



**SEVENTH BIENNIAL REPORT
ON
FRESHMAN GRADUATION RATES
FALL 1980 - FALL 1993 ENTERING CLASSES**

May 2000

Cathy Alvord
cja2@cornell.edu

and

Michael Matier
mwm5@cornell.edu

**Institutional Research and Planning
440 Day Hall
Ithaca, NY 14853-2801**

Table of Contents

List of Figures	ii
List of Tables	ii
Executive Summary	1
Methodology	2
Population.....	2
Principal Concept and Study Design.....	2
Audience.....	2
Analysis	3
Overall Graduation Rates.....	3
Graduation Rates by College.....	4
Graduation Rates by Racial/Ethnic Group.....	6
Attrition Group.....	7
Inter-Institutional Comparisons.....	11

List of Figures

1. Six-Year Graduation Rates for First-Time Freshmen.....	3
2. Four-, Five-, and Six-Year Graduation Rates.....	3
3. Proportion of First-Time Freshmen Graduating in Less than Four Years.....	4
4. Endowed Colleges' Six-Year Graduation Rates.....	4
5. Statutory Colleges' Six-Year Graduation Rates.....	5
6. Internal Transfer Patterns and Six-Year Graduation Rates for Endowed College Matriculants.....	5
7. Internal Transfer Patterns and Six-Year Graduation Rates for Statutory College Matriculants.....	6
8. Six-Year Graduation Rates by Racial/Ethnic Category.....	6
9. Four-, Five-, and Six-Year Graduation Rates for African-American, Hispanic, Asian, and White First-Time Freshmen.....	7
10. Academic Standing of the Attrition Group.....	7
11. Academic Standing of Fall 1993 Attrition Group by College of Matriculation.....	8
12. Proportion of Attrition Group with G.P.A. < 2.00 by Racial/Ethnic Status.....	8

List of Tables

1. Categories of Attrition, Fall 1992 Entering Class.....	9
2. Categories of Attrition, Fall 1993 Entering Class.....	9
3. Percentage of Matriculants by SAT Quartiles Who Did Not Graduate Within Six-Years.....	10
4. Percentage of Matriculants by Geographic Admit Region Who Did Not Graduate Within Six-Years.....	10
5. Six-Year Graduation Rates for Cornell and its Overlap Group.....	11

Executive Summary

- Of first-time freshmen entering Cornell in Fall 1993, 91.2 percent earned a baccalaureate degree from one of the seven undergraduate colleges on the Ithaca campus within six years of matriculation. This is the eighth year in a row the graduation rate has been essentially 90 percent or above and is an increase of eight percentage points over the freshman class that entered in Fall 1980. (See page 3.)
- The proportion of students who initially enter Cornell as first-time freshmen and do not complete a degree at Cornell within six years of matriculation has decreased from 17 percent for those who entered in Fall 1980 to slightly less than 9 percent for the Fall 1993 entering class. (See pages 3 and 7)
- Of the two most recent attrition cohorts, about a third of the Fall 1992 matriculants and less than 30 percent of the Fall 1993 matriculants were required to leave or withdraw from Cornell. A little more than half of the Fall 1992 and close to two-thirds of the Fall 1993 attrition cohorts left Cornell voluntarily before completing a degree. Additionally, approximately ten percent of those classified in the attrition group of Fall 1992 and six percent of Fall 1993 either earned a Cornell degree after the six-year study window or are still currently enrolled as undergraduates at Cornell. (See pages 7-10.)
- The proportion of students who graduate early -- that is prior to the spring semester of their fourth year at Cornell -- increased slightly for those who entered in Fall 1992 (6.2 percent) and Fall 1993 (5.4 percent). (See Figure 3).
- Six year graduation rates vary by the college in which students matriculate, though graduation rates have been increasing for those entering each of Cornell's seven undergraduate colleges. (See pages 4-5.) In general, graduation rates are higher for students who enter into one of Cornell's statutory colleges.
- Not all students who enter Cornell as first-time freshmen graduate in the same college in which they matriculate. Students are most likely to transfer out of the Colleges of Architecture, Art, and Planning; Engineering; and Human Ecology. The Colleges of Arts and Sciences and Agriculture and Life Sciences gain the most internal transfers. (See pages 5-6.)
- For those students who entered Cornell as first-time freshmen in Fall 1980 there was a gap of approximately 20 percentage points between African-American, Hispanic, and Native American students whose six year graduation rate was approximately 68 percent and the approximately 87 percent graduation rate among Asian and white students. By the entering class of Fall 1987, this gap had been reduced to about 10 percentage points. The gaps have continued to narrow particularly for Hispanic students entering in Fall 1993 who had a six-year graduation rate within 3 percentage points of Asian and white students. (See pages 6-7.)

Methodology

Population

The population for this study is first-time freshman matriculants (with no prior transfer work) who were initially enrolled at Cornell in the Fall terms of 1980 through 1993. Entering classes are identified by when they first entered the university. Transfer students -- those who come to Cornell from another college or university -- are excluded from this study.

Principal Concept and Study Design

The retention concept underlying this report is based on a six-year period from the point a student first matriculated at one of Cornell's seven undergraduate colleges to the time of graduation. The methods employed in this research design are similar to those employed in retention research completed in many national studies.

The research behind this report was conducted so that students who graduate within four, five, or six years can be distinguished. Students who did not graduate from any of Cornell's seven undergraduate colleges within six years of entering are classified in the attrition group, although we know that a small number may either be still enrolled or subsequently earn a Cornell undergraduate degree.

A year is delineated in terms of the academic calendar and comprises the Fall and Spring semesters and the Summer term. Students appearing in the four-year rate are those receiving degrees earlier than whichever Fall semester would signify the start of their fifth year. The single exception is in the College of Architecture, Art, and Planning where students enrolled in five-year programs have their time-to-degree window extended by a year. For example, students in five-year degree programs who graduate before the beginning of their sixth year are included among the four-year degree recipients. This was done in the interest of comparability since these students have made the same progress toward their degrees as those candidates for degrees normally requiring only four years of study.

In addition, graduation rate information drawn from *US News & World Report's* annual *America's Best Colleges Guide* is included to help put Cornell's graduation rates into a larger context.

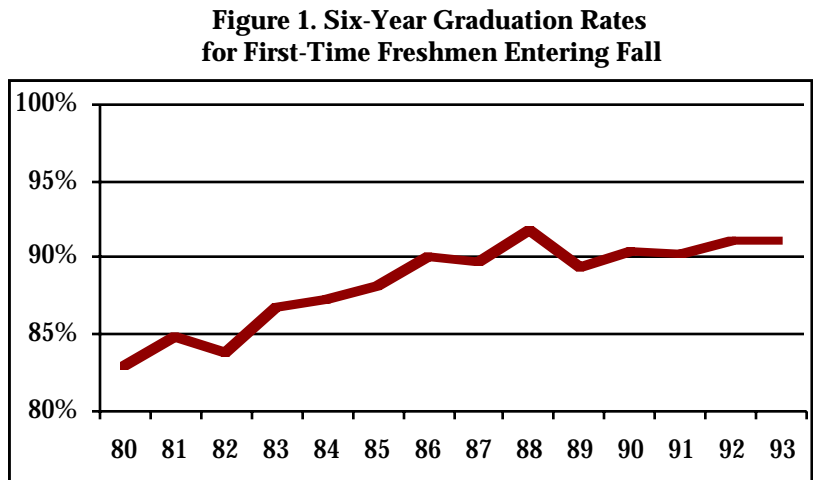
Audience

While aggregate graduation rates are compiled and reported annually this more detailed analysis is crafted every other year as a report to the Trustee Committee on Academic Affairs and Campus Life. It is shared with the university Deans, Associate Deans, and Executive Staff. It is also available to the public in an electronic form after the report is presented to the Trustees.

Analysis

Overall Graduation Rates

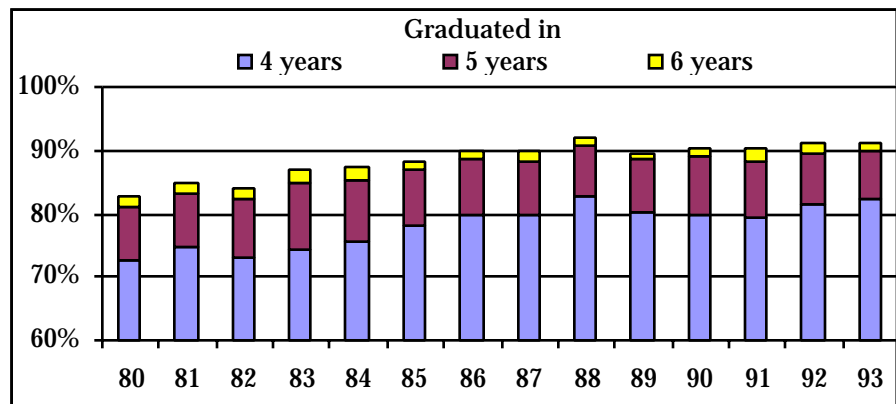
Of the 3,172 first-time freshmen that entered Cornell in Fall 1993, 91.2 percent earned a baccalaureate degree from one of the seven undergraduate colleges on the Ithaca campus within six years of matriculation. In addition to the Fall 1993 entering class, the seven other most recent entering freshman classes that have had six years to complete a bachelors degree have all seen essentially 90 percent of their numbers complete a Cornell degree within six years -- 90.1 percent for those who entered in Fall 1986, 89.7 percent for those



entering in Fall 1987, 91.9 percent for Fall 1988, 89.4 percent for those entering in Fall 1989, 90.5 percent for Fall 1990, 90.2 percent for Fall 1991, and 91.0 percent for those entering in Fall 1992. This is an increase of eight percentage points over the 82.9 percent of the 2,785 member freshman class that entered in Fall 1980 (see Figure 1).

As Figure 2 indicates, the majority of this increase in graduation rates from the entering class of Fall 1980 can be accounted for by the increase in the number of students who are earning degrees in four years.

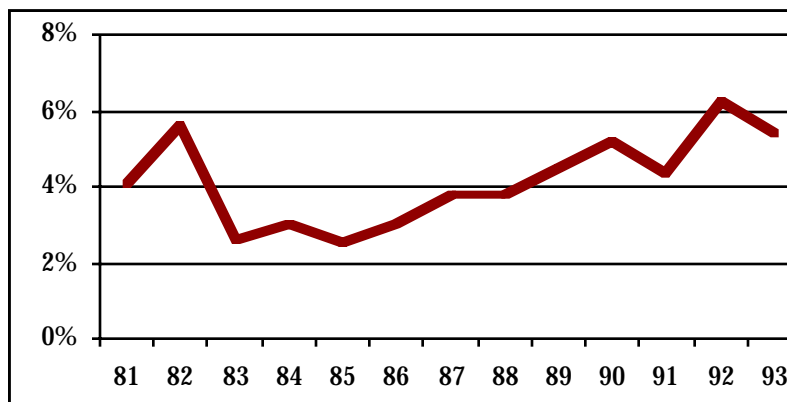
Figure 2. Four-, Five-, and Six-Year Graduation Rates for First-Time Freshmen Entering Fall



The proportion of first-time freshmen earning a degree in five years decreased slightly between Fall 1980 (8.5 percent) and Fall 1993 (7.6 percent) entering classes. The proportion of those utilizing a sixth year to complete their degree requirements has remained essentially unchanged -- 1.6 percent for the Fall 1980 entering class and 1.3 percent for those entering in Fall 1993.

The proportion of students who graduate early -- that is prior to the spring semester of what would be their fourth year at Cornell -- was greater than 4 percent for the Fall 1989 (4.5 percent), Fall 1990 (5.2 percent), Fall 1991 (4.3 percent), Fall 1992 (6.2 percent), and Fall 1993 (5.4 percent) entering classes (see Figure 3). This is a return to the patterns

Figure 3. Proportion of First-Time Freshmen Entering Fall Graduating in Less Than Four Years



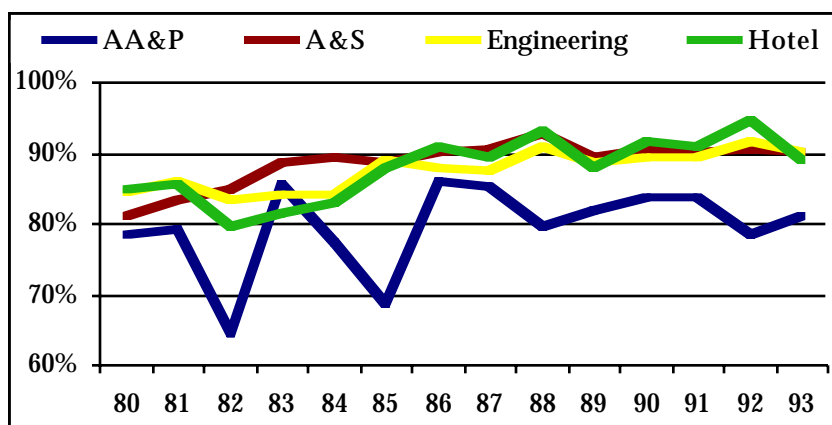
for the Fall 1981 (4.1 percent) and Fall 1982 (5.6 percent) entering classes, after which there were six years of early graduation rates below 4.0 percent.

Graduation Rates by College

Six year graduation rates vary by the college in which students matriculate, though the rates have increased for those entering each of Cornell's seven undergraduate colleges over the fourteen year period. As depicted in Figure 4, the trend in graduation rates among the four endowed colleges is clearly positive. For students entering the College of Arts and Sciences in Fall 1980, 81.3 percent earned a degree from Cornell within

six years. For the Fall 1993 entering class that proportion had increased to 90.1 percent. Similarly, the College of Engineering saw an increase from 84.6 percent to 90.2 percent and the proportion of first-time entering freshmen to the School of Hotel

Figure 4. Endowed Colleges' Six-Year Graduation Rates for First-Time Freshmen Entering Fall

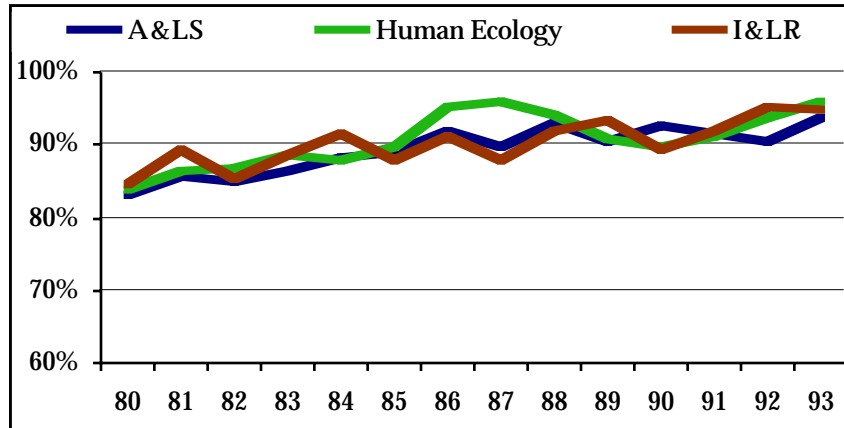


Administration who graduated from Cornell increased from 84.8 percent to 88.9 percent.

Six-year graduation rates in the College of Architecture, Art, and Planning are lower than in the other endowed colleges and were more volatile among those classes entering in the first half of the 1980's. The college's graduation rate peaked among students entering in Fall 1983 (85.7 percent) and Fall 1986 (86.0 percent). Since the class entering in Fall 1986, the graduation rate for the college has remained between 80 percent and 86 percent.

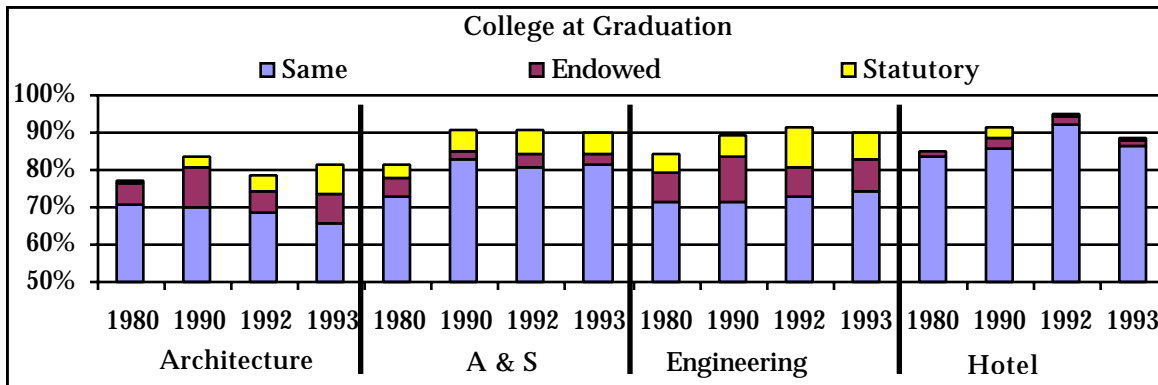
Six-year graduation rates for students who initially enrolled in one of Cornell's statutory colleges also saw noticeable increases between freshman classes entering in Fall 1980 and Fall 1993 (see Figure 5). Among students entering the College of Agriculture and Life Sciences six-year graduation rates increased from 83.2 percent in Fall 1980 to 93.8 percent in Fall 1993. Students who matriculated in the School of Industrial and Labor Relations in Fall 1980 graduated at a rate of 84.7 percent while the proportion of those who entered in Fall 1993 graduated at 94.9 percent. Students who enrolled in the College of Human Ecology in Fall 1993 boasted the highest graduation rate among the seven undergraduate colleges that year of 96.0 percent, an increase from 84.0 percent for the class entering in Fall 1980.

Figure 5. Statutory Colleges' Six-Year Graduation Rates for First-Time Freshmen Entering Fall



Not all students who enter Cornell as first-time freshmen graduate in the same college in which they matriculate. The patterns of internal transfers have remained relatively stable over the period of investigation. For instance, among the endowed colleges (see Figure 6), there is a considerable amount of transferring to other

Figure 6. Internal Transfer Patterns and Six-Year Graduation Rates for Endowed College Matriculants



colleges among students who initially enter both the College of Architecture, Art, and Planning and the College of Engineering while there is rather little for students entering the College of Arts and Sciences and even less among students who matriculate in the School of Hotel Administration.

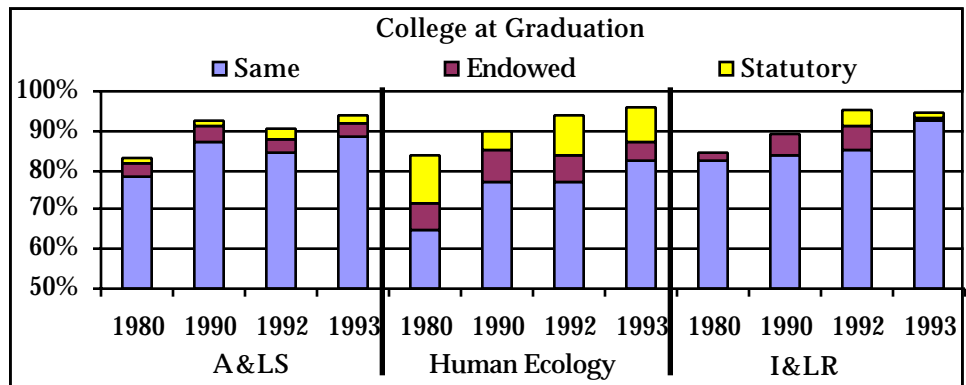
About two-thirds of the students who entered the College of Architecture, Art, and Planning in Fall 1993 earned their degree from the college, while 8 percent earned a

degree from another Endowed college with another 7 percent earning a Statutory degree. For students who matriculated in the College of Engineering in Fall 1993, 16 percent earned their degree from another college with 54 percent of these getting a degree from an Endowed college (primarily Arts and Sciences) and 46 percent from a Statutory college (primarily Agriculture and Life Sciences). The proportion of students initially enrolled in the College of Arts and Sciences and the School of Hotel Administration in Fall 1993 who completed their degree elsewhere were 8.9 percent and 2.4 percent respectively.

Among the statutory colleges the patterns of internal transfer have remained fairly consistent over this fourteen-year period (see Figure 7). A considerable number of students

transfer out of the College of Human Ecology (13.4 percent in 1993), a more modest amount transfer out of the College of Agriculture and Life Sciences (5.1 percent in 1993), and even less in the School of Industrial and Labor Relations (2.5 percent in 1993).

Figure 7. Internal Transfer Patterns and Six-Year Graduation Rates for Statutory College Matriculants

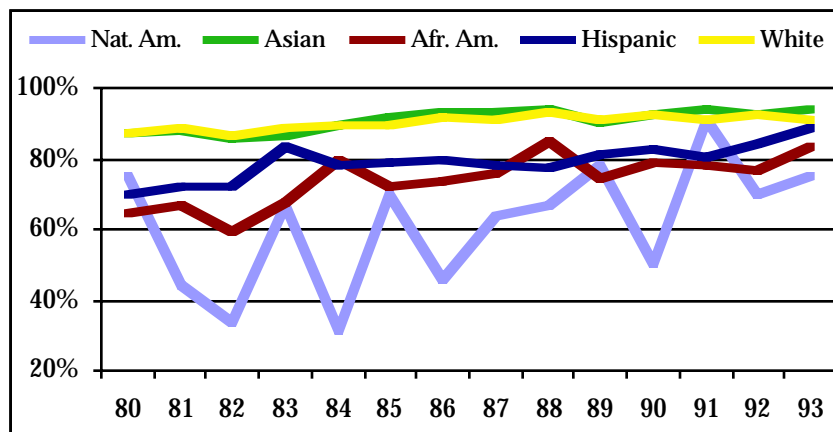


Graduation Rates by Racial/Ethnic Group

Graduation rates among racial/ethnic groups at Cornell over this fourteen-year time frame show positive trends (see Figure 8). For those students who entered Cornell as first-time freshmen in Fall 1980 there was a gap of approximately 20 percentage points between the combined African-American, Hispanic, and Native American six year graduation rate of approximately 68 percent and the composite 87 percent graduation rate for Asian and white students.

By the entering class of Fall 1989, this gap had been reduced to about 10 percentage points, and all five groups had seen gains in their individual six-year graduation rates. Between

Figure 8. Six-Year Graduation Rates by Racial/Ethnic Category for First-Time Freshmen Entering Fall

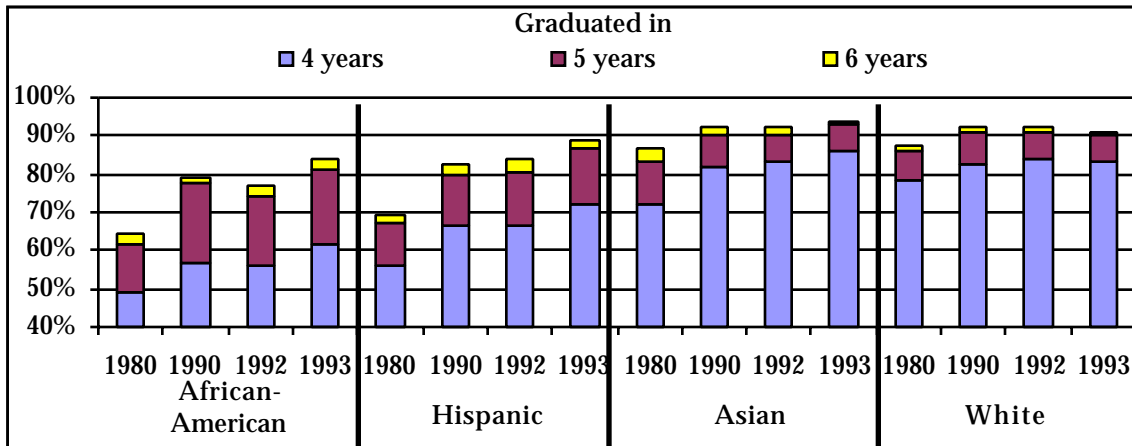


the five groups, Hispanics experienced the greatest gain from Fall 1991 to Fall 1993 of almost 9 percentage points.

The volatility in six-year graduation rates among Native American students can be attributed primarily to the very small numbers in each entering class. This has ranged from a low of 3 in the Fall 1983 entering class to a high of 16 in Fall 1984. With the exception of the Fall 1990 entering class (50.0 percent) the trend in the six-year graduation rate has become more consistently positive from 45.5 percent in Fall 1986, to a high of 90.9 percent in Fall 1991 and finally 75.0 percent in Fall 1993.

Among the four other racial/ethnic groups, six-year graduation rates for African-Americans increased from 64.6 percent for those entering in Fall 1980 to 83.7 percent in Fall 1993; Hispanics increased from 69.6 percent to 88.8 percent; Asians from 86.8 percent to 93.8 percent; and whites from 87.1 percent to 91.2 percent.

Figure 9. Four-, Five-, and Six-Year Graduation Rates for African-American, Hispanic, Asian, and White First-Time Freshmen



While African-American and Hispanic students are more likely to utilize a fifth or sixth year to complete their degrees than Asian or white students (see Figure 9), the increase in the overall proportion of students graduating within six years is more attributable to the increase in students completing their degree requirements in four years.

Attrition Group

The proportion of students who initially entered Cornell as first-time freshmen who do not complete a degree at Cornell within six years of matriculation has decreased from 17 percent for those who entered in Fall 1980 to less than 9 percent for the Fall 1993 entering class (see

Figure 10. Academic Standing of the Attrition Group

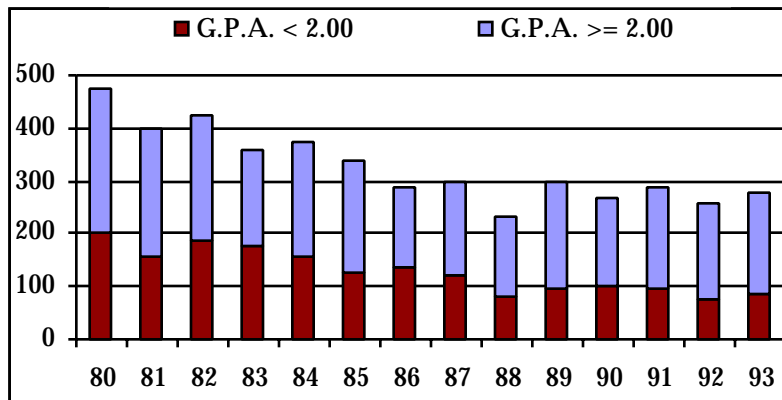


Figure 1). Within this diminishing number of students who make up each entering class's attrition group, the proportion in good academic standing at the completion of their last semester of enrollment has increased (see Figure 10). Among the 2,785 students who entered Cornell as first-time freshmen in Fall 1980 a total of 477 did not earn a degree within six years of matriculation; 57.7 percent of those students (275) were in good academic standing. For Fall 1993, the number of students in the attrition group dropped to 280 out of an entering class of 3,172 increasing the proportion in good academic standing to 70.0 percent of those students (196).

As Figure 11 indicates, when comparing the proportion of the Fall 1993 entering class that did not earn a Cornell degree within six years, there is variability that is primarily a product of the size of the entering class in each college.

Nevertheless, about nine-tenths of the attrition group in Architecture, Art, and Planning (86 percent, 18 of 21) and Arts and Sciences (84 percent, 82 of 98), three-fourths of those in Industrial and Labor Relations (75 percent, 6 of 8) and Human Ecology (70 percent, 7 of 10), and

two-thirds of those in Engineering (66 percent, 55 of 84) were in good academic standing as of the last semester enrolled. The College of Agriculture and Life Sciences (48 percent, 19 of 40) and the School of Hotel Administration (47 percent, 9 of 19) had the lowest proportion of their attrition group in good academic standing.

Figure 12 displays that there has been a difference in the proportion of the attrition group with a cumulative G.P.A. of less than 2.00 by racial/ethnic status

Figure 11. Academic Standing of the Fall 1993 Attrition Group by College of Matriculation

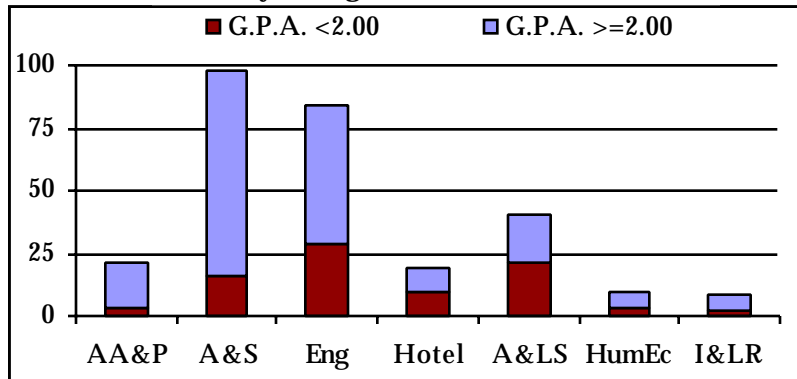
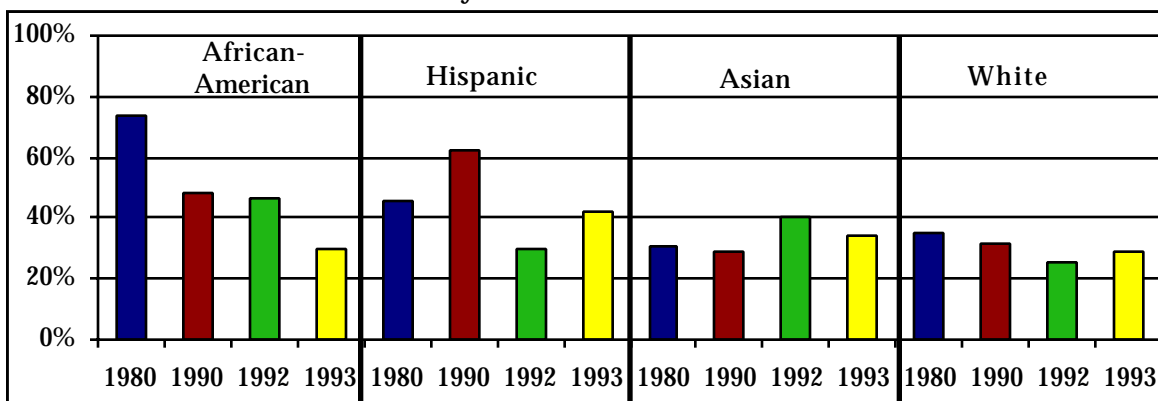


Figure 12. Proportion of Attrition Group with G.P.A. < 2.00 by Racial/Ethnic Status



over the fourteen-year period of study. Generally only about a third of the Asian and white attrition group have a final Cornell G.P.A of less than 2.00. For Hispanic

students the proportion of the attrition group with a G.P.A. of less than 2.00 has ranged from a high of 62.1 percent for the Fall 1990 entering class to a low of 29.6 percent for the Fall 1992 entering class. The proportion of African-American students in the attrition group with a G.P.A. of less than 2.00 has fallen steadily from 73.4 percent for the Fall 1980 entering class to 48.5 percent for Fall 1990, and currently to 30.0 percent for Fall 1993 which puts them on par with Asian and white students.

Additional information about the status of individuals who were part of the attrition groups for the entering classes of Fall 1992 and Fall 1993 is provided below. Table 1 shows that only 35.5 percent (92 of 259) of the Fall 1992 attrition group were required to leave or withdraw from Cornell. Slightly more than half of all the

Table 1. Categories of Attrition, Fall 1992 Entering Class

Reason	AAP	A&S	Eng	Hotel	A&LS	HumEc	ILR	Total
Graduated After 6-Year Window	3	5	4	1	4		1	18
Currently Registered	1	4			4			9
Leave								
Medical		6	5	1	3	3		18
Required	2	30	2	2	4	3	4	47
Voluntary	2	16	10	2	17		1	48
Withdrawal								
Required	2	5	25		12		1	45
Voluntary	6	24	8	2	11	8		59
Other/Unknown	8	2	1		4			15
Total	24	92	55	8	59	14	7	259

individuals in this attrition cohort took a non-required leave or withdrawal (54.1 percent, 140 of 259). Significantly, a total of 10.4 percent of the attrition group either earned a Cornell degree after the six-year study window (18 individuals) or are still currently enrolled as undergraduates at Cornell (9 individuals).

Table 2 indicates that 28.9 percent (81 of 280) of the Fall 1993 attrition group were required to leave or withdraw from Cornell. Close to two-thirds of the individuals

Table 2. Categories of Attrition, Fall 1993 Entering Class

Reason	AAP	A&S	Eng	Hotel	A&LS	HumEc	ILR	Total
Graduated After 6-Year Window		5	1					4
Currently Registered	5	2	5		1			13
Leave								
Medical		11	4		1	1		17
Required	1	17	5	6	6		1	36
Voluntary	3	39	14	2	13		3	74
Withdrawal								
Required		5	31	3	3	3		45
Voluntary	2	11	17	3	10	6	1	50
Other/Unknown	10	10	7	5	6		3	41
Total	21	98	84	19	40	10	8	280

in this attrition cohort took a non-required leave or withdrawal (65.0 percent, 182 of 280). A total of 6.1 percent of the attrition group either earned a Cornell degree after the six-year study window (4 individuals) or is still registered as undergraduates (13 individuals).

Table 3 displays that the percentage of students who did not earn a degree within six years of matriculating does not vary much based on entering SAT scores. The chi-square test of independence on SAT quartile scores and graduation status was not significant at the 95 percent confidence level ($p < .05$). Essentially, this means that freshmen

entering Cornell with comparatively high SAT scores were as likely not to earn a degree in six years as those with comparatively low SAT scores.

Additionally, t-tests (a statistical test that compares differences in mean scores) found no statistically significant differences in SAT-verbal, SAT-math, or SAT-combined scores between those who graduated in six years and those who did not.

In looking at whether the geographic origin of students enrolling at Cornell is associated with their likelihood of graduating, Table 4 indicates that there is a slightly greater chance of not graduating for US citizens/permanent residents who come to Cornell from greater distances. For both those students who entered in Fall 1992 and Fall 1993, the chi-square test of independence was statistically significant at the 95 percent confidence level ($p = .05$). This indicates that

students matriculating from New York, New England, the Middle Atlantic States, and from outside the United States were somewhat more likely to earn a degree within six years than those students from the remaining states and US possessions. This intuitively makes sense, and while the association between geographic origin and graduation status is statistically significant, the degree of association is small enough not to cause concern given the overriding institutional commitment to enrolling a geographically diverse class.

Table 3. Percentage of Matriculants by SAT Quartiles Who Did Not Graduate Within Six-Years

SAT Quartiles Of Cornell Students	Fall 1992		Fall 1993	
	Verbal	Math	Verbal	Math
0% - 24%	8.8%	9.4%	9.8%	9.3%
25% - 49%	10.2%	7.6%	8.4%	9.4%
50% - 74%	7.9%	9.0%	8.4%	8.4%
75% - 100%	8.3%	9.4%	8.6%	7.9%

Table 4. Percentage of Matriculants by Geographic Admit Region Who Did Not Graduate Within Six-Years

Admit Region	Fall 1992	Fall 1993
New York	7.9%	7.1%
New England / Middle Atlantic	7.8%	8.9%
Other U.S.A.	12.2%	11.3%
Foreign	7.3%	8.3%

Inter-Institutional Comparisons

Consistently reliable graduation rate information covering the time period under consideration in this study for the full set of institutions that constitute Cornell's common application and admission overlap group is not easily accessible. One proxy for such data is found in the annual *America's Best Colleges* guide published each fall by *U. S. News & World Report*. For the past six years they have collected and displayed a graduation rate figure for each institution included in their rankings.

Table 5. Six-Year Graduation Rates for Cornell and its Overlap Group

Source: *USN&WR's Annual America's Best Colleges Guide*¹

	1994	1995	1996	1997	1998	1999	Δ
Binghamton	75%	77%	79%	83%	79%	82%	7%
Cornell	88%	90%	90%	89%	89%	91%	3%
Northwestern	88%	89%	89%	90%	91%	90%	2%
MIT	90%	91%	91%	89%	89%	92%	2%
Virginia	91%	92%	92%	93%	91%	92%	1%
Johns Hopkins	88%	87%	87%	87%	88%	89%	1%
Penn	89%	90%	90%	87%	88%	90%	1%
Stanford	92%	93%	93%	93%	94%	92%	0%
Michigan	83%	84%	85%	85%	84%	83%	0%
Harvard	97%	97%	97%	97%	97%	97%	0%
Princeton	95%	95%	95%	95%	94%	95%	0%
Columbia	90%	95%	88%	88%	87%	90%	0%
Brown	94%	94%	94%	93%	91%	93%	-1%
Duke	93%	94%	95%	95%	93%	92%	-1%
Yale	95%	95%	96%	95%	93%	94%	-1%
Dartmouth	95%	95%	95%	94%	93%	94%	-1%

Table 5 displays reported graduation rates for Cornell and the fifteen institutions that make up its common application and admission overlap group. Note in particular that seven institutions -- Cornell, Binghamton, Northwestern, MIT, Virginia, Johns Hopkins, and Penn -- have realized net gains from the beginning to the end of this period. Five institutions have had no net change, and four institutions -- three Ivy League schools -- have experienced a decline from the beginning to the end of this period.

¹The rates displayed are four-year averages of six-year graduation rates. For example, the 1999 rates are the averages of six-year graduation rates for freshmen entering in Fall 1988, 1989, 1990, and 1991. The last column of the table displays the arithmetic difference between the rate published in 1999 and the rate published in 1994.