

Who goes to college? Evidence from the NLSY97

Estimates from the National Longitudinal Survey of Youth 1997 show that sex, race, and ethnicity are unrelated to the student's decision to complete the first year of college, but are related to the decision to start college; high school grades, by contrast, affect both the decision to start college and the decision to stay in college for the first year

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Using the National Longitudinal Survey of Youth 1997 (NLSY97), this article examines two questions: (1) who attends college by age 20? and (2) of those who go to college, who completes the first year? Both the decision to go to college and attrition from college have attracted a great deal of attention from parents, policymakers, and colleges, in part because college graduates earn substantially more than those without a degree.

Over a lifetime, higher earnings from a college degree reflect differences in starting salaries and in earning trajectories. Using CPS data from March 1998, 1999, and 2000, Jennifer Cheeseman Day and Eric C. Newberger estimate that, over a worklife, individuals with a bachelor's degree working full time, year round, earn about one-third more than individuals who do not finish college and earn almost twice as much as individuals with a high school diploma.¹ A 1999 Department of Education report reviews studies that compare those who complete a college degree with those with a similar number of credits, but who have not earned a college degree.² On the whole, studies indicate that a bachelor's degree adds significantly to a man's earnings, and an associate's degree adds significantly to

a woman's earnings, over having a comparable number of college credits.

More than half of those who enter a 4-year college leave without earning a degree. Many of those who drop out from college do so in the first year. Dropout rates at the end of the freshman year at 4-year colleges are in the neighborhood of one-quarter to one-third, and the first-year dropout rate at 2-year colleges is more than 40 percent.³ Not surprisingly, then, finishing the first year of college is associated with a higher probability of graduating: of those who complete their first year of college at either a 2-year or 4-year institution, at least 60 percent go on to complete their degree.⁴

Data

The NLSY97 is a national sample of 8,984 youths aged 12 to 16 years on December 31, 1996, who were living in the United States at that time. Interviews with these youths have been conducted annually, starting in 1997. Although employment and labor market outcomes are the focus of the NLSY97, the survey covers a broad array of topics, including marriage, fertility, and training, as well as participation in government programs, thus per-

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mitting researchers to examine how different factors are related to labor market outcomes. On the topic of schooling, a term-by-term event history is collected in which the respondent reports information about all schools that he or she has attended since the last interview. The information collected includes the level and type of school, the dates of the respondent's attendance, the respondent's spells of attendance, characteristics of the school, and the reason the youth left the school. The NLSY97 assigns an identification code to each school that a respondent attends, so that data users can tell whether the respondent attends that same school in subsequent rounds of the survey. For colleges, characteristics such as the degree sought; credits required, taken, and earned; the student's grade point average; tuition; the student's major; and financial aid are collected for each term during which the youth is enrolled.

The analysis that follows uses data collected through Round 8 of the survey, at which time the respondents

ranged in age from 20 to 25 years. Because of the ages of the respondents, college-going youths are defined as those who attend college and are enrolled in a degree program by age 20. Obviously, some individuals enter college for the first time at an age older than 20. To capture the extent to which respondents start college after age 20, the respondents in the oldest two birth cohorts (those born in 1980 or 1981 and who were ages 25 and 24, respectively, at the last interview) are examined. In the 1980 and 1981 birth cohorts, 10.1 percent and 9.0 percent of the respondents were observed to have entered college for the first time after the month in which they turned 20.⁵

The sample for this article consists of the 6,580 respondents who were interviewed at age 21 or older, thus ensuring that respondents are observed at least 12 months after they start college. Throughout the analysis, all data are weighted by the sampling weights from Round 1.

Table 1 shows characteristics of the sample, as well as

Table 1. Selected characteristics, by college attendance at age 20

Variable	Entire sample	No college	College	Level of significance of t-test: no college versus college
Male.....	0.508	0.560	0.458	0.01
Race or ethnicity:				
Black.....	.158	.194	.125	.01
Hispanic.....	.132	.161	.105	.01
Mixed.....	.012	.011	.014	—
Age at last interview	22.917 (1.160)	22.936 (1.177)	22.898 (1.143)	—
Family background:				
Family income in 1996 ¹	\$52,750.80 (\$45,134.71)	\$39,806.18 (\$33,512.04)	\$65,133.41 (\$50,969.84)	.01
Mother's highest school grade completed ¹	12.935 (3.591)	12.108 (3.978)	13.690 (3.004)	.01
Father's highest school grade completed ¹	13.118 (4.326)	12.172 (5.308)	13.918 (3.054)	.01
Mother's age at birth of first child ¹	23.113 (4.794)	21.978 (4.644)	24.149 (4.694)	.01
Whether respondent lived with both parents at age 12 ¹ .....	.433	.316	.544	.01
Education:				
High school grades (four-point scale) ¹	2.831 (.824)	2.472 (.814)	3.167 (.678)	.01
Math-language score on Armed Services Vocational Aptitude Battery (ASVAB) ¹	50.489 (29.014)	36.519 (26.522)	62.607 (25.410)	.01
Took Scholastic Aptitude Test (SAT) or ACT ¹ .....	.538	.290	.773	.01
Attended a 2-year college.....	.250		.400	...
Attended a 4-year college.....	.323		.600	...
Sample size.....	6,580	3,426	3,154	...

¹ Variable not available to all respondents.

NOTE: Standard deviations are in parentheses. Data are weighted by sampling weights from Round 1. Dash indicates not significant.

of subsamples, based on whether the respondent attended college by age 20. Approximately 49 percent of the sample attended college by age 20. Of those who went to college, the weighted data show that 40 percent started at a 2-year college and 60 percent started at a 4-year college. Male, Black, and Hispanic respondents are overrepresented among those who did not go to college and underrepresented among those who did go to college. In addition, respondents who attended college by age 20 had parents who attained more schooling, had higher levels of family income, had mothers who were older at the birth of their

first child, and were more likely to have lived with both of their parents at age 12 than their counterparts who had not gone to college by age 20.

As one might expect, the high school grades of those who go to college differ from the grades of those who do not attend college. On a four-point scale where 4.0 corresponds to “mostly A’s,” the average high school grade of those who went to college by age 20 was 3.17, which corresponds to better than “mostly B’s.” By contrast, the average high school grade of respondents who did not attend college by age 20 was 2.47, or about “half C’s and half B’s.”

Table 2. Selected means, by type of first college attended

Variable	2-year college	4-year college	Level of significance of t-test: 2-year versus 4-year college
Male.....	0.474	0.447	—
Race or ethnicity:			
Black.....	.137	.117	—
Hispanic.....	.158	.070	.01
Mixed.....	.016	.012	—
Age at last interview	22.914 (1.141)	22.888 (1.144)	—
Family background:			
Family income in 1996 ¹	\$50,728.40 (\$39,596.13)	\$74,800.22 (\$55,285.43)	.01
Mother’s highest school grade completed ¹	12.811 (3.356)	14.273 (2.586)	.01
Father’s highest school grade completed ¹	12.860 (2.945)	14.576 (2.933)	.01
Mother’s age at first birth ¹	23.183 (4.725)	24.785 (4.563)	.01
Whether respondent lived with both parents at age 12 ¹ .....	.443	.612	.01
Education:.....			
High school grades (four-point scale) ¹	2.850 (.700)	3.378 (.574)	.01
Math-language score on Armed Services Vocational Aptitude Battery (ASVAB) ¹	49.427 (24.394)	70.945 (22.323)	.01
Took Scholastic Aptitude Test (SAT) or ACT ¹.....	.560	.915	.01
Months in college	16.866 (13.404)	31.593 (17.871)	.01
Number of full-time terms.....	2.617 (2.211)	5.811 (3.350)	.01
Number of part-time terms.....	1.112 (1.834)	.450 (.972)	.01
Subsequently attended a 4-year college.....	.244	.020	.01
Earned an associate’s degree.....	.142	.263	.01
Earned a bachelor’s degree .....	.035	.020	.01
Sample size.....	1,345	1,809	...

¹ Variable not available to all respondents.

NOTE: Standard deviations are in parentheses. Data are weighted by sampling weights from Round 1. Dash indicates not significant.

Similarly, the average percentile composite score from the language and math sections of the Armed Services Vocational Aptitude Battery (ASVAB) was 70 percent higher for those who went to college (62.6), compared with those who did not (36.5).

Similar differences emerge in table 2, which compares those who started college at a 2-year institution with those who started college at a 4-year institution. These statistics show that both the background characteristics and the high school achievement of students who initially entered 2-year colleges differ from those who initially entered 4-year colleges. Respondents who first went to a 4-year college were more apt to be female, and less apt to be Black or Hispanic, compared with those who began at a 2-year college. Those who started college at a 4-year school came from families that had higher levels of 1996 income, better educated parents, and mothers who, at the time of their first birth, were about 1½ years older than the mothers of those who started college at a 2-year school. In addition, they were about 35 percentage points more likely to have lived with both of their parents at age 12. High school grades were higher for respondents who initially entered a 4-year college (3.39), as opposed to those who started at a 2-year college (2.86). Similarly, the average math-language composite score on the ASVAB was 42 percent higher for those who started at a 4-year college (a score of 70.6), compared with those who started at a 2-year college (a score of 49.7).

Of those who first attended a 2-year college, 24 percent attended a 4-year college later. In addition, of the students who initially attended a 2-year college, 14 percent earned an associate's degree and 4 percent earned a bachelor's degree. Among respondents who began at a 4-year college, 2 percent earned an associate's degree and 26 percent earned a bachelor's degree.

Table 3 touches on the issue of college attrition by examining selected characteristics of respondents based on the length of time they are enrolled at the first college they attend. Spells of college attendance that are ongoing are examined separately. The first three columns of the table present the characteristics of those who go to a 2-year college, by length of enrollment; the first two columns present results for those whose spells at the initial college are completed, and the third column presents results for those whose spells are ongoing. The results for respondents who no longer are enrolled at the first college they attended are presented separately, based on whether the spell is less than 12 months long or is 12 or more months. The ongoing spells are not broken down on the basis of length, because very few (one respondent for 2-year colleges and three for

4-year colleges) are shorter than 12 months. The fourth through sixth columns of the table present parallel information for those who start college at a 4-year institution.

Among those who start college at a 2-year school, students who stay for less than 12 months are, on average, at the school for just under 6 months, while students who are at the school for 12 or more months stay at the college for about 24 months, on average. For those with ongoing spells of attendance that are at least 12 months, the number of months enrolled is longer—about 37 months, on average. Youths who have short spells at the 2-year college where they start are less likely to earn either an associate's or a bachelor's degree at any college, compared with those who remain at the 2-year college for a full year. With respect to basic demographics, family background, and high school grades, those who leave during their first year are similar to those who complete their first year and to those still enrolled at the initial 2-year college.

Among respondents who start college at a 4-year college by age 20, those who stay for at least 12 months are less likely to be male, Black, or Hispanic, compared with those who leave school in less than a year. Moreover, those who are enrolled at the college for at least a year are more advantaged in that their families had higher levels of income in 1996 and they were more apt to live with both biological parents. However, students who leave during their first year and those who complete their first year are similar with respect to the educational attainment of their parents and the ages of their mothers at first birth. Together, tables 1 through 3 demonstrate that the decision to go to college and the decision to remain for the first year in the school where one begins are related to a number of the respondent's characteristics.

Regression results

To further examine how the respondent's characteristics are related to his or her decision to go to and remain in college, a series of logit equations is estimated. Let

$$C_i = X_i\alpha_1 + X_{fi}\alpha_2 + X_{hsi}\alpha_3 + \varepsilon_i,$$

where $C_i = 1$ if $C_i^* > 0$ and $C_i = 0$ otherwise, C_i^* is a continuous latent variable underlying C_i that indicates the respondent's decision about college, X_i is a set of exogenous individual characteristics, X_{fi} is a set of family characteristics, X_{hsi} is a vector describing high school outcomes, ε_i is the individual error term, and the α 's are the parameters

Table 3. Selected characteristics, by time at first college

Variable	2-year college			4-year college		
	Completed—		Ongoing	Completed—		Ongoing
	Less than 12 months	At least 12 months		Less than 12 months	At least 12 months	
Male.....	0.481	0.455	0.524	0.486	0.415	0.467
Race or ethnicity:						
Black.....	.141	.131	.146	.150	.101	.116
Hispanic.....	.165	.143	.200	.095	.057	.070
Family background:						
Family income in 1996 ¹	\$48,680.33 (\$41,394.66)	\$52,947.07 (\$37,878.00)	\$51,708.48 (\$35,852.12)	\$63,906.39 (\$45,595.79)	\$79,005.51 (\$56,269.78)	\$76,589.12 (\$59,371.76)
Mother's highest school grade completed ¹	12.941 (4.094)	12.742 (2.351)	12.423 (2.958)	13.961 (2.436)	14.254 (2.675)	14.545 (2.528)
Father's highest school grade completed ¹	12.836 (3.134)	12.946 (2.670)	12.562 (3.179)	14.125 (2.862)	14.599 (2.876)	14.884 (3.030)
Mother's age at first birth ¹	22.551 (4.355)	23.646 (4.913)	24.385 (5.214)	24.182 (4.454)	24.775 (4.539)	25.256 (4.628)
Whether respondent lived with both parents at age 12 ¹.....	.433	.450	.468	.519	.630	.655
Education:						
High school grades (four-point scale) ¹	2.736 (.709)	2.958 (.683)	2.964 (.612)	3.159 (.616)	3.440 (.557)	3.450 (.523)
Math-language score on Armed Services Vocational Aptitude Battery (ASVAB) ¹	47.567 (24.401)	52.686 (24.446)	43.174 (21.490)	65.379 (23.511)	73.097 (21.377)	71.785 (22.155)
Took Scholastic Aptitude Test (SAT) or ACT ¹.....	.520	.613	.522	.881	.943	.899
Months in college.....	5.912 (3.082)	24.570 (9.693)	37.238 (13.085)	6.553 (2.683)	37.096 (13.982)	41.912 (11.038)
Number of full-time terms.....	1.363 (1.318)	3.484 (2.202)	3.983 (2.577)	2.063 (1.931)	6.702 (3.167)	7.029 (2.408)
Number of part-time terms.....	.725 (1.345)	1.291 (1.990)	1.976 (2.426)	.281 (.673)	.505 (1.022)	.483 (1.052)
Earned an associate's degree.....	.057	.242	.123	.037	.025	.000
Earned a bachelor's degree.....	.018	.061	.001	.117	.477	.040
Sample size.....	636	593	115	434	821	554

¹ Variable not available for all respondents.

NOTE: Standard deviations are in parentheses. Data are weighted by sampling weights from Round 1. Among 2-year-college students, only one respondent was in an ongoing spell shorter than 12 months. Among 4-year college students, only three respondents were in ongoing spells shorter than 12 months.

to be estimated. Four specifications are estimated for each outcome: the first controls only for X_i , the second controls for X_i and X_{fi} , the third for X_{is} and X_{bsi} , and the fourth for X_{is} , X_{fi} , and X_{bsi} .

Four dependent variables, each of which measures an aspect of going to college, are examined: (1) whether the respondent attends college by age 20, (2) whether the respondent goes to a 2-year college, a 4-year college, or no

college, by age 20, (3) for those who go to a 2-year college, whether the respondent remains at that school for at least 12 months, and (4) for those who go to a 4-year college, whether the respondent remains at that school for at least 12 months.

The decision to go to college. Table 4 presents estimates of college attendance by age 20. For each of the four speci-

Table 4. Estimates of college attendance by age 20

Variable	Specification 1		Specification 2		Specification 3		Specification 4	
	Estimate	Marginal effect	Estimate	Marginal effect	Estimate	Marginal effect	Estimate	Marginal effect
Male.....	¹ -0.413 (.056)	¹ -0.103 (.014)	¹ -0.503 (.061)	¹ -0.125 (.015)	¹ -0.183 (.064)	¹ -0.046 (.016)	¹ -0.268 (.066)	¹ -0.067 (.017)
Race or ethnicity:								
Black.....	¹ -.621 (.069)	¹ -.153 (.017)	-.006 (.081)	-.002 (.020)	² .185 (.080)	² .046 (.020)	¹ .461 (.089)	¹ .113 (.021)
Hispanic.....	¹ -.595 (.078)	¹ -.147 (.019)	.120 (.095)	.030 (.024)	-.063 (.093)	-.016 (.023)	¹ .322 (.107)	¹ .080 (.026)
Family background:								
Mother's highest school grade completed.....	—	—	¹ .135 (.016)	¹ .034 (.004)	—	—	¹ .090 (.017)	¹ .022 (.004)
Father's highest school grade completed.....	—	—	¹ .123 (.014)	¹ .031 (.004)	—	—	¹ .082 (.015)	¹ .020 (.004)
Log(family income in 1996).....	—	—	¹ .292 (.047)	¹ .073 (.012)	—	—	¹ .203 (.047)	¹ .051 (.012)
Mother's age at first birth.....	—	—	¹ .042 (.007)	¹ .011 (.002)	—	—	¹ .027 (.008)	¹ .007 (.002)
Whether respondent lived with both parents at age 12 ...	—	—	¹ .572 (.070)	¹ .141 (.017)	—	—	¹ .394 (.076)	¹ .098 (.019)
Education:								
Grades in high school:								
Mostly D's and below.....	—	—	—	—	¹ -2.905 (.305)	¹ -.477 (.019)	¹ -2.545 (.310)	¹ -.454 (.025)
Half C's and half D's.....	—	—	—	—	¹ -2.357 (.194)	¹ -.448 (.021)	¹ -2.116 (.200)	¹ -.423 (.025)
Mostly C's.....	—	—	—	—	¹ -1.417 (.141)	¹ -.323 (.027)	¹ -1.243 (.146)	¹ -.290 (.030)
Half B's and half C's.....	—	—	—	—	¹ -1.119 (.125)	¹ -.269 (.028)	¹ -.943 (.132)	¹ -.229 (.030)
Mostly B's.....	—	—	—	—	¹ -.521 (.130)	¹ -.129 (.032)	¹ -.408 (.137)	¹ -.102 (.034)
Half A's and half B's.....	—	—	—	—	-.238 (.126)	-.060 (.032)	-.126 (.131)	-.031 (.033)
Math-language score on Armed Services Vocational Aptitude Battery (ASVAB).....	—	—	—	—	¹ .027 (.001)	¹ .007 (.000)	¹ .021 (.002)	¹ .005 (.000)

Sample size = 6,580

¹ Significant at the 0.01 level.

² Significant at the 0.05 level.

NOTE: Standard errors are in parentheses. Variables included in the esti-

mation, but not shown in the tables, are year of birth, whether the respondent lived in an urban area at age 12, and region of the country where the respondent lived at age 12. Data are weighted by sampling weights used in Round 1. Dash indicates covariate not included in specification.

estimations, both coefficient estimates from the relevant logit equation and the corresponding marginal-effect estimates are presented. In the first specification, being male, Black, or Hispanic reduces the probability of going to college by at least 10 percentage points. After family background is controlled for, the estimated effects of race and ethnicity are indistinguishable from zero. Once controls for high

school achievement are included, the indicator for Black becomes positive and significantly related to college attendance. With the full set of controls included in the estimation, the estimated effects of race increase further and indicate that Blacks and Hispanics are 11 percentage points and 8 percentage points more likely to attend college by age 20 than their white counterparts. Across

all four specifications, the estimates indicate that being male lowers the probability of attending college, although the estimated marginal effect falls by roughly 35 percent from specification 1 to specification 4. After the full set of regressors is controlled for, men are estimated to be 7 percentage points less likely than women to go to college.

The regression results show that youths from more advantaged family backgrounds are more likely to go to college. The probability of attending college by age 20 increases with the educational attainment of both the respondent's mother and the respondent's father. In the fourth specification, an additional grade attained by one's mother is associated with a 2.2-percentage-point increase in the probability of going to college and an additional grade attained by one's father is associated with a 2.0-percentage-point increase. A 1-percent increase in level of family income is associated with about a 5-percentage-point increase in the probability of attending college. In addition, the older the respondent's mother was at the time of her first birth, the more likely the respondent is to have attended college by age 20. Those respondents who lived with both of their parents at age 12 are 10 percentage points more likely to attend college, after measures of the youth's achievement during high school are included.

Not surprisingly, the likelihood of attending college is strongly related to high school outcomes. The chance that a respondent goes to college by age 20 increases with his or her high school grades. For instance, those who report having earned "mostly B's" in high school are about 10 percentage points less likely to go to college by age 20 than students who report having earned "mostly A's." For those who earn "mostly C's," the differential is greater: students who earn "mostly C's" in high school are 29 percentage points less likely to attend college than those with "mostly A's." In addition, higher scores on the math and language sections of the ASVAB are associated with a greater probability of going to college. Specifically, for every percentage point that one's ASVAB score increases, the probability of going to college increases by about 0.5 percentage point. For the average youth, a one-standard-deviation increase in ASVAB score (29.0 points) translates into more than a 14-percentage-point increase in the probability of going to college.

Table 5 presents estimates of marginal effects from a multinomial logit equation where attending a 2-year college and attending a 4-year college are separate categories. The results shown are consistent with those listed in table 4, but demonstrate in general that the estimated effects of the control variables are larger for 4-year college at-

tendance than for 2-year college attendance.

In the first specification, the impact of each independent variable is larger for the probability of going to a 4-year college than for the probability of going to a 2-year college. For example, men are 8 percentage points less likely to go to a 4-year college and 3 percentage points less likely to go to a 2-year college than women are. With the full set of controls, men are about equally less likely than women to attend a 2-year and a 4-year college, with estimated marginal effects of being male in the neighborhood of 3 percentage points to 4 percentage points. In contrast, the impact of being Hispanic is positive and significant for attending a 2-year college in every specification. When the probability of attending a 4-year college is estimated in the first and third specifications, the effect of being Hispanic is negative and significant. However, after controlling for family background, the effect of being Hispanic on the probability of attending a 4-year college is indistinguishable from zero.

Parental characteristics affect the decision to attend a 4-year college. As with the bivariate logit estimates, the probability of attending a 4-year college increases with the mother's education, the father's education, family income, the mother's age at first birth, and the family structure at age 12. The estimated marginal effects of family background characteristics are larger for 4-year schools than for 2-year schools. Moreover, none of the variables describing family background are statistically significant in explaining the decision to attend a 2-year college.

Low high school grades ("mostly D's or lower," "half C's and half D's") decrease the probability of going to either a 2-year or a 4-year college. In contrast, higher high school grades (earning "half A's and half B's" and "mostly B's"), compared with the omitted category of "mostly A's," are associated with a higher probability that one attends a 2-year college, and a lower probability that one attends a 4-year college, by age 20. The magnitude of the estimates of high school grades is essentially unchanged between specifications 3 and 4 when the controls for family background are added. Although ASVAB scores are significantly related to attending a 2-year college and attending a 4-year college, the estimated effects are quite small for 2-year college attendance (0.001), but significantly larger for 4-year college attendance (0.005).

Completing the first year of college. Table 6 presents estimates of whether a student who starts college at a 2-year institution is enrolled at the initial school for at least 12 months. Leaving a 2-year college less than a year after starting is unrelated to the sex and race of the student. Of

Table 5. Estimates of whether one attends no college, a 2-year college, or a 4-year college by age 20, multinomial logit, marginal effects

Variable	Specification 1		Specification 2		Specification 3		Specification 4	
	2-year college	4-year college	2-year college	4-year college	2-year college	4-year college	2-year college	4-year college
Male.....	¹ -0.029 (.011)	¹ -0.074 (.013)	¹ -0.034 (.012)	¹ -0.092 (.013)	¹ -0.035 (.013)	-0.012 (.013)	¹ -0.040 (.014)	² -0.028 (.012)
Race or ethnicity:								
Black.....	² -.030 (.013)	¹ -.121 (.014)	-.023 (.016)	.026 (.020)	² -.038 (.016)	¹ .090 (.019)	² -.036 (.018)	¹ .166 (.024)
Hispanic.....	² .038 (.016)	¹ -.182 (.014)	² .052 (.020)	² -.043 (.021)	² .045 (.019)	¹ -.067 (.017)	² .049 (.022)	.015 (.022)
Family background:								
Mother's highest school grade completed	—	—	-.001 (.003)	¹ .037 (.004)	—	—	.000 (.003)	¹ .022 (.003)
Father's highest school grade completed	—	—	.000 (.003)	¹ .030 (.003)	—	—	.003 (.003)	¹ .016 (.003)
Log(family income in 1996).....	—	—	-.003 (.009)	¹ .084 (.012)	—	—	-.002 (.010)	¹ .058 (.010)
Mother's age at first birth.....	—	—	.002 (.001)	¹ .008 (.002)	—	—	.003 (.002)	¹ .004 (.001)
Whether respondent lived with both parents at age 12.....	—	—	.016 (.015)	¹ .121 (.016)	—	—	.026 (.016)	¹ .066 (.015)
Education:								
Grades in high school:								
Mostly D's and below.....	—	—	—	—	¹ -.145 (.031)	¹ -.252 (.009)	¹ -.133 (.037)	¹ -.231 (.009)
Half C's and half D's	—	—	—	—	¹ -.103 (.029)	¹ -.246 (.011)	¹ -.098 (.033)	¹ -.223 (.011)
Mostly C's	—	—	—	—	.032 (.034)	¹ -.231 (.012)	.039 (.036)	¹ -.209 (.012)
Half B's and half C's.....	—	—	—	—	.043 (.031)	¹ -.208 (.015)	.049 (.033)	¹ -.179 (.015)
Mostly B's	—	—	—	—	² .078 (.034)	¹ -.116 (.015)	² .080 (.036)	¹ -.096 (.016)
Half A's and half B's	—	—	—	—	¹ .095 (.032)	¹ -.079 (.016)	¹ .101 (.033)	¹ -.060 (.017)
Math-language score on Armed Services Vocational Aptitude Battery (ASVAB).....	—	—	—	—	¹ .001 (.000)	¹ .006 (.000)	² .001 (.000)	¹ .005 (.000)

Sample size = 6,580

¹ Significant at the 0.01 level.

² Significant at the 0.05 level.

NOTE: Standard errors are in parentheses. Variables included in the esti-

mation, but not shown in the tables, are year of birth, whether the respondent lived in an urban area at age 12, and region of the country where the respondent lived at age 12. Data are weighted by sampling weights used in Round 1. Dash indicates covariate not included in specification.

the regressors included to control for family background, only family income and mother's age at first birth are significantly related to the decision to stay at the initial 2-year college, with increases in either raising the chance of remaining in school.

High school grades also are associated with the prob-

ability of remaining at a 2-year college a year after beginning there. The estimates show that, compared with grades of mostly A's, grades of half B's and half C's or lower decrease the probability of remaining enrolled at the school a year later by 15 percentage points to 30 percentage points. The specification that controls for basic

Table 6. Estimates of whether one remains at a 2-year college for at least 12 months

Variable	Specification 1		Specification 2		Specification 3		Specification 4	
	Coefficient estimate	Marginal effect	Coefficient estimate	Marginal effect	Coefficient estimate	Marginal effect	Coefficient estimate	Marginal effect
Male.....	-0.056 (.122)	-0.014 (.031)	-0.086 (.125)	-0.021 (.031)	0.047 (.127)	0.012 (.032)	0.024 (.130)	0.006 (.032)
Race or ethnicity:								
Black.....	-.095 (.156)	-.024 (.039)	.151 (.176)	.037 (.044)	.115 (.175)	.029 (.043)	.350 (.191)	.087 (.046)
Hispanic.....	-.110 (.160)	-.028 (.040)	-.108 (.183)	-.027 (.046)	-.005 (.167)	-.012 (.042)	-.003 (.190)	-.001 (.047)
Family background:								
Mother's highest school grade completed	—	—	-.060 (.030)	-.015 (.008)	—	—	-.056 (.031)	-.014 (.008)
Father's highest school grade completed	—	—	.005 (.029)	.001 (.007)	—	—	-.005 (.030)	-.001 (.007)
Log(family income in 1996).....	—	—	¹ .165 (.080)	¹ .041 (.020)	—	—	¹ .176 (.083)	¹ .044 (.021)
Mother's age at first birth.....	—	—	² .059 (.015)	² .015 (.040)	—	—	² .056 (.015)	² .014 (.004)
Whether respondent lived with both parents at age 12.....	—	—	-.030 (.141)	-.008 (.035)	—	—	-.079 (.144)	-.020 (.036)
Education:								
Grades in high school:								
Mostly D's and below.....	—	—	—	—	¹ -1.409 (.635)	² -.311 (.106)	¹ -1.454 (.667)	¹ -.318 (.109)
Half C's and half D's	—	—	—	—	¹ -1.092 (.403)	² -.255 (.080)	² -1.113 (.393)	² -.259 (.078)
Mostly C's	—	—	—	—	² -.793 (.300)	² -.193 (.069)	² -.837 (.299)	² -.203 (.068)
Half B's and half C's	—	—	—	—	¹ -.628 (.273)	¹ -.155 (.066)	¹ -.666 (.270)	¹ -.165 (.065)
Mostly B's	—	—	—	—	-.319 (.281)	-.080 (.070)	-.390 (.281)	-.097 (.069)
Half A's and half B's	—	—	—	—	-.143 (.267)	-.036 (.067)	-.144 (.264)	-.036 (.066)
Math-language score on Armed Services Vocational Aptitude Battery (ASVAB).....	—	—	—	—	.004 (.003)	.001 (.001)	.004 (.003)	.001 (.001)

Sample Size = 1,345

¹ Significant at the 0.05 level.

² Significant at the 0.01 level.

NOTE: Standard errors are in parentheses. Variables included in the esti-

mation, but not shown in the tables, are year of birth, whether the respondent lived in an urban area at age 12, and region of the country where the respondent lived at age 12. Data are weighted by sampling weights used in Round 1. Dash indicates covariate not included in specification.

demographic characteristics, family background, and high school grades indicates that ASVAB scores are *not* related to the probability of remaining at a 2-year college for at least 1 year.

Table 7 presents estimates of whether a student who

starts college at a 4-year institution stays at the initial school for at least 12 months. In contrast to table 6, which analyzes remaining at a 2-year college, table 7 indicates that race is significantly related to the probability of remaining at an initial 4-year college. (See specification 1.)

Table 7. Estimates of whether one remains at a 4-year college for at least 12 months

Variable	Specification 1		Specification 2		Specification 3		Specification 4	
	Estimate of coefficient	Marginal effect	Estimate of coefficient	Marginal effect	Estimate of coefficient	Marginal effect	Estimate of coefficient	Marginal effect
Male.....	-0.207 (.121)	-0.037 (.022)	¹ -0.265 (.123)	¹ -0.046 (.022)	-0.084 (.126)	-0.014 (.022)	-0.136 (.127)	-0.023 (.022)
Race or ethnicity:								
Black.....	² -.467 (.155)	² -.090 (.032)	-.195 (.184)	-.035 (.034)	-.104 (.167)	-.018 (.030)	.075 (.193)	.013 (.032)
Hispanic.....	¹ -.515 (.205)	¹ -.102 (.044)	-.325 (.228)	-.061 (.046)	-.288 (.200)	-.053 (.039)	-.187 (.218)	-.033 (.040)
Family background:								
Mother's highest school grade completed.....	—	—	.012 (.029)	.002 (.005)	—	—	.008 (.029)	.001 (.005)
Father's highest school grade completed.....	—	—	.024 (.027)	.004 (.005)	—	—	.007 (.027)	.001 (.005)
Log(family income in 1996).....	—	—	¹ .218 (.092)	¹ .038 (.016)	—	—	¹ .217 (.095)	¹ .037 (.016)
Mother's age at first birth.....	—	—	.015 (.015)	.003 (.003)	—	—	.014 (.015)	.002 (.002)
Whether respondent lived with both parents at age 12.....	—	—	¹ .375 (.145)	¹ .067 (.026)	—	—	¹ .312 (.145)	¹ .054 (.026)
Education:								
Grades in high school:								
Mostly D's and below.....	—	—	—	—	(³)	(³)	(³)	(³)
Half C's and half D's.....	—	—	—	—	² -2.408 (.847)	² -.538 (.156)	² -2.423 (.897)	¹ -.540 (.166)
Mostly C's.....	—	—	—	—	² -1.477 (.325)	² -.329 (.079)	² -1.499 (.338)	² -.332 (.082)
Half B's and half C's.....	—	—	—	—	² -1.117 (.226)	² -.232 (.053)	² -1.078 (.230)	² -.221 (.053)
Mostly B's.....	—	—	—	—	² -.775 (.198)	² -.150 (.042)	² -.763 (.203)	² -.146 (.042)
Half A's and Half B's.....	—	—	—	—	² -.625 (.177)	² -.113 (.033)	² -.621 (.179)	² -.111 (.033)
Math-language score on Armed Services Vocational Aptitude Battery (ASVAB).....	—	—	—	—	.005 (.003)	.001 (.001)	.003 (.003)	.001 (.001)
Sample size = 1,808								
¹ Significant at the 0.05 level.			NOTE: Standard errors are in parentheses. Variables included in the estimation, but not shown in the tables, are year of birth, whether the respondent lived in an urban area at age 12, and region of the country where the respondent lived at age 12. Data are weighted by sampling weights used in Round 1. Dash indicates covariate not included in specification.					
² Significant at the 0.01 level.								
³ Sample size too small for publication standards.								

Although the standard errors in the two tables are comparable, the estimates of the marginal effects are at least 3 times larger in table 7 than in table 6. In particular, Black and Hispanic students are, respectively, 10 percentage points and 9 percentage points less likely to be at the 4-year college a year later. These estimated marginal effects of being Black and of being Hispanic fall by more than 80 percent between specification 1 and specification 4 and

can no longer be distinguished from zero after the first specification.

As is the case with attrition from 2-year colleges, most of the variables describing family background are unrelated to remaining at a 4-year college a year later. The two exceptions are family income in 1996 and living with both parents at age 12. The third and fourth specifications show that lower high school grades are

associated with a lower probability of being enrolled at the 4-year college a year after starting. For 4-year college attrition, any report of high school grades lower than mostly A's is associated with a lower chance of being enrolled a year after entering. The estimated effects of grades on completing a first year at a 4-year college are larger and have smaller standard errors, compared with the effect of high school grades on completing the first year at a 2-year college. By contrast, a student's ASVAB score has no significant effect on whether he or she completes a year of college. In other words, whereas ASVAB scores are associated with the *decision* to go to college, they are unrelated to whether one *completes* the first year of college.

COMPARISONS OF MEAN CHARACTERISTICS across groups, as well as regression results, indicate that college decisions are related to observable characteristics of respondents. As many recent studies have shown, compared with their female counterparts, males are less likely to go to college and less likely to go to 4-year colleges. In addi-

tion, respondents from more advantaged backgrounds and those who performed better in high school are more likely to go to college and to start college at a 4-year school.

These estimates indicate that the basic demographic characteristics of sex, race, and ethnicity, in addition to family background characteristics and scores on the ASVAB, affect the decision to start college, but are unrelated to the probability of finishing one's first year. By contrast, high school grades explain both the decision to go to college and the decision to stay in college during one's first year.

Admittedly, the dependent variables examined here do not measure the concept of most interest: who goes to college and who completes college. These outcomes are not yet observed because the youngest NLSY97 respondents are not yet old enough to have completed college and in some cases will not even have begun college. However, who attends college by age 20 is a good proxy for who goes to college, based on both the older birth years in the NLSY97 and the results of past research. Similarly, who stays in college for a year is a good indication of who will go on to complete the degree. □

Notes

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¹ Jennifer Cheeseman Day and Eric C. Newburger, "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings," *Current Populations Reports* P23-210 (U. S. Census Bureau, 2002).

² *College for All: Is There Too Much Emphasis on Getting a 4-Year College Degree?* (U.S. Department of Education, January 1999).

³ *Ibid.*; see also Laura J. Horn, *Stopouts or Stayouts? Undergraduates Who Leave College in Their First Year* (U.S. Department of Education,

National Center for Education Statistics, 1998).

⁴ Horn, *Stopouts or Stayouts?*

⁵ Stephen V. Cameron and James J. Heckman, "The Dynamics of Educational Attainment for Black, Hispanic, and White Males," *Journal of Political Economy*, June 2001, pp. 455-99, note that, in the NLSY79, a data set composed of individuals born from 1957 to 1964, most college entry occurs immediately after the completion of high school: "Among high school graduates 82% of whites and Hispanics and 73% of blacks who ever enter college do so within a year of high school graduation" (p. 42).