standard deviation.

identical estimates at each of the 10th, 25th, 50th, 75th, and 90th percentiles in response to each question. (The means and standard deviations for each question tend to be higher for the COACH students than for the Concord-Carlisle students, indicating that the extreme responses, particularly those beyond the 90th percentile, were higher for COACH than for Concord-Carlisle students.) Second, the wage expectations of both groups as high school graduates working full-time immediately out of high school were reasonably similar to the actual results for workers in the Current Population Survey. The wage expectations of the suburban youths were generally within \$3,500 of the actual earnings of high school graduates at the 10th, 25th, 50th, 75th, and 90th percentiles. This need not mean that individual students are accurately anticipating the distribution of their expected earnings. Recall that we asked each student to report the central tendency of their expected earnings distribution. It just so happens that the distribution of these central tendencies matches fairly well the actual distribution of earnings.

Third, both groups entertained inflated expectations of their earnings at age twenty-five, particularly as college graduates. The median expectation of both groups is that they would earn \$30,000 per year as high school graduates at age twenty-five—roughly \$7,000 more than the actual earnings for high school graduates in the Boston area at that age. Their expectations were even more out of line for college graduates, with both groups expecting to earn \$50,000 working full-time per year as college graduates at age twenty-five—considerably more than the median value of \$33,843 in

the Current Population Survey. Thus, both groups seem to overstate the payoff to educational attainment as well as to experience on the job. In addition, when we performed several (unreported) regressions using estimated wages as the dependent variable, we found that obvious factors that one might associate with higher wages, such as grades and sex, were not statistically significant and often had negative coefficients. This indicates a certain level of confusion among the students and, quite likely, overconfidence among those in the categories that would generally indicate lower future wages (e.g., women with low GPAs).

Tables 8.14 and 8.15 report the distribution of the present value of a college degree implicit in students' responses to the questions about tuition

Table 8.14 Implied Estimates of Present Value (PV) of College Degree

	Implied PV of College Degree (Assuming constant absolute earnings gap after age 25, no financial aid, and 6 percent discount rate.)	
	COACH Students (\$)	Concord-Carlisle Students (\$)
10th percentile	-193,416	-109,598
25th percentile	-4,250	-10,761
Median	111,201	145,670
75th percentile	311,027	319,453
90th percentile	883,278	750,237
% > 0	74.4	73.8
Sample size	156	111

Source: Based on responses to baseline surveys administered in 2001–2002 (COACH) and 2000–2001 (Concord-Carlisle).

Table 8.15 Cross-Tabulation of Implied Present Value (PV) and Educational Plans

	COACH			Concord-Carlisle		
	Plan BA	Don't Plan BA	Total	Plan BA	Don't Plan BA	Total
PV < 0	26	14	40	28	1	29
PV > 0	85	30	115	90	1	91
Total	111	44	155	99	2	110
<i>p</i> -value for test of independence		.299			n.a.	

Source: Based on responses to baseline surveys administered in 2001–2002 (COACH) and 2000–2001 (Concord-Carlisle).

Notes: Present value for going to college was calculated based on four years of college costs and forgone wages (at student's assessed level of wage at eighteen) followed by forty years of constant differential wages (assessed wage at age twenty-five with college degree minus assessed wage at age twenty-five without college degree), discounted yearly at a 6 percent rate. BA = bachelor's degree; n.a. = not applicable.

and expected earnings.²⁷ (The data are portrayed graphically in figure 8.3.) Approximately three-quarters of the students in each group reported values that imply a positive present value for a college degree. Table 8.15 reports the cross-tabulation of students' stated educational plans with an indicator of whether their answers implied a positive or negative payoff to college. There was only a weak connection between students' plans and their implicit expectations regarding the payoffs. A total of 73.9 percent of COACH students with an implied positive present value for a college degree reported that they planned to get at least a BA degree, as opposed to 65.0 percent of the COACH students with an implied negative present value for a college degree. But it is possible that the relationship between perceived economic gain from a college degree and the decision to go to college is muted by outside factors—in particular, the ability to pay for college now.²⁸

Given the importance of subjective earnings expectations in economic models of the decision to enroll in school, such data on earning expectations are remarkably scarce. For example, Betts (1994) asked youths to report mean earnings in different fields, but youths were not expected to report what they would have expected themselves to earn in those occupations. Smith and Powell (1990) and Blau and Ferber (1991) collected data on youths' own expected earnings in the future—but not conditional on educational attainment. Dominitz and Manski (1996) collected data on students' beliefs about the distribution of earnings, conditional on educational attainment, for a sample of high school seniors and college freshmen in Madison, Wisconsin. Rather than asking students to report the central tendency of their earnings beliefs under different scenarios, as we have done, Dominitz and Manski collected information on the distribution of earnings. Nevertheless, there are several important similarities in our findings. First, while they found a considerable amount of within-group variation in earnings expectations as we did, they found no difference in mean earnings expectations between groups of women and men. Recall that we found little difference in the distributions for youths from the high-income suburban and low-income urban schools. Students may have a difficult time conditioning on their own background variables in formulating expectations. Second, similar to our finding of high earnings

27. Several assumptions were necessary to do so: that all students were using a discount rate of 6 percent, that students were not expecting any financial aid from colleges or from their parents, and that the absolute value of the earnings gap between high school and college remains constant for the remainder of their careers.

28. Another possibility, suggested by Derek Neal, is that COACH students have lower discount factors and thus place less relative value on the future relative to the present than Concord-Carlisle students. If this is the case, then both sets of students could provide the same estimates of tuition and future wages and yet have systematically different net present values for attending college.

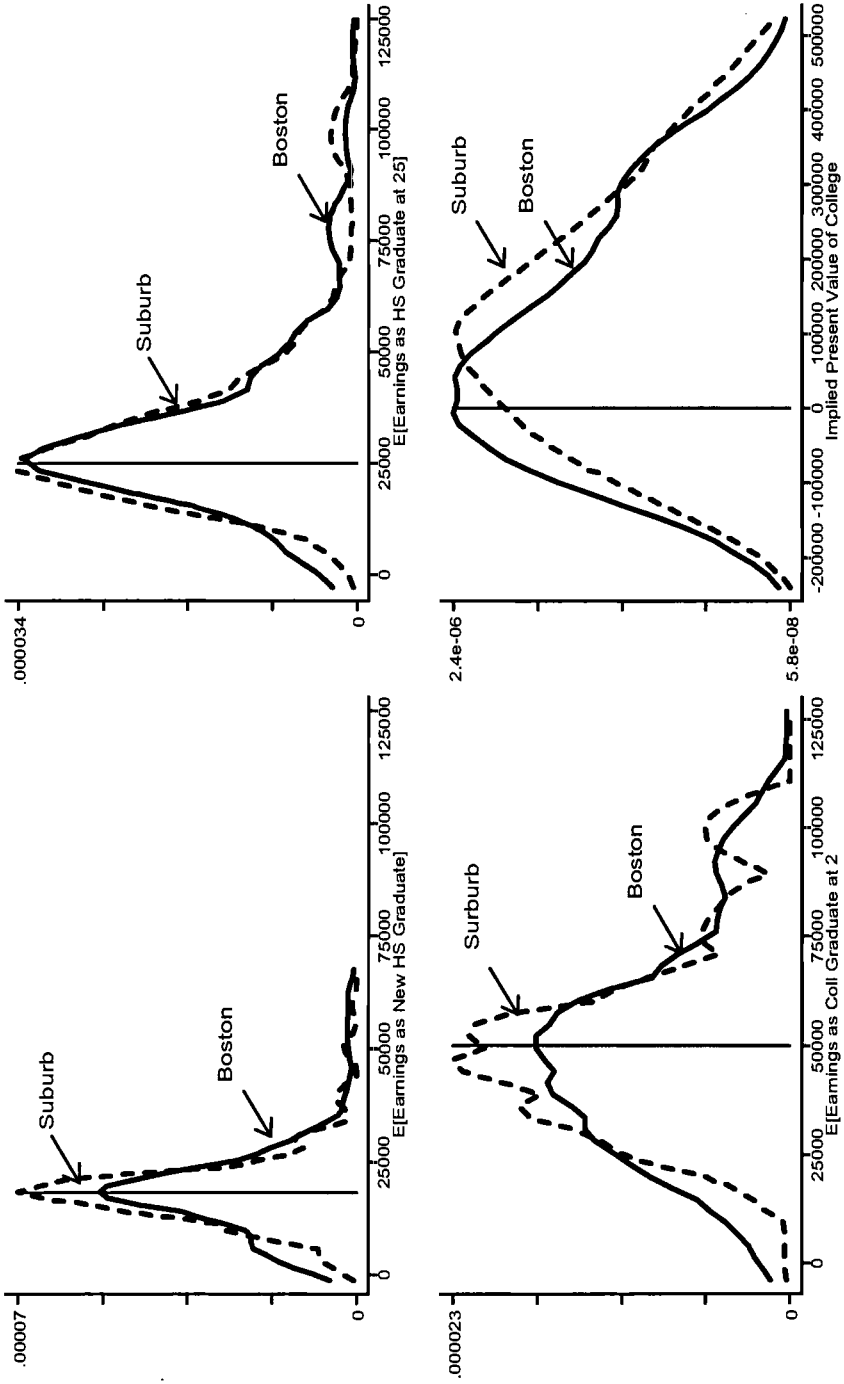


Fig. 8.3 Distributions of expected earnings in Boston public schools and suburban schools from COACH survey

expectations as college graduates, the medians of students' earnings expectations at age thirty with a bachelor's degree were considerably higher than the current actual earnings of bachelor degree holders at that age. Third, Dominitz and Manski found similar earnings expectations for high school seniors (some of whom will presumably not attend college) and college freshmen (who had already self-selected into college). This is consistent with our finding that subjective beliefs about the payoffs to college are only weakly related to students' plans for college.

Ability to Afford College

One question on the baseline survey asked students if they believed that they could find a way to pay to attend a public four-year college in Massachusetts if they applied and were accepted. As shown in table 8.16 more than half of the COACH students who responded to this question checked the box for "Maybe," and 11.4 percent checked the box for "No." Clearly, costs are a crucial consideration for these students. By contrast, more than three-quarters of the Concord-Carlisle students checked the box for "Yes," and only slightly more than 1 percent checked the box for "No."

Tables 8.17 and 8.18 show that COACH students who said that they could afford to go to college were roughly 10 percentage points more likely than others to report on the baseline survey that they planned to get at least a bachelor's degree and 10 percentage points more likely to enroll in a four-year college program for 2002–2003 than other COACH students. These 10 percentage point differences between those who believed that they could find a way to pay for a four-year college and others lie right on the boundary of statistical significance at the 5 percent level (grouping the "Maybe" and "No" categories together and comparing them to the "Yes" group).

Table 8.16 Student Perceptions of Ability to Pay for College and Educational Plans

	COACH Students	Concord-Carlisle Students
Yes (%)	37.0	76.3
Maybe (%)	51.7	22.4
No (%)	11.4	1.3
Sample size	211	156

Source: Based on responses to baseline and exit surveys administered in 2001–2002 (COACH), and 2000–2001 (Concord-Carlisle).

Notes: Table based on responses to question "Suppose you did want to attend a public four-year college in Massachusetts (for example, the University of Massachusetts, Boston) and imagine that you applied and were accepted. Do you think that you could find a way to pay for it?" Options for response were the following: (1) "Yes, I could definitely get the money from somewhere (for example: a job, family, scholarships, grants, loans, etc.);" (2) "Maybe. It would be hard to get the money, but I might get it from somewhere (for example: a job, family, scholarships, grants, loans, etc.);" and (3) "No. I don't think I could afford it." Students who listed multiple responses are coded in the category with the least certainty of being able to pay for college.

Table 8.17 Educational Plans as a Function of Postsecondary Plans and Assessments of the Cost of College: Student Responses and College Choices, COACH Students, 2001–2002

	Responses	Plan Bachelor's Degree as of Fall 2001	Going to 4-Year College	Estimation Tuition University of Massachusetts, Boston	Present Value of College > 0
Yes	78 (37.0%)	76.9%	34.6%	\$12,143	77.6%
Maybe	109 (51.7%)	63.3%	22.0%	\$11,439	77.3%
No	24 (11.4%)	66.7%	25.0%	\$10,238	64.3%

Source: Based on the baseline survey response for COACH students in fall 2001. The percentage of students going to four-year colleges was compiled from the exit survey supplemented with additional information from coaches.

Notes: Table based on responses to question “Suppose you did want to attend a public four-year college in Massachusetts (for example, the University of Massachusetts, Boston) and imagine that you applied and were accepted. Do you think that you could find a way to pay for it?”

Table 8.18 Student Perceptions of Ability to Pay for College and Assessed Tuition for College

Estimation Tuition, University of Massachusetts, Boston	Can Pay for College?			Number of Students
	Yes	Maybe	No	
\$4,999 or less	20 (31.3%)	37 (57.8%)	7 (10.9%)	64
\$5,000–\$9,999	19 (43.2%)	20 (45.5%)	5 (11.4%)	44
\$10,000–\$19,999	18 (42.9%)	18 (42.9%)	6 (14.3%)	42
\$20,000 or more	18 (37.5%)	28 (58.3%)	2 (4.2%)	48

Source: Based on the baseline survey response for COACH students in fall 2001.

Interestingly, students with the highest estimates for the tuition for University of Massachusetts, Boston, were among the most sanguine about their ability to afford to go to a public four-year college. Only two of the forty-eight (4.2 percent) COACH students who estimated a tuition of \$20,000 or more for University of Massachusetts, Boston, thought that they would not be able to afford to attend it, whereas more than 10 percent of the students with each lower tuition estimate said that they would not be able to do so. Furthermore, the students who had the most accurate perceptions of tuition—those who said that it would be \$4,999 or less—were the least likely to say that they were certain that they could afford to go.²⁹ We found very similar results when we repeated the same analysis using

29. We estimated several (unreported) probit specifications to identify the factors that predict college attendance among COACH students. Correcting for GPA and other factors, the responses to the question about the affordability of college were not significant in any of these specifications.

perceptions of net cost (estimated tuition minus estimated aid) in place of perceptions of tuition.³⁰

Summary

We found a slight correlation between the perception of COACH students about the affordability of a public four-year college and their actual college choices. Further, we found that both the COACH and the Concord-Carlisle students are overly pessimistic in their expectations for the tuition at public community and four-year colleges. But syllogistic reasoning breaks down at this second stage because there is little, if any, connection between the tuition level estimated by a student for a four-year college and that same student's perception that he or she would be able to pay to attend that college. In other words, while it would be nice in principle to educate students about the actual tuition for a public four-year college, it is not clear that this knowledge would have much effect in terms of college choices of these students. Further, it is hardly necessary to convince COACH students that it is in their economic interest to go to college, for most of them already believe that.

8.5.2 Giving Students a Head Start on the Application Process

One possible explanation of the difference in the results between Concord-Carlisle and COACH students is that Concord-Carlisle students had a large head start on the college application process. As shown in table 8.5, the Concord-Carlisle students had achieved most of the milestones toward enrollment at a four-year college early on in the senior year, whereas the COACH students were just starting the application process at that point.

How important are those milestones? How much could a program or a high school improve the college enrollment rates of its students simply by encouraging them to take these steps by the end of the junior year? Table 8.19 lists the percentage of COACH students in each category who went on to a four-year college, again restricting analysis to those students who planned to go to a four-year college at the start of the senior year. Four separate activities, including all three related to the SAT, are statistically significant in predicting attendance at a four-year college. In each of these cases, the conditional probability for attending a four-year college is at least 20 percentage points higher for COACH students who had completed a particular milestone than for COACH students who had not done so.

30. Among the COACH students whose answers indicated a net cost of \$10,000 or less per year for attending a four-year public college, 35.1 percent said that they could definitely afford it, 53.9 percent said that they might be able to afford it, and 10.9 percent said that they could not afford it. These percentages were very similar for the COACH students whose answers indicated a net cost of more than \$10,000 or less per year for attending a four-year public college: 40.0 percent said that they could definitely afford it, 47.5 percent said that they might be able to afford it, and 12.5 percent said that they could not afford it.

Table 8.19 Importance of Milestones for Attending Four-Year College, COACH Students, 2001–2002

	Percentage to 4-Year College	T-Statistic for % Difference
Took PSAT**		
Yes	46.7% (43 of 92)	2.97
No	24.6% (16 of 65)	
Registered for SAT**		
Yes	46.4% (52 of 112)	4.11
No	16.3% (7 of 43)	
Took SAT**		
Yes	62.5% (30 of 48)	4.68
No	24.3% (25 of 103)	
Met with counselor 4+ times		
Yes	50.0%(13 of 26)	1.34
No	35.7% (45 of 126)	
Already applied to a college		
Yes	32.1% (9 of 28)	-0.61
No	38.1% (48 of 126)	
Visited a college		
Yes	49.1% (26 of 53)	1.93
No	33.0% (33 of 100)	
Have application, school most likely to attend**		
Yes	53.7% (29 of 54)	2.90
No	28.9% (22 of 76)	

Source: All milestone information based on baseline survey responses for COACH students, October 2001.

Notes: Test statistics are reported for a two-sample comparison of (conditional) probabilities for attending a four-year college. Missing values (where the student skipped the question or did not complete the baseline survey) are excluded from the calculation.

**Significant at the 5 percent level.

Table 8.20 classifies COACH students according to the number of milestones completed by the beginning of the senior year and the number of COACH sessions that they attended during the year.³¹ The number of COACH sessions offered overall varied from twenty to twenty-three across the three participating high schools. Among those students who wanted to attend a four-year college and who had at least a 3.0 GPA, more than two-thirds of those who had completed at least three milestones by the start of senior year and/or attended at least sixteen COACH sessions will attend a four-year college.³² By contrast, only 22.7 percent of those who had not completed at least three milestones by the start of senior year and did not attend at least sixteen COACH sessions will attend a four-year college. As

31. The variable “Already Applied to a College” is excluded from the number of milestones completed by the start of the year because table 8.16 suggests that completing this milestone does not increase the probability of going to a four-year college.

32. Among these students, the average number of COACH sessions was 15.6, with 59.7 percent of them attending at least 16 COACH sessions.

Table 8.20 **Importance of Prior Actions for Attending a Four-Year College**

	Percentage of COACH Students Attending a Four-Year College	
	0 to 15 Days of COACH	16+ Days of COACH
0–2 milestones completed at the start of senior year	22.7	66.7
3+ milestones completed at the start of senior year	71.4	77.3

Source: All milestone information based on Baseline survey responses for COACH students, October 2001.

Notes: Milestones include taking the PSAT, registering for the SAT, taking the SAT, possessing an application for the college that the student says he or she is most likely to attend, and meeting four times or more with a guidance counselor. The table is restricted to students in the COACH program who report at least a 3.0 GPA and who also reported at the start of the year that they wanted to go to college.

long as a student has sufficient academic qualifications and motivation (as indicated by the number of days of participation in COACH sessions), these results suggest that an early start on the application process is not a prerequisite for attending a four-year college.

Summary

The results in table 8.20 provide support for the common belief that programs that help students to start the application process early can have tremendous positive effect. For instance, Harvard has run an “early awareness program” for many years for students in Cambridge. Most, if not all, seventh grade classes in Cambridge public schools take a field trip to Harvard, meet with an admissions officer, take a campus tour, and eat lunch in a college dining hall. The college does not offer formal services to Cambridge students beyond the seventh grade, but it is thought by the Cambridge teachers that these visits have an important and lasting effect on their students.

At the same time that our results support the value of such early awareness programs, they also show that it is not necessary to have a head start in order to be successful in the college admissions process. For students who attended at least the average number of COACH sessions, the milestone variables were of only minor importance in predicting attendance at a four-year college. The conclusion is that it is still possible for the students in the COACH program (with sufficient academic qualifications) to catch up on the college process during the course of the senior year.

8.6 Conclusion

The U.S. system for financing higher education is at least as misunderstood today as the health care finance system was twenty years ago. Not

only are parents paying for their child's college education in more ways than they realize—through direct subsidies to institutions, through financial aid programs to college, through generous new tax benefits for college—but the impact of each of those subsidies on the decisions of various groups of youths is not well understood by policymakers. In 2003, it will have been three decades since the Pell Grant program was established, yet differences in college-going by family income remain wide and, according to some recent evidence, appear to be widening. The higher education policy debate has become so bogged down with incremental questions involving issues such as changes in the need analysis formula to notice the bigger questions: Why is it that there was no apparent impact of the Pell Grant program's establishment on college enrollment rates of low-income youths? What is the bang for the buck achieved with different types of public subsidies—across-the-board subsidies to keep tuition low, Pell Grants, loan subsidies? Why do so few parents save for college, and how are their decisions influenced by state and federal policies? We will not make progress in closing the gaps in college enrollment by family income unless we have some of the answers to such questions.

Our experience with the COACH program in Boston provides a window into the decision making of low-income, mainly first-generation college students and allows us to compare their decision making to the decisions of suburban youth. First, we are struck by the similarity of youths' plans and the similarity in perceptions of college costs and payoffs, despite the very large differences in economic prospects for urban and suburban youths. Second, many youths have unrealistically ambitious plans for eventual educational attainment, which they maintain throughout their senior year, even if considerable obstacles exist to the achievement of those aspirations—such as low GPAs, low test scores, or even the failure to submit a college application! Third, we were impressed by the loose connection between students' financial valuations of a college degree implicit in their responses to our queries about expected earnings and their stated plans. In light of such a finding, clarifying youths' expectations about the cost of college (which tend to be overblown) or raising their awareness of the labor market value of a college degree (which also seems to be exaggeratedly high in their estimation) would seem to have little effect on behavior.

At the same time, we see considerable evidence of low-income youths with high aspirations and high implicit valuations of college failing to clear seemingly minor hurdles in the process of applying for college and applying for financial aid. A large share of youths register for the SAT but fail to take it or fail to complete a four-year college application out of an aversion to writing essays. When data become available for tracking the enrollment behavior of the high school classes of 2001 and 2002, we hope to learn more about the impact of our efforts to help youths in several Boston high schools clear these hurdles.

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Comment Bruce Sacerdote

Chris Avery and Tom Kane have produced a very useful and interesting paper that measures (1) high school students' perceptions of their own likeli-

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hood of attending college; (2) concrete steps that the students have taken to gain admission; and (3) the perceived costs and benefits of college attendance. The paper contains survey data for both inner-city (Boston, Charlestown, Dorchester) and suburban (Concord-Carlisle) students. The inner city students appear to vastly overestimate the probability of college attendance and to significantly lag their suburban counterparts in completing the steps in the admissions process, for example, registering for the SAT. Both groups of students overestimate tuition costs but, on average, have reasonable expectations about the wages of high school and college graduates. The authors also note the fact that students appear to be less responsive to returns to college attendance than to tuition costs.

These findings raise a number of interesting puzzles, and I discuss possible causes of each puzzle in the following. I argue that the findings provide some strong motivation for the COACH experiment currently being run by the authors and which generated these data. The COACH experiment uses Harvard graduate students to mentor high school seniors in Boston public schools. This is an effort to help the high school students navigate the college admission process.

The authors highlight the COACH students' very high expectations of college attendance. For example, when asked in the fall of their senior year, 65 percent of COACH students planned to attend a four-year college in the next year, and 70 percent planned to obtain a BA or higher degree. However, at graduation, only 25 percent of these students actually had plans to attend a four-year school.

How is it possible for student expectations to be so far off? One answer may be that the COACH students do not reveal their true expectation of college attendance because they feel there is a "right" answer to questions about future college plans. The potentially good news is that at least the students have gotten the message that college attendance is something to which they should aspire.

The paper does a very nice job of identifying the success rate of COACH students at each point in the college application process. The initial hurdle for students is to maintain a 3.0 GPA in high school. This is an important cutoff because students with below a 3.0 are unlikely to gain admission to any of the four-year campuses of the University of Massachusetts (Amherst, Boston, Dartmouth, Lowell, Worcester). Sixty-two percent of the students do not clear this hurdle. Because the COACH intervention takes place during senior year, it is not intended to help students clear the GPA hurdle. The COACH program may be very valuable for students who meet the GPA cutoff, but in the absence of the program, students might fail to register for and take the SAT and to submit a college application.

Even with the help of a COACH mentor, five of sixty-two students failed to register for the SAT, and eight of the remaining fifty-seven did not take the test even after they registered. In contrast, none of Concord-Carlisle

students dropped out at the SAT registration stage, SAT-taking stage, or the application-filing stage. Thus there is great scope for the COACH program to aid the students in the Boston schools by making sure that these students clear the SAT and application hurdles. As the authors noted during their presentation, the mentor may serve the role of a parent in nagging the student to make sure that the paperwork gets done properly and on time.

The current paper does not make any attempt to evaluate the treatment effects from COACH, but undoubtedly the forthcoming program evaluation will be quite interesting and widely read. One issue with the current program is that there are no randomized controls, so I predict that there will be future COACH-like studies that have some form of randomized control group.

Both the COACH students and the Concord-Carlisle students vastly overestimate tuition at University of Massachusetts, Boston by a factor of more than two. For both groups, the mean estimate of tuition is about \$11,500, versus the actual tuition of \$4,700. I can think of two explanations for this systematic error. Some of the students may have in mind the widely publicized, and much higher tuition, at selective private institutions. And students may also be erroneously including room and board costs in their estimates of tuition. The relevant question for the paper is whether or not students actually respond to their inflated tuition estimates. The answer might be no, given that there is little correlation between the tuition estimates and students' perceived ability to pay for college (table 8.15).

On average, the students in both groups do a good job of estimating the wages for recent high school graduates and recent college graduates. Most of the students report wage estimates that imply a large net present value gain from college attendance. Oddly, there are large numbers of students who perceive a large payoff to a BA but do not plan on attaining a BA. One possible explanation may be that such students are reporting average wages for college graduates but believe that they themselves would do significantly worse. Or maybe these students anticipate large psychic costs to future school attendance.

For future studies, it would be worth asking such students a series of follow-on questions to try to distinguish between these explanations. When confronted with the contradiction of large perceived payoffs but no expected college attendance, do students change their estimated wages? Do they change their actual college preparation behavior? I would also be very interested in calculations of imputed future wages for these students based on each student's characteristics. For how many of the students would the authors estimate a large payoff to college?

The bottom line is that COACH students have "gotten the message" that there are large returns to college. And their educational aspirations show a widespread desire to obtain college and graduate degrees. Assuming that

the policy goal is to increase college attendance among able students, the low-hanging fruit for the COACH program may be the group of students who have the necessary high school grades for college admission but fail to both take the SATs and file college applications. Of course, if these students have difficulty completing the steps needed to apply to college, then they may not succeed once they are in college. The full evaluation of the COACH program would require following students for at least several years. The future evaluations and implementations of this program may have a huge effect on how high school students are counseled and may close some of the large urban-suburban gap in college attendance of high school seniors.