Athletics versus Academics? Evidence from SAT Scores

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Miscellany

Athletics versus Academics? Evidence from SAT Scores

I. Introduction

It is common in faculty discussions to degrade the value of athletics on campus. To many, athletics represents the worst side of academia. However, many institutions voluntarily continue a long tradition of intercollegiate competition on a large scale. This survivorship suggests that athletics must be contributing something to academics. On April 3, 1985, *USA Today*, reporting the added prestige that Villanova would enjoy following its National Collegiate Athletic Association (NCAA) basketball championship, cited the fact that North Carolina State University had received a 40 percent increase in applications in the wake of its championship victory in 1983. Further reinforcement of this point came when Boston College received 16,200 freshman applications in 1985 compared with 12,500 applications the previous year. Boston College admissions director, Charles Nolan, gave much of the credit for this increase to Heisman Trophy winner Doug Flutie, his 1984 teammates, and the attention they brought the school (*Newsweek*, April 8, 1985 ["On Campus" insert], p. 14). The University of South Carolina, a school not known for its exploits on the football field, reported a 23 percent increase in applications in 1985 following the best year in its football history.

The preceding stories suggest a symbiosis between athletics and academics very different from the adversary relation common in faculty club discussions. If, as these stories suggest, athletic success breeds increases in applications, then there is a link between athletic success one year and the quality of the incoming freshmen in the future. This is not to say that athletic success necessarily attracts

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brighter students; instead it advertises the school and increases the number of applicants. Then, even if the average quality of applicants is unchanged, a school with a fixed enrollment policy can sample from a larger number of applicants. Alternatively, administrators can maintain admissions standards and increase enrollment. In the first case average quality increases. In the second case enrollment grows. In both cases it is a direct result of athletic success, and the ultimate effect is a policy decision likely to vary across schools.

II. Empirical Analysis

We subject the argument that athletics boosts academics through advertising to empirical scrutiny. First, we see if the presence of big-time athletics has an impact on academic quality using freshman Scholastic Aptitude Test (SAT) scores as a measure of quality. Our model of SAT scores is a simple hedonic one. These scores are a function of the quality of university inputs and the environment at the institution, specifically, the number of volumes in the library, the student/faculty ratio, the age of the university, the tuition, the endowment of the university, the salary of the faculty at the school, and so forth. The central hypothesis is tested by including a dummy variable for schools that engage in major college athletics. It is arguable how to measure this, but we chose a criterion that is simple and easy to delineate. If the school is a member of one of the big-time athletic conferences—Atlantic Coast Conference (ACC), Southwestern Conference (SWC), Southeastern Conference (SEC), Big Ten, Big Eight, Pacific Athletic Conference (PAC Ten), or a major independent—we let the dummy take the value one; otherwise it is zero.[1] We collected data on approximately 150 schools for 1971.[2] Of these, we count 63 as big-time athletic schools. Using ordinary least squares, we regressed the SAT scores of the entering freshmen on the variables listed above with the dummy for membership in a major conference.[3] The results are listed in table 1, where several different specifications are reported.

The results support the advertising view of athletics, and they are not sensitive to model specification.[4] The coefficient on the athletic

[1] We included Notre Dame, Pitt, Penn State, and others as major independents. See App. table A1 for a complete listing.

[2] The choice of 1971 was arbitrary and was based on the fact that a large portion of the data were already available as a by-product of other research.

[3] For some schools we have American College Test (ACT) scores instead of SAT scores. Using an algorithm developed by Langston and Watkins (1980), we converted the ACT scores to SAT scores. Apparently there is no widely employed conversion formula used by either testing service.

[4] We examined the residuals for heteroscedasticity. Depending on specification, there is evidence that the residual variance declines with the age of the university or the

TABLE 1

SAT Scores and Big-Time Athletics (Dependent Variable: Average SAT Scores of Entering Freshmen)

Independent Variable	Coefficient									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Intercept	543.69	511.71	512.39	596.25	518.22	629.20	609.00	628.90	598.37	643.44
	(10.32)	(9.61)	(9.58)	(9.49)	(10.08)	(10.86)	(12.19)	(12.16)	(10.58)	(13.74)
Sports dummy	25.73	30.58	29.70	28.00	43.48	35.05	35.95	31.39	36.20	31.14
	(1.83)	(2.19)	(2.09)	(2.00)	(3.11)	(2.66)	(2.75)	(2.28)	(2.52)	(2.41)
Tuition	.11	.10	.11	.11	.09	.08	.08	.08	.09	.08
	(12.83)	(12.56)	(7.31)	(7.07)	(9.59)	(8.48)	(9.05)	(9.18)	(8.22)	(8.88)
Volumes in library × 10^6	5.03	−1.78	−1.97	−2.42	6.66	−1.37	−1.34	−1.32	−1.41	...
	(.77)	(.26)	(.28)	(.35)	(.94)	(1.90)	(1.86)	(1.83)	(1.89)	
Salary of full professors × 10^2	1.76	1.76	1.74	1.65	1.97	1.45	1.47	1.36	1.35	1.36
	(6.43)	(6.53)	(6.39)	(6.12)	(7.39)	(5.52)	(5.69)	(4.97)	(4.37)	(5.35)
Age of the university	...	.37	.38	.33	.34	.42	.43	.43	.42	.33
		(2.54)	(2.53)	(2.21)	(2.34)	(3.09)	(3.16)	(3.14)	(2.81)	(2.63)
Private school dummy	...	...	−8.90	−22.67	...	...	...	...	...	...
			(.37)	(.94)						
Student/faculty ratio	...	...	...	−3.29	...	−.86	...	...	...	...
				(2.44)		(.69)				
Total enrollment × 10^3	...	...	...	...	−2.49	−1.08	−1.22	−1.33	−1.02	−1.73
					(3.49)	(1.48)	(1.75)	(1.88)	(1.39)	(2.67)
Endowment per student × 10^3	...	...	...	...	...	2.17	2.21	2.05	2.20	1.91
						(4.34)	(4.46)	(3.88)	(4.27)	(4.04)
Number of Ph.D.'s awarded per faculty	...	...	...	...	...	...	...	6.90	...	...
								(.78)		
Male proportion of undergraduate enrollment	...	...	...	...	...	...	...	...	45.63	...
									(1.38)	
F-ratio	96.70	81.44	67.50	60.63	74.95	66.58	76.32	66.88	59.05	86.84
R^2	.7192	.7308	.7311	.7415	.7511	.8038	.8031	.8057	.8015	.7979
Number of observations	156	156	156	156	156	139	139	138	126	139

Source.—*American Universities and Colleges* (1971).

Note.—t-ratios are in parentheses.

dummy is positive and significant in all specifications. We interpret this to mean that, other things the same, a school that participates in major college athletics has a better undergraduate student body than one that does not.[5]

The coefficients on the other variables have signs consistent with economic theory.[6] Schools that pay their faculty more have better students (or schools with better students pay the faculty more). Schools that charge higher tuition have better students. Older schools have better reputations, have survived longer, and attract students with higher SAT scores. Schools with lower student/faculty ratios offer more individual attention to students, and they have better students as a consequence. The larger a school's endowment, the higher are the SAT scores of its entering freshmen. Larger schools have poorer students, other things the same.[7]

For a second look at the relation between athletics and academics, we collected data on in-conference football winning percentages for all members of the major athletic conferences annually from 1971 through 1984.[8] We used only members of athletic conferences to control for differences in scheduling and quality of opposition across time. Next, we calculated the average SAT scores for the entering freshmen in 1981 and 1984 (the latest year for which data were available). From these we computed the change in the SAT scores for each

size of the library. Hence, we also estimated the 10 model specifications in table 1 by weighted least squares first using age and then library as weighting devices. The only statistically meaningful difference is that the coefficient on library volumes is positive in some specifications but only significant in a subset. We will supply these tables on request.

[5] The average SAT score of the entering freshmen at the schools in our sample in 1971 was 1,106. Averaged across the 10 model coefficients, the coefficient on the sports dummy is 33. Hence, major sports participation is associated with approximately a 3 percent increase in SAT scores.

[6] The only exception is that the coefficient on library volumes is negative in all specifications but the first. In part this may be due to multicollinearity, but more likely it is due to heteroscedasticity of the residual variance. Correcting for this possibility reverses the sign on the library coefficient (see n. 4). We also estimated the coefficients in logs. These results closely mirror the estimates in table 1. We will supply these tables on request. The variables are self-explanatory with a couple of exceptions. Tuition is the simple average of in-state and out-of-state tuition for public schools. Salary is the average salary of the full professors at the institution, and Ph.D.'s awarded is the total earned degrees awarded from 1961 to 1970 adjusted for the faculty size in 1971.

[7] The reason for this result may be that large schools can afford the risk of students with low SAT scores but other less quantifiable skills that make them attractive, i.e., students with high variance estimates of scholastic success. In the case of all these independent variables, our discussion is not meant to imply empirical causality but instead our intuition about the causal link.

[8] They are the ACC, the SEC, the SWC, the Big Ten, the Big Eight, and the PAC Ten. The data were supplied to us by the sports information office of the Athletic Department at Clemson.

TABLE 2

CHANGE IN SAT SCORES AND FOOTBALL RECORDS (Dependent Variable: Change in SAT Scores of Entering Freshmen, 1981–84)

Independent Variable	Coefficient			
Intercept	14.25	8.58	7.67	7.21
	(3.14)	(1.22)	(1.10)	(1.04)
Trend in football winning percentage (1971–84)	278.71	286.52	255.94	302.37
	(1.50)	(1.49)	(1.34)	(1.55)
Change in student/faculty ratio (1981–84)	3.56	3.47	3.18	3.88
	(2.00)	(1.92)	(1.78)	(2.04)
Private school dummy (1981–84)	9.29	14.17	18.76	26.23
	(.78)	(.62)	(.84)	(1.12)
Change in in-state tuition (1981–84)	...	−.01	−.01	−.02
		(.54)	(.77)	(1.06)
Change in out-of-state tuition (1981–84)	...	.01	.01	.01
		(1.15)	(1.08)	(1.34)
Change in library volumes × 10^6 (1981–84)	...	...	9.00	8.63
			(1.45)	(1.40)
Change in enrollment (1981–84)	...	...	...	−.003
				(1.05)
F-ratio	2.69	1.88	1.96	1.84
R^2	.168	.200	.241	.264
Number of observations	44	44	44	44

NOTE.—t-ratios are in parentheses.

school in our sample. Then we regressed this change in SAT scores for 1981–84 on variables that we expect affect academic quality (changes in the student/faculty ratio, changes in tuition, changes in enrollment, and changes in the size of the library), and we included the 15-year trend of in-conference football winning percentage.[9] If the advertising theory is correct, then the trend coefficient will be positive. If, on the other hand, athletics degrades academics, the effect of the football winning trend will be negative. The results of several different model specifications are reported in table 2. The coefficient on trend is positive and marginally significant in each specification.[10] This is additional evidence that athletic success is associated with academic quality. Taken together, these results, in our minds, cast serious doubt on the question of athletics versus academics. Instead, they suggest a different view, that is, athletics *and* academics.

[9] The trend variable was obtained by regressing annual in-conference football winning records on time. The coefficient on time is the trend variable. The data are reported in App. table A2.

[10] Again the control variables perform as expected. For example, larger increases in the library are associated with larger increases in freshman SAT scores.

III. Conclusions

Universities are understudied organizations, but this is not because they do not present an interesting variety of questions concerning their composition. The question whether athletic success comes at the expense of academic quality is particularly intriguing because of the supposed competition between rival departments of the same institution.

The evidence presented here is consistent with the view that some students get more than one education while enrolled in college; intercollegiate athletic competition is a natural consequence and by-product of undergraduate education. This implies that athletic success can often go hand in hand with academic success, and, insofar as this study goes, critics of athletic success are misguided if their motive is the academic improvement of the university.

We conclude that there is evidence of a symbiotic relation between athletics and academics on many college campuses, and the elimination of large-scale athletic participation could, for any particular school, have detrimental effects on its enrollment and academic standards. Last, in many ways this study leaves unanswered more questions than it answers. For instance, why do some universities invest in top-quality athletic programs and others choose not to? The Ivy League institutions, among others, have not recently placed great emphasis on big-time athletic success possibly because their unrivaled academic tradition does not require the low-cost advertising provided by a nationally competitive athletic program. One wonders whether old, rich, and privately endowed schools, stuffed with academic heritage, are the only ones that do not find athletics important to survival.

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Data Appendix

TABLE A1

SAT Scores and University Data, 1971

School	SAT	Sports Dummy	Library	Salary	Student/ Faculty Ratio	Tuition
American Univ.	1,050	0	318,578	22,000	24.338	2,220
Arizona State	925	1	1,300,000	18,800	25.433	770
Auburn	1,047	1	762,750	17,100	17.206	675
Bates Coll.	1,230	0	154,716	18,500	12.856	2,750
Baylor	955	1	510,680	15,500	12.906	900
Beloit Coll.	1,180	0	216,401	19,300	11.960	3,100
Boston Univ.	1,139	0	829,046	21,300	9.764	2,090
Bowling Green State	941	0	701,209	19,800	18.670	900
Brandeis	1,257	0	457,065	24,900	7.757	2,900
Briar Cliff Coll.	983	0	57,000	16,700	8.191	2,125
Brown	1,285	0	1,312,842	24,200	9.551	2,850
Bucknell	1,259	0	365,000	19,400	12.428	2,700
California Inst. Tech.	1,429	0	230,000	26,000	5.875	2,565
Carnegie-Mellon	1,229	0	363,081	23,400	8.217	2,500
Catholic Univ.	1,100	0	849,723	21,100	10.839	2,000
Clark Coll. (Atlanta)	1,243	0	3,000,000	22,300	11.900	2,600
Clemson	1,005	1	487,405	17,400	12.329	925
Colby Coll.	1,243	0	310,000	21,600	12.389	2,500
Colgate	1,257	0	265,000	24,800	12.250	2,800
Coll. Holy Cross	1,163	0	285,000	19,000	12.917	2,480
Colorado Coll.	1,186	0	243,490	19,700	11.414	2,400
Colorado State	1,013	0	765,477	19,000	15.453	1,026
Columbia	1,333	0	4,241,130	25,800	4.215	2,800
Connecticut Coll.	1,200	0	267,279	19,200	9.983	2,700
Cornell Univ.	1,285	0	3,779,990	25,100	5.649	2,175
Creighton	963	0	297,851	16,800	6.163	1,700

TABLE A1 (*Continued*)

School	SAT	Sports Dummy	Library	Salary	Student/ Faculty Ratio	Tuition
Dartmouth Coll.	1,350	0	1,008,048	23,200	8.393	2,820
Davidson Coll.	1,244	0	173,000	19,900	10.660	2,050
Duke	1,268	1	2,225,000	23,900	6.554	2,300
Earlham Coll.	1,173	0	177,069	17,600	10.136	2,600
Emory	1,221	0	927,542	21,300	6.406	2,400
Florida State	1,035	1	918,351	20,600	14.958	1,095
George Washington	1,135	0	547,339	23,900	7.173	2,050
Georgetown Univ.	1,213	0	624,256	20,900	14.417	2,350
Georgia Inst. Tech.	1,187	1	483,563	19,000	9.804	1,000
Georgia State	952	0	332,796	18,400	19.730	468
Goucher Coll.	1,169	0	154,777	20,000	8.760	2,000
Grinnell Coll.	1,260	0	196,500	18,700	10.597	2,495
Harvard	1,392	0	8,500,000	27,200	2.722	2,800
Howard Univ.	850	0	664,391	22,200	6.495	700
Illinois State	937	0	487,139	20,200	18.590	755
Indiana	1,010	1	2,150,567	22,900	33.445	1,070
Iowa State	1,175	1	831,034	21,600	13.411	915
Jacksonville Univ.	983	0	151,822	14,600	18.133	1,375
Johns Hopkins	1,291	0	1,985,075	26,900	4.225	2,700
Kalamazoo Coll.	1,190	0	160,000	20,600	9.773	1,380
Kansas State	934	1	600,000	18,300	15.472	655
Knox Coll.	1,167	0	145,840	23,500	13.491	2,606
Lake Forest Coll.	1,160	0	120,200	24,000	11.667	2,795
Lehigh	1,248	0	547,320	21,400	13.709	2,450
Louisiana State	896	1	1,348,290	19,200	20.200	635
Macalester Coll.	1,185	0	193,588	25,400	10.112	2,250
Marquette	1,064	0	550,184	19,300	14.684	1,835
Massachusetts Inst. Tech.	1,398	0	1,313,212	25,900	7.748	2,650
Miami (Ohio)	1,165	0	597,192	20,600	21.099	850
Michigan State	1,140	1	1,500,000	21,300	21.783	990

Mississippi State	941	1	361,544	17,000	14,329	718
Morgan State	719	0	150,000	17,100	16,279	350
Mount Holyoke Coll.	1,255	0	331,900	21,100	8,967	2,450
New York Univ.	1,160	0	1,813,612	24,000	7,323	2,700
North Carolina State	1,085	1	570,993	19,300	11,812	1,800
Northwestern	1,250	1	2,374,913	25,700	11,154	2,700
Ohio State	927	1	2,507,126	21,000	18,718	1,245
Ohio Univ.	1,016	0	460,026	20,700	21,435	1,185
Oklahoma State	920	1	997,000	18,100	17,838	810
Oregon State	1,009	1	643,189	18,200	13,970	907
Pennsylvania State	1,145	1	1,547,742	19,600	18,165	1,200
Princeton	1,319	0	2,726,087	25,500	6,641	2,800
Purdue	1,063	1	1,089,478	23,500	14,719	900
Rensselaer Polytechnic Inst.	1,300	0	207,800	21,100	10,514	2,475
Rice	1,341	1	657,000	22,700	7,842	2,100
Rutgers	1,069	0	1,941,500	25,600	17,321	600
St. Bonaventure	1,066	0	156,181	18,700	18,856	1,600
St. Lawrence	1,185	0	120,600	22,200	16,310	2,675
St. Louis	1,038	0	698,192	18,300	6,394	950
Smith Coll.	1,273	0	793,067	21,700	9,296	2,450
South Carolina	993	1	1,050,000	18,600	21,624	905
South Dakota State	950	0	230,000	14,500	13,339	585
Southern Illinois (Carbondale)	920	0	1,403,535	20,500	18,833	858
Southern Methodist	1,089	1	1,109,692	19,500	10,818	1,800
Stanford	1,320	1	3,447,372	25,000	9,957	2,610
State Univ. New York (Buffalo)	1,163	0	263,103	26,900	19,132	900
State Univ. New York (Stony Brook)	1,194	0	500,000	26,900	17,028	900
Sweet Briar Coll.	1,102	0	146,134	16,900	9,662	2,800
Syracuse	1,157	1	1,548,733	22,400	18,226	2,600
Temple	1,051	0	1,055,893	23,800	10,938	1,420
Texas A&M	1,063	1	711,710	19,700	12,406	660
Texas Christian	1,040	1	638,221	15,600	16,123	1,500
Texas Tech.	935	1	1,242,842	18,900	18,509	660
Trinity Coll. (Hartford)	1,267	0	482,675	19,600	14,471	2,500
Tufts	1,255	0	450,000	22,900	2,581	2,850
Tulane	1,148	1	1,089,915	19,700	5,565	2,100

TABLE A1 (*Continued*)

School	SAT	Sports Dummy	Library	Salary	Student/ Faculty Ratio	Tuition
Univ. Alabama	952	1	1,168,277	17,400	18.920	765
Univ. Arizona	930	1	1,164,834	18,600	20.176	795
Univ. Arkansas	969	1	628,412	17,300	14.079	660
Univ. California (Berkeley)	1,350	1	4,009,595	23,300	14.919	1,000
Univ. California (Los Angeles)	1,140	1	3,042,550	23,300	15.933	1,350
Univ. Chicago	1,308	0	3,072,200	26,600	6.140	2,625
Univ. Cincinnati	1,046	0	1,164,683	22,400	14.962	910
Univ. Colorado	1,103	1	1,300,000	19,600	23.882	1,057
Univ. Connecticut	1,076	0	1,083,694	24,900	15.574	640
Univ. Delaware	1,097	0	912,782	21,200	18.395	762
Univ. Denver	1,056	0	838,728	19,100	13.802	2,400
Univ. Florida	1,155	1	1,112,719	19,000	11.354	1,095
Univ. Georgia	1,043	1	1,158,047	20,300	13.482	675
Univ. Hartford	1,008	0	170,000	19,000	18.567	1,875
Univ. Hawaii	1,011	0	1,125,542	24,400	15.820	549
Univ. Houston	1,011	1	746,752	19,800	31.779	832
Univ. Illinois (Urbana-Champaign)	1,120	1	4,416,330	22,200	14.158	825
Univ. Iowa	1,047	1	1,651,805	22,400	14.571	935
Univ. Kansas	979	1	1,568,807	19,100	10.069	950
Univ. Kentucky	920	1	1,153,774	20,800	12.192	680
Univ. Maryland	1,040	1	1,299,520	21,000	13.630	950
Univ. Miami (Florida)	980	1	995,797	22,200	13.956	2,000
Univ. Michigan	1,203	1	4,256,597	23,800	12.394	650
Univ. Minnesota	995	1	3,112,526	22,300	25.045	1,018
Univ. Mississippi	920	1	456,583	16,100	20.364	806
Univ. Montana	913	0	550,537	18,000	17.658	625
Univ. Nebraska	994	1	1,101,475	19,400	12.128	898
Univ. Nevada (Reno)	889	0	413,075	19,200	17.043	600
Univ. New Hampshire	1,070	0	583,640	20,500	15.645	1,500
Univ. New Mexico	878	0	758,574	18,000	18.987	840

Univ. North Carolina	1,126	1	1,819,669	22,400	10.566	1,300
Univ. Notre Dame	1,193	1	1,042,000	20,300	13.337	2,300
Univ. Oklahoma	955	1	1,335,000	17,900	19.694	755
Univ. Oregon	1,029	1	1,104,320	20,600	12.107	1,413
Univ. Pennsylvania	1,264	0	2,350,000	24,800	5.035	2,450
Univ. Pittsburgh	1,046	1	1,551,109	22,200	10.727	1,960
Univ. Rhode Island	1,048	0	435,000	21,100	14.594	775
Univ. Rochester	1,242	0	1,333,333	25,500	4.694	2,600
Univ. San Francisco	1,048	0	366,400	19,900	16.100	1,530
Univ. South Florida	1,000	0	295,691	18,700	19.376	1,095
Univ. Southern California	1,083	1	1,393,161	21,000	9.430	2,150
Univ. Texas	1,081	1	2,269,700	22,400	27.183	740
Univ. Tulsa	1,011	0	411,524	17,400	23.996	1,000
Univ. Utah	917	0	1,378,479	19,600	16.758	817
Univ. Vermont	1,077	0	538,928	19,500	10.326	1,675
Univ. Virginia	1,213	1	1,697,919	25,000	8.439	745
Univ. Washington	1,109	1	1,878,700	21,000	11.654	1,038
Univ. Wisconsin (Madison)	1,138	1	2,878,615	21,200	14.577	1,832
Univ. Wyoming	927	0	486,000	17,800	14.065	871
Utah State	861	0	419,166	17,200	20.484	693
Vanderbilt	1,223	1	1,256,386	23,100	5.373	2,200
Vassar Coll.	1,278	0	415,426	20,800	8.155	2,500
Villanova	1,083	0	415,235	17,600	18.644	2,050
Virginia Polytechnic Inst.	1,084	1	623,405	19,200	14.202	780
Wake Forest	1,150	1	450,190	18,600	5.918	1,650
Washington and Lee	1,184	0	225,263	20,700	10.242	2,200
Washington State	1,023	1	851,162	19,500	16.176	809
Washington Univ. (St. Louis)	1,232	0	1,421,349	22,400	5.621	2,650
Wayne State Univ.	955	0	1,367,553	22,300	17.444	1,168
Wells Coll.	1,168	0	171,845	17,300	7.707	2,570
West Virginia	934	1	722,091	18,400	13.670	707
Wichita State	890	0	319,281	18,000	20.220	655
Williams Coll.	1,296	0	378,111	21,700	7.221	2,450
Yale	1,385	0	5,829,035	28,500	4.328	2,900

SOURCE.—*American Universities and Colleges* (1971).

TABLE A2

FOOTBALL RECORDS, 1971–84, AND UNIVERSITY DATA, 1981–84

School	Change in SAT Score (1981–84)	Trend in Football (1971–84)	Change in Library (1981–84)	Change in Student/Faculty Ratio (1981–84)	Change in Enrollment (1981–84)
Alabama	−79	−.02264	300,000	−.781986	−1,079
Arizona State	4	−.03084	0	−3.203609	2,176
Auburn	26	.00752	200,000	−.423028	130
Baylor	13	.0212$_0$	118,433	−2.128292	452
California (Berkeley)	−5	−.01978	300,000	−.025678	910
California (Los Angeles)	8	.01299	900,000	−.920580	284
Clemson	7	.04698	298,977	.405970	408
Colorado	−21	−.03543	100,000	−.772881	−112
Colorado State	55	.00401	0	−.360967	−418
Duke	8	−.00742	3$_0$0,000	−.522183	116
Florida	26	.02275	0	−2.044191	−823
Georgia	3	.$_0$1919	200,000	.116969	−148
Georgia Tech.	18	−.10000	600,000	.581224	−431
Illinois	83	.02062	4,400,000	.683499	−485
Indiana	32	.00344	0	.972285	720
Iowa	25	.05596	200,000	4.422518	3,882
Iowa State	10	−.01592	100,000	.723796	1,894
Kentucky	64	.00206	0	−1.212812	−2,234
Louisiana State	−6	−.01100	200,000	1.298267	136
Maryland	34	.02400	100,000	−.284136	229

Michigan	26	−.01948	300,000	−1.154211	−452
Michigan State	12	−.02890	200,000	−.061443	−1,818
Minnesota	−9	−.02435	−200,000	−4.610345	−5,451
Mississippi State	4	.00498	344,563	−.702887	−87
Missouri	0	.01228	0	−4.674407	−1,114
Nebraska	11	.01335	200,000	1.113134	180
New Mexico	19	−.01068	200,000	−.610303	1,373
North Carolina	−20	−.00873	1,000,000	−2.449271	−959
North Carolina State	29	−.03275	0	−.346426	2,325
Northwestern	15	−.02154	300,000	.201567	28
Ohio State	36	−.00645	300,000	−.782364	−170
Oklahoma	6	−.01005	200,000	−2.722107	−1,271
Oklahoma State	7	.01445	0	−.437839	−1,232
Oregon State	−11	−.02570	46,024	−4.836829	−1,804
Purdue	12	−.00090	200,000	−.349355	−1,083
Rice	24	−.03118	100,000	.131133	178
Southern California	−5	−.00548	200,000	. . .	1,317
Southern Methodist	16	.03701	1,149,049	−.594538	−20
Tennessee	21	.00060	−200,000	−.619006	−3,172
Texas A&M	−6	−.00887	200,000	−.569768	771
Texas Christian	70	−.11837	200,000	.223644	250
Utah	−68	.01391	0	−7.026273	892
Virginia	39	.01262	0	−.053832	−85
Wake Forest	20	.00425	103,995	−9.975589	210
Washington	45	.03525	100,000	.024859	−194
Wisconsin	22	.01988	0	.886294	2,011

SOURCE.—*Peterson's Annual Guide to Undergraduate Study* (1982, 1985).

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