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AUTHOR	Blandford, Barbara; Sell, Charles
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ABSTRACT

The Higher Education Panel (HEP) of the American Council on Education conducted the present survey to determine the enrollment figures for junior-year college students in specific fields so that colleges and universities might better plan for future programs in terms of projected enrollments. Over all fields, junior-year enrollment increased 7.6% from the fall of 1970 to the fall of 1971. The largest increase occurred in the major area of applied social sciences (44%) and was greatest in the public 4-year colleges (75%). The health professions were next, increasing by 24% in junior-year enrollment; again, this growth was most evident in the public 4-year colleges (68%). Within the health professions, the major field of medical technology registered the largest increase (52%), with enrollment swelling most in the public universities (67%). Within the life sciences, the largest percentage increase was in the predental subcategory (38%), particularly in the public 4-year colleges. (Author/HS)

Higher Education Panel

Report

American Council on Education

Survey No. 5 April 21, 1972

Enrollment of Junior-Year Students (1970 and 1971)

Barbara Blandford
Charles Sell

This survey of the Higher Education Panel (HEP), carried out in February 1972, concerned the enrollment of junior-year students in specified areas or fields during the fall of 1970 and of 1971. Its aim was to obtain information about trends in choice of major field in advance of the usual data on baccalaureates granted and thus to assist graduate departments in planning for enrollments in specific fields.

The questionnaire was mailed to 418 institutions out of the population of 1,508 four-year institutions. (See Appendix A for a description of the sampling and weighting procedures.) Responses were received from 348 institutions, for a response rate of 85 percent. Each respondent was asked to indicate the junior-year enrollment in certain defined fields during fall 1970 and fall 1971. (See Appendix B for a copy of the questionnaire and Appendix C for a list of major fields and their definitions.) For purposes of this survey, a junior-year student was defined as one who had completed two full-time years (or the equivalent in part-time study) of degree-credit work and who was enrolled for the third year of such work. This definition covers third-year preprofessional students but not

This survey was conducted for the Federal government under a grant sponsored by the National Science Foundation, the National Institutes of Health, and the U.S. Office of Education.

students enrolled solely for first professional degrees. Double or split majors were categorized in the field of greater specialization.

Discussion

The data from this survey are reported in seven tables. These tables show weighted population estimates, and percentage changes between 1970 and 1971 separately for the following categories: all institutions, public institutions, private institutions, public universities, private universities, public four-year colleges, and private four-year colleges. All calculations exclude students who had not declared majors by their junior year.

Over all fields, junior-year enrollment increased 7.6 percent from the fall of 1970 to the fall of 1971. The largest increase occurred in the major area of applied social sciences (44 percent) and was greatest in the public four-year colleges (75 percent). The health professions were next, increasing by 24 percent in junior-year enrollment; again, this growth was most evident in the public four-year colleges (68 percent). Within the health professions, the major field of medical technology registered the largest increase (52 percent), with enrollment swelling most in the public universities (67 percent). Within the life sciences, the largest percentage increase was in the predental subcategory (38 percent), particularly in the public four-year colleges (60 percent).

Between fall 1970 and fall 1971, junior-year enrollments

declined proportionally in the following fields: physics (8.4 percent); engineering (7.3 percent); history (5.7 percent); chemistry (2.2 percent); and the mathematical sciences (.62 percent). These percentage decreases were largest in the public four-year colleges except in the case of physics, where enrollment dropped most drastically (14 percent) in the public universities.

Table 1

Field Enrollment of Junior-Year Students at All Institutions (N = 1,508)

Major Area or Field	Number of Junior-Year Students Enrolled Fall 1970	Fall 1971	Percent Change
Arts and Humanities	217,511	232,030	6.7
English and Journalism	66,098	66,643	0.8
Foreign Languages	19,753	20,891	5.8
History	51,674	48,726	-5.7
Other Arts and Humanities	79,986	95,770	19.7
Business and Commerce	132,605	133,558	0.7
Education	150,927	165,971	10.0
Engineering	66,421	61,575	-7.3
Health Professions	33,463	41,420	23.8
Nursing	13,991	16,689	19.3
Pharmacy	7,295	7,467	2.4
Medical Technology	3,566	5,426	52.2
Other Health Professions	8,610	11,838	37.5
Life Sciences	61,514	71,222	15.8
Premedical	7,189	8,802	22.4
Predental	3,187	4,402	38.1
Preveterinary	927	1,122	21.0
Basic Medical Sciences	1,836	2,372	29.2
Other Life Sciences	48,376	54,524	12.7
Mathematical Sciences	34,800	34,581	-0.6
Physical Sciences	29,628	29,961	1.1
Chemistry	13,949	13,646	-2.2
Physics	7,377	6,759	-8.4
Other Physical Sciences	8,302	9,556	15.1
Basic Social Sciences	156,446	170,388	8.9
Psychology	49,047	56,362	14.9
Other Basic Social Sciences	107,399	114,026	6.2
Applied Social Sciences	16,375	23,552	43.8
Trade and Industrial Training	6,609	7,449	12.7
All Other Fields	95,555	106,631	11.6
Total Field Enrollment	1,001,854	1,078,338	7.6

Table 2

Field Enrollment of Junior-Year Students at
All Public Institutions
(N = 478)

Major Area or Field	Number of Junior-Year Students Enrolled Fall 1970	Fall 1971	Percent Change
Arts and Humanities	125,840	134,490	6.9
English and Journalism	40,010	41,557	3.9
Foreign Languages	11,568	13,302	15.0
History	29,688	28,710	-3.2
Other Arts and Humanities	44,574	50,921	14.2
Business and Commerce	91,787	91,849	0.1
Education	115,586	120,363	4.1
Engineering	50,098	47,280	-5.6
Health Professions	18,320	24,760	35.2
Nursing	7,365	9,022	22.5
Pharmacy	3,594	3,966	10.4
Medical Technology	2,442	4,020	64.6
Other Health Professions	4,918	7,752	57.6
Life Sciences	43,132	50,110	16.2
Premedical	4,931	6,104	23.8
Predental	2,784	3,979	42.9
Preveterinary	879	1,038	18.1
Basic Medical Sciences	1,513	1,820	20.3
Other Life Sciences	33,025	37,169	12,5
Mathematical Sciences	23,252	23,945	3.0
Physical Sciences	17,996	18,598	3.3
Chemistry	7,744	7,816	0.9
Physics	4,899	4,221	-13.8
Other Physical Sciences	5,353	6,561	22.6
Basic Social Sciences	97,523	108,250	11.0
Psychology	30,453	36,625	20.3
Other Basic Social Sciences	67,070	71,625	6.8
Applied Social Sciences	11,093	16,215	46.2
Trade and Industrial Training	5,781	6,565	13.6
All Other Fields	73,905	82,580	11.7
Total Field Enrollment	674,313	725,005	7.5

Table 3

Field Enrollment of Junior-Year Students at
All Private Institutions
(N = 1,030)

Major Area or Field	Number of Junior-Year Students Enrolled		Percent Change
	Fall 1970	Fall 1971	
Arts and Humanities	91,671	97,540	6.4
English and Journalism	26,088	25,086	-3.8
Foreign Languages	8,185	7,589	-7.3
History	21,986	20,016	-9.0
Other Arts and Humanities	35,412	44,849	26.6
Business and Commerce	40,818	41,709	2.2
Education	35,341	45,608	29.1
Engineering	16,323	14,295	-12.4
Health Professions	15,143	16,660	10.0
Nursing	6,626	7,667	15.7
Pharmacy	3,701	3,501	-5.4
Medical Technology	1,124	1,406	25.1
Other Health Professions	3,692	4,086	10.7
Life Sciences	18,382	21,112	14.9
Premedical	2,258	2,698	19.5
Predental	403	423	5.0
Preveterinary	48	84	75.0
Basic Medical Sciences	323	552	70.9
Other Life Sciences	15,351	17,355	13.1
Mathematical Sciences	11,548	10,636	-7.9
Physical Sciences	11,632	11,363	-2.3
Chemistry	6,205	5,830	-6.0
Physics	2,478	2,538	2.4
Other Physical Sciences	2,949	2,995	1.6
Basic Social Sciences	58,923	62,138	5.5
Psychology	18,594	19,737	6.1
Other Basic Social Sciences	40,329	42,401	5.1
Applied Social Sciences	5,282	7,337	38.9
Trade and Industrial Training	828	884	6.8
All Other Fields	21,650	24,051	11.1
Total Field Enrollment	327,541	353,333	7.9

Table 4

Field Enrollment of Junior-Year Students at
All Public Universities
(N = 119)

Major Area or Field	Number of Junior-Year Students Enrolled Fall 1970	Fall 1971	Percent Change
Arts and Humanities	78,055	79,463	1.8
English and Journalism	23,790	23,868	0.3
Foreign Languages	8,013	8,377	4.5
History	15,204	14,777	-2.8
Other Arts and Humanities	31,048	32,441	4.5
Business and Commerce	52,385	52,742	0.7
Education	53,497	54,787	2.4
Engineering	30,012	29,181	-2.8
Health Professions	12,402	14,830	19.6
Nursing	4,726	5,323	12.6
Pharmacy	3,546	3,929	10.8
Medical Technology	1,530	2,560	67.3
Other Health Professions	2,600	3,018	16.1
Life Sciences	28,893	33,949	17.5
Premedical	4,298	5,216	21.4
Predental	2,629	3,731	42.7
Preveterinary	733	882	20.3
Basic Medical Sciences	1,217	1,375	13.0
Other Life Sciences	20,016	22,745	13.6
Mathematical Sciences	11,837	11,917	0.7
Physical Sciences	10,228	10,598	3.6
Chemistry	4,545	4,633	1.9
Physics	2,583	2,216	-14.2
Other Physical Sciences	3,100	3,749	20.9
Basic Social Sciences	61,252	66,049	7.8
Psychology	19,727	21,672	9.8
Other Basic Social Sciences	41,525	44,377	6.9
Applied Social Sciences	5,512	6,442	16.9
Trade and Industrial Training	2,963	3,228	8.9
All Other Fields	51,509	57,663	11.9
Total Field Enrollment	398,545	420,849	5.6

Table 5

Field Enrollment of Junior-Year Students at
All Private Universities
(N = 67)

Major Area or Field	Number of Junior-Year Students Enrolled Fall 1970	Fall 1971	Percent Change
Arts and Humanities	29,833	29,201	-2.1
English and Journalism	9,733	8,984	-7.7
Foreign Languages	2,687	2,415	-10.1
History	7,385	6,719	-9.0
Other Arts and Humanities	10,028	11,083	10.5
Business and Commerce	15,851	16,457	3.8
Education	5,883	16,757	184.8
Engineering	7,363	6,962	-5.4
Health Professions	4,059	4,894	20.6
Nursing	2,877	3,353	16.5
Pharmacy	345	386	11.9
Medical Technology	335	422	26.0
Other Health Professions	502	733	46.0
Life Sciences	6,110	7,068	15.7
Premedical	880	873	-0.8
Predental	185	166	-10.3
Preveterinary	13	27	107.7
Basic Medical Sciences	212	234	10.4
Other Life Sciences	4,820	5,768	19.7
Mathematical Sciences	3,318	3,236	-2.5
Physical Sciences	3,919	3,766	-3.9
Chemistry	2,037	2,040	0.1
Physics	1,097	924	-15.8
Other Physical Sciences	785	802	2.2
Basic Social Sciences	22,952	22,939	-0.1
Psychology	6,927	7,464	7.8
Other Basic Social Sciences	16,025	15,475	-3.4
Applied Social Sciences	1,659	3,020	82.0
Trade and Industrial Training	824	884	7.3
All Other Fields	6,481	8,499	31.1
Total Field Enrollment	108,252	123,683	14.2

Table 6

Field Enrollment of Junior-Year Students at
All Public Four-Year Colleges
(N = 359)

Major Area or Field	Number of Junior-Year Students Enrolled Fall 1970	Fall 1971	Percent Change
Arts and Humanities	47,785	55,027	15.2
English and Journalism	16,220	17,689	9.0
Foreign Languages	3,555	4,925	38.5
History	14,484	13,933	-3.8
Other Arts and Humanities	13,526	18,480	36.6
Business and Commerce	39,402	39,107	-0.7
Education	62,089	65,576	5.6
Engineering	20,086	18,099	-9.9
Health Professions	5,918	9,930	67.8
Nursing	2,639	3,699	40.2
Pharmacy	48	37	-22.9
Medical Technology	912	1,460	60.1
Other Health Professions	2,318	4,734	104.2
Life Sciences	14,239	16,161	13.5
Premedical	633	888	40.3
Predental	155	248	60.0
Preveterinary	146	156	6.8
Basic Medical Sciences	296	445	50.3
Other Life Sciences	13,009	14,424	10.9
Mathematical Sciences	11,415	12,028	5.4
Physical Sciences	7,768	8,000	3.0
Chemistry	3,199	3,183	-0.5
Physics	2,316	2,005	-13.4
Other Physical Sciences	2,253	2,812	24.8
Basic Social Sciences	36,271	42,201	16.3
Psychology	10,726	14,953	39.4
Other Basic Social Sciences	25,545	27,248	6.7
Applied Social Sciences	5,581	9,773	75.1
Trade and Industrial Training	2,818	3,337	18.4
All Other Fields	22,396	24,917	11.2
Total Field Enrollment	275,768	304,156	10.3

Table 7

Field Enrollment of Junior-Year Students at
All Private Four-Year Colleges
(N = 963)

Major Area or Field	Number of Junior-Year Students Enrolled Fall 1970	Fall 1971	Percent Change
Arts and Humanities	61,838	68,339	10.5
English and Journalism	16,355	16,102	-1.5
Foreign Languages	5,498	5,174	-5.9
History	14,601	13,297	-8.9
Other Arts and Humanities	25,384	33,766	33.0
Business and Commerce	24,967	25,252	1.1
Education	29,458	28,851	-2.1
Engineering	8,960	7,333	-18.2
Health Professions	11,084	11,766	6.2
Nursing	3,749	4,314	15.1
Pharmacy	3,356	3,115	-7.2
Medical Technology	789	984	24.7
Other Health Professions	3,190	3,353	5.1
Life Sciences	12,272	14,044	14.4
Premedical	1,378	1,825	32.4
Predental	218	257	17.9
Preveterinary	34	57	67.6
Basic Medical Sciences	111	318	186.5
Other Life Sciences	10,531	11,587	10.0
Mathematical Sciences	8,230	7,400	-10.1
Physical Sciences	7,713	7,597	-1.5
Chemistry	4,168	3,790	-9.1
Physics	1,381	1,614	16.9
Other Physical Sciences	2,164	2,193	1.3
Basic Social Sciences	35,971	39,199	9.0
Psychology	11,667	12,273	5.2
Other Basic Social Sciences	24,304	26,926	10.8
Applied Social Sciences	3,623	4,317	19.2
Trade and Industrial Training	4	0	----
All Other Fields	15,169	15,552	2.5
Total Field Enrollment	219,289	229,650	4.7

Appendix A

Sampling and Weighting Procedures

The eligible population for this survey consisted of 1,508 institutions (1,237 predominantly white four-year colleges, 85 predominantly black four-year colleges, and the undergraduate divisions of 186 universities). Data on junior-year enrollments were solicited by mail from a sample of 418 of these institutions (27.7 percent of the population). Returns were received from 348 (85 percent) of this sample. Of these, one institution was unable to provide data for 1971 and thirty-four were unable to provide data for 1970. Consequently, data for 1970 junior-year enrollments are based on returns from 314 institutions, and data for 1971 junior-year enrollments are based on returns from 347. Because of this differential response rate for the two years, data were weighted separately for each year to provide estimates of population enrollments and to increase the comparability of the data.

The population of institutions was stratified into 26 cells, as indicated in Table A1, which also shows the number of population and of sample institutions in each cell. Since no junior-year enrollment counts were available for the population of institutions, three alternative bases for weighting were considered. The first, and probably the best, was total undergraduate enrollment figures; the second was recent baccalaureate counts. The third was opening fall enrollments for 1970, as reported by HEGIS-V. Use of either of the first two bases would have required special computer programming,

delaying a report of the results of this survey. Therefore, the third alternative was chosen. This decision assumes that the average attrition rate from freshman to junior year is the same for the sample institutions as it is for the population within a given cell. The weights in each cell were computed as the ratio of cumulated enrollments for the population institutions to the enrollments for the sample institutions in that cell. Due to the different institutional Ns for the two years, each cell has two weights, shown in Table A1.

Table A1

Sample and Weights Used in Computing National Enrollment Figures

Stratification Design For Sampling		Number of Institutions in: Population	1970 Sample	1971 Sample	Cell Weights 1970	1971
Public universities						
	Selectivity:					
1	Less than 550	72	10	10	7.26	7.26
2	550-599	31	10	11	2.58	2.50
3	600 or more	16	10	10	1.54	1.54
Private universities						
	Selectivity:					
4	Less than 550	18	5	8	2.22	2.07
5	550-599	14	5	7	3.53	2.05
6	600 or more	35	15	15	2.68	2.68
Four-year public colleges						
	Selectivity:					
7	Less than 450	97	10	10	8.28	8.28
8	450-499	66	8	9	9.57	8.24
9	500 or more	73	16	19	4.87	3.68
10	Unknown	87	5	9	11.57	5.44
Four-year private nonsectarian colleges						
	Selectivity:					
11	Less than 500	75	17	17	5.44	5.44
12	500-574	38	7	8	4.29	3.98
13	575-649	50	27	28	1.73	1.69
14	650 or more	45	31	34	1.53	1.38
15	Unknown	156	4	5	21.54	19.25
Four-year Catholic colleges						
	Selectivity:					
16	Less than 500	62	19	19	2.65	2.65
17	500-574	72	14	15	5.82	4.85
18	575 or more	39	10	12	2.81	2.53
19	Unknown	45	5	5	3.41	3.41
Four-year other sectarian colleges						
	Selectivity:					
20	Less than 450	56	6	6	6.80	6.80
21	450-499	54	9	11	6.41	5.25
22	500-574	73	22	25	3.54	3.14
23	575 or more	54	29	32	2.02	1.79
24	Unknown	95	6	7	23.44	16.35
Predominantly black colleges						
25	Public four-year	36	6	7	10.13	6.43
26	Private four-year	49	8	8	6.96	6.96

Appendix B

Survey Questionnaire

Higher Education Panel
Survey No. 5
Field Enrollment of Junior-Year Students

Major Area or Field	Number of Junior-Year Students Enrolled	
	Fall 1970	Fall 1971
Arts and Humanities		
English and Journalism		
Foreign Languages		
History		
Other Arts and Humanities		
Business and Commerce		
Education		
Engineering		
Health Professions		
Nursing		
Pharmacy		
Medical Technology		
Other Health Professions		
Life Sciences		
Premedical		
Predental		
Preveterinary		
Basic Medical Sciences		
Other Life Sciences		
Mathematical Sciences		
Physical Sciences		
Chemistry		
Physics		
Other Physical Sciences		
Basic Social Sciences		
Psychology		
Other Basic Social Sciences		
Applied Social Sciences		
Trade and Industrial Training		
All other fields		
TOTALS		

Appendix C

Definitions of Major Areas or Fields

Other Arts and Humanities: Includes Architecture, Fine and Applied Arts, Philosophy, Religion, etc.

Education: Includes specialized teaching fields such as Education of the Handicapped and Art Education, general teaching fields such as Elementary Education, and other education fields such as Rehabilitation Counselor Training, etc. Do not include students who are preparing to teach academic subjects such as English, Biology, Mathematics, etc. They should be reported in their academic area of specialization.

Health Professions: Includes Medical Technology, Nursing, Pharmacy, etc. Do not include students enrolled solely for first professional degrees. Pre-medical, Predental, and Preveterinary students should be reported in the separate items under Life Sciences.

Basic Medical Sciences: Includes Anatomy, Biochemistry, Biophysics, Microbiology, and Physiology.

Other Life Sciences: Includes Agriculture, Forestry, Biology, Botany, Ecology, Embryology, Entomology, Genetics, Nutrition, Plant Physiology, Plant Pathology, Zoology, etc.

Mathematical Sciences: Includes Mathematics, Statistics, Computer Sciences, Data Processing, Systems Analysis, and all related fields.

Physical Sciences: Includes Astronomy, Chemistry, Metallurgy, Meteorology, Pharmaceutical Chemistry, Physics, Geology, Geophysics, Oceanography, and other Physical Sciences.

Other Basic Social Sciences: Includes Anthropology, Economics, Geography, International Relations, Political Science, Government, Sociology, and General Social Sciences. History students should be reported separately under Arts and Humanities.

Applied Social Sciences: Includes Agricultural Economics, Industrial Relations, Public Administration, Social Work, and other applied fields.

Trade and Industrial Training: Includes four-year programs in such fields as Light Building Construction, Heating and Ventilation, Airplane Mechanics, Automotive Maintenance, etc. Do not include training programs for teachers in such fields.

All other fields: Includes all fields other than those separately indicated: e.g., City Planning, Folklore, Home Economics, Prelaw, Library Science, Military Science.