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ABSTRACT

A study followed freshman students entering Indiana University in 1971, 1973, and 1974 to establish the rate and variables related to dropping out of the university. Students were labeled academic drops if they were achieving below a 2.0 grade point average (GPA) at the time of withdrawal, and nonacademic drops if not below 2.0. Students entering in fall were much more persistent than spring entrants. Males were slightly more persistent than females. The largest number of dropouts was in the nonacademic category, and this group increased in percentage each year. Females, out-of-state students, non-urban residents, and student with non-alumni parents were most likely to be among the dropouts. Persisters and nonacademic dropouts were at similar levels on academic talent indicators (SAT and high school rank), but academic dropouts tended to be lower on these indicators than did persisters or nonacademic dropouts. Students in the physical sciences were more likely to drop out than students in other majors; humanities students were a close second in dropout rate. Academic dropouts appeared to be working below their potential, in that their GPAs were somewhat below GPAs predicted from SAT and high school ranks. Persisters and nonacademic dropouts achieved very near their predicted level. A question arises from these findings: Why do so many students who are not in academic trouble leave the university? (Author/MSE)

Persistence and Conditions Related to It: A Persistent Question

INDIANA STUDIES IN PREDICTION

NUMBER THIRTY-TWO

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PERSISTENCE AND CONDITIONS RELATED TO IT:

A PERSISTENT QUESTION

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ABSTRACT

This study followed entering freshmen students to establish rate of dropout, and variables related to dropping out of the University. Dropouts were labeled academic drops if the student was achieving below 2.0 at the time of withdrawal, nonacademic drops if not below 2.0. Fall entering students were much more persistent than spring entrants. Males were slightly more persistent than females. The largest number of dropouts was in the nonacademic category, and this group increased in percentage each year. Females, out-of-state students, non-urban residents, and students with non-alumni parents were most likely to be among the dropouts. Persisters and nonacademic dropouts had similar levels on academic talent indicators (SAT and high school rank), but academic dropouts tended to be lower on these indicators than did persisters or nonacademic dropouts. Students in the physical sciences were more likely to drop out than students in other majors; humanities students were a close second in dropout rate. Academic dropouts appeared to be working below their potential in that their GPAs were somewhat below GPAs predicted from SAT and high school ranks. Persisters and nonacademic dropouts achieved very near their predicted level. The question arises from these findings: Why do so many students who are not in academic trouble leave the University?

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A PERSISTENT QUESTION.

Introduction

Each year a number of students launch a program of study at Indiana University. Most of these students believe this program will end in a college degree. However, many will never realize that prize. The students who drop out represent a loss to a society in undeveloped resources, a loss individually in unfulfilled hopes, and a loss to the University in student and financial resources. The purpose of this study was to explore the problem of dropouts in an effort to uncover information which could be employed in reducing the numbers of students who leave the University prematurely.

The main purpose of the study was to provide an overview of the persistence rate of students at Indiana University. However, a number of ancillary questions also emerged.

1. What is the effect on dropout rate of residence--non-residence status of students? A number of factors indicate that pressures to leave the University are greater for out-of-state students than for Indiana residents. For example, financial pressures are often cited (Cope and Hannah 1975) as the reason for dropping out of college programs. The extra tuition extracted from out-of-state students should increase the likelihood that non-residents would not persist at the University. Other factors, such as the distance from home and familiar scenes, may also encourage non-resident students to drop out.

2. Do students whose parents are alumni of Indiana University drop out less frequently than students whose parents

are not alumni? Slocum (1956) has reported that parent interest in the student's program was related to staying in school. Parents who are alumni will probably show more interest in a student's program if for no other reason than the fact that programs and other circumstances are familiar to the alumnus. It therefore seems reasonable to hypothesize that students who have one or both parents who are I.U. graduates (here called PARGRADs) will persist at higher rates than students whose parents are not I.U. alumni (NONPARGRADs).

3. Do non-urban students drop out of the University at a more or less rapid rate than students from urban areas? Large universities require a level of coping skills that are more likely to be acquired in urban areas than in rural areas. A certain level of bureaucracy operates in complex university organizations, housing and transportation problems can be complex, large crowds must be negotiated in all sectors of University life. Managing this type of environment is more consistent with past experiences of students from urban areas than with students from non-urban areas. It therefore seems reasonable to hypothesize that urban students would be more persistent than non-urban students. This hypothesis appears to be supported by the work of Gurin, Newcomb and Cope (1968) who found that rural students had shorter than average tenure in college.

4. Are there differences in the talent indicators between dropouts and persisters? The College Board's Scholastic Aptitude test (SAT) and the student's relative rank in his high school class were used as talent indicators.

5. Do students who drop out show a greater tendency to be under-achievers than students who do not drop out? Cope and Hannah (1975) indicated that under-achievement was an important reason for dropping out. However, under-achievement was often defined as the student failing to achieve up to his expectations. This study will look at under-achievement in terms of failing to achieve at least up to the level of that predicted by entrance test scores and high school rank in class. Comparisons between predicted and actual achievement will be made for academic dropouts (AD), non-academic dropouts (NAD) and persisters (PER).

6. Lastly, are there differences among broad academic areas as to the rate of dropping out? Presumably, the various areas of academic work attract students with different academic talent, who are also different on a set of nonacademic (but persistence related) characteristics. If this is true, there may be a greater dropout rate among some disciplines than among others.

Method

Data for the study were collected on entering freshmen beginning their work in the academic years 1971, 1973, 1974. Almost 14,000 students had usable data on file. Students who began their work in the fall semester were referred to as the fall cohort; those who began in the spring semester were referred to as the spring cohort. The objective was to identify academic dropouts (AD), nonacademic dropouts (NAD), and persisters (PER) at various points in the academic spiral.

Since more semesters had passed for the 1971 class than for other classes, the data became increasingly weighted with '71 students as more semesters were analyzed, i.e., only the '71 class had been at the University eight semesters, so only their data could appear at the eighth semester point.

Comparisons of ADs, NADs, and PERs were made after one semester, two semesters, four semesters, eight semesters, and ten semesters.

At each of the above points in the academic ladder several types of data were collected. These data were designed to answer the following questions. At each of the above semester points:

1. What were the percentages of persisters, academic dropouts and nonacademic dropouts?
2. What was the status of academic talent indicators (high school rank and SAT scores) for persisters (PERs), for academic dropouts (ADs) and for non-academic dropouts (NADs)?
3. Was there a relationship between persistence and the other variables noted; namely, urban-nonurban background, parent alumni status, in-state--out-of-state residence?

In reference to the above questions data were initially compiled for first-year students to indicate what percentage persisted (PER) into the second semester, what percentage were academic dropouts (AD), what percentage dropped out but were in satisfactory academic status at the time of doing so (NAD). Then similar data were developed for students at the end of the second semester, the fourth and sixth semesters.

A second set of data was compiled to show College Board scores (SAT) for PERs, ADs, NADs after the first semester, the second, fourth, and sixth semesters. The intent here was to illustrate any differences among PER, AD and NAD groups in academic talent indicators as well as to show changes in these indicators across semesters for each of these groups.

Another approach to the data was to identify a single year's entering students and follow them through six semesters to see what percentage of the original enrollees cumulatively fell into the AD, NAD, and PERS groups at selected semester ends. These data would show the rate of decline in enrollment from year to year, whereas the previous data showed comparative status among AD, NAD, and PERs groups at any given point on the academic ladder.

Two additional steps were taken; first, differences between predicted grade achievement (based on SAT and high school rank) and actually obtained grade point averages were calculated separately for PERs, ADs, and NADs. The purpose here was to show to what extent students in the various categories were actually achieving at the level which their academic talent indicators said that they would. The second analysis looked at PERs, NADs, ADs across broad discipline areas to see if differences existed among disciplines in their holding power for students.

Results

The students who entered in the fall of 1971, fall 1973, and fall 1974 were compared initially on their overall

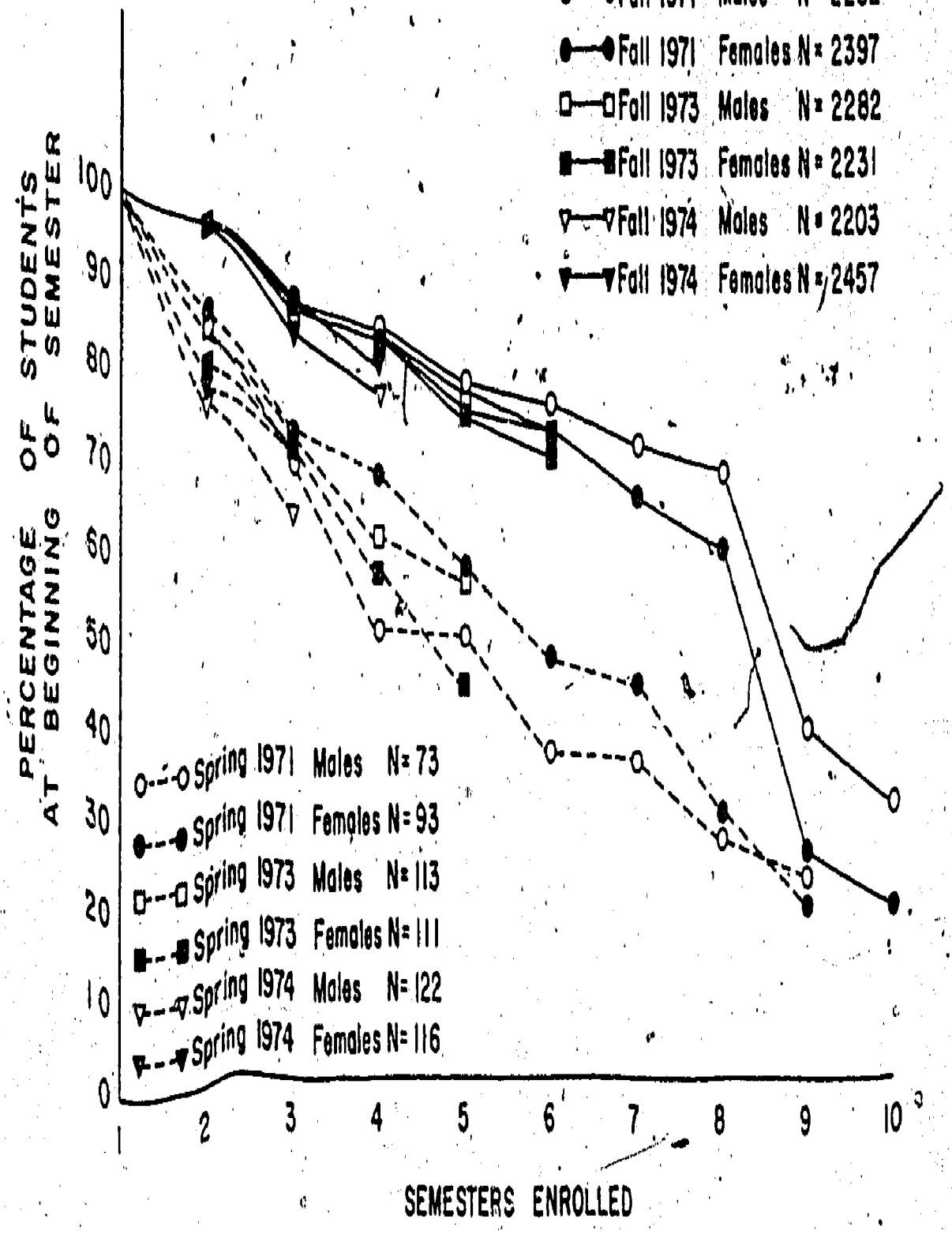

Figure 1. Attrition of males and females who entered in Fall 1971, Fall 1973, Fall 1974, Spring 1971, Spring 1973, and Spring 1974.

attrition rates. These data are provided in Figure 1. The data for students whose initial entrance was in the spring semester are also recorded in Figure 1. The principal differences appear to be between the fall and spring groups. The rate of attrition was much greater for the spring cohorts. For example, approximately 80 per cent of the students who entered in the fall were still here after four semesters; however, only about sixty per cent of the spring cohort persisted that long.

Also, there was a trend for males to be slightly more persistent among fall cohorts (especially after the third semester), but the spring cohorts showed a mixed trend. For the 1971 and 1974 entrants females were more persistent in the spring cohort, but for the 1973 entrants the males tended to be more persistent. During the first two semesters essentially no differences in dropout rate appeared between the sexes.

After eight semesters students making normal progress will have graduated. The data in Figure 1 show progress through ten semesters, but for one year's (1971) students only. As expected, a large drop occurred at the normal graduation point, but some thirty-five per cent of the original enrollees were present in the ninth semester. Some of these were taking up advanced programs, but others were completing undergraduate requirements.

The significant fact in Figure 1 is that sixty per cent of the students who began their work in the fall semester continued on to complete a full eight semesters. It should

be noted, however, that the students on whom this figure was based had complete data on file. If all students who began a program were followed, regardless of completeness of entrance data, this sixty per cent figure could change, but probably not greatly in that the number of students with incomplete data was not large.

Tables 1, 2 and 3 are the primary sources of data for the paragraphs ahead. These tables show data collected at four points on the academic ladder - after the first semester, the second semester, the fourth, and sixth semesters. The data reported at these points are based on students who were present at t... designated times. They are not cumulative data but are "snapshots" of those students who were enrolled at given semesters.

Table 1 indicates the percentages of students who fell into three retention categories (academic dropouts, nonacademic dropouts and persisters) for each point designated on the academic ladder. For example, for the 13,800 students who began the first semester (combining 1971, '73, '74 groups), 3.7 per cent became academic dropouts, 1.7 left school even though their grades were satisfactory, and 94.7 per cent stayed on to begin the next semester. However, since data were collected before the spring '75 semester was complete, the second semester's data combined students from 1971 and 1973 only.

Of the 8,664 students ('73 and '71 groups) who began the spring semester 4.2 dropped out with less than satisfactory grades (academic dropouts or ADs), 6.3 per cent dropped out with satisfactory grades (NADs) and 89.5 per cent persisted

(PERs) on to the next fall term. Moving across the top row of Table 1, one sees that the percentage of academic dropouts (ADs) that occurred in any one semester was fairly constant, ranging from 2.4 to 4.2 per cent. However, the percentage of nonacademic dropouts steadily increased from 1.7 the first semester to 9.2 the fourth semester. This says that as semesters pass Indiana University loses successful students at an increasingly rapid rate. While only about two in a hundred students become academic dropouts the first semester, almost one in ten students leave at the fourth semester regardless of the fact that they are doing adequate academic work.

What variables were associated with this comparatively heavy drop out rate among students whose grades were satisfactory? The data in Table 1 point, not so much to academic talent variables, but to home and family circumstances. For example, in the fourth semester -- where nonacademic drops are most conspicuous -- females, out-of-state students, non-urban residents, and students with non-alumni parents all were more likely to drop out, even though their grades were satisfactory. On the other hand, academic talent variables (high school rank and SAT) appeared to be associated with academic dropouts, but not with nonacademic dropouts, or persisters. About as many NADs were in the upper third of the SAT ranking as were in the lower third.

Table 1 bears out the data in Figure 1 in that spring cohorts drop out more rapidly than fall cohorts. Again, the larger dropout group is the NADs. Almost one in five spring entering students who got to the third semester dropped out at

Table 1

Percentage of Academic Dropouts, Nonacademic

	Fall Cohorts						
	First Semester[a]				Second Semester[b]		
	N (71,73,74)	Percentage who were: Academic Dropouts	Nonacademic Dropouts	Persisters	N (71,73)	Percentage who were: Academic Dropouts	Nonacademic Dropouts
All Students	13800	3.7	1.7	94.7	8664	4.2	6.3
Males	6715	4.3	1.1	94.6	4282	5.1	4.9
Females	7085	3.0	2.2	94.8	4382	3.5	7.7
Resident	11222	4.1	1.4	94.5	7043	4.8	5.5
Nonresident	2577	1.6	2.8	95.7	1620	1.9	10.0
Nonurban	6324	5.1	1.7	93.3	3880	5.6	6.2
Urban	4892	3.0	1.0	96.0	3152	3.9	4.8
Parent Alum	2510	2.9	1.4	95.7	1626	3.4	4.2
No Parent Alum	11206	3.8	1.7	94.5	6966	4.4	6.8
Low 1/3 SAT	4305	5.5	1.7	92.8	2534	7.6	6.4
High 1/3 SAT	4653	1.6	1.3	97.1	3168	1.8	6.3
Low 1/3 Rank	3986	6.4	1.7	91.9			
High 1/3 Rank	4089	1.3	1.5	97.2			

	Spring Cohorts		
		First Semester[d]	
All Students	388	10.6	6.7
Males	184	11.4	4.9
Females	204	9.8	8.3
Resident	333	11.7	5.7
Nonresident	55	3.6	10.9
Urban*	95	6.3	5.3
Nonurban	240	13.8	6.3
Parent Alum	66	7.6	1.5
No Parent Alum	321	11.2	7.8
Low 1/3 SAT	127	13.4	6.3
High 1/3 SAT	81	4.9	3.7
Low 1/3 Rank	163	12.9	8.6
High 1/3 Rank	61	6.6	3.3

a Based on 1971, 1973, and 1974 Fall cohorts
b Based on 1971 and 1973 Fall cohorts
c Based on 1971 Fall cohorts
d Based on 1971 and 1973 Spring cohorts
e Based on 1971 Spring cohorts

*Based on Indiana Residents

)ropouts, and Persisters by Semester

	Fourth Semester[c]				Sixth Semester[c]			
ersisters	N	Percentage who were: Academic Dropouts	Nonacademic Dropouts	Persisters	N	Percentage who were: Academic Dropouts	Nonacademic Dropouts	Persisters
89.5	3947	3.4	9.2	87.4	3450	2.4	8.6	89.1
90.2	1923	4.2	7.4	88.4	1700	3.1	5.9	91.0
88.7	2024	2.6	10.9	86.5	1750	1.7	11.1	87.2
89.8	3212	4.0	8.3	87.8	2820	2.7	7.5	89.8
88.1	735	1.0	13.3	85.7	630	.8	13.2	86.0
88.2	1437	3.6	7.1	89.3	1283	2.7	8.0	89.4
91.5	1769	4.3	9.2	86.5	1522	2.8	7.3	89.9
92.3	802	2.6	5.9	91.5	734	2.7	6.8	90.5
88.8	3082	3.6	10.1	86.3	2659	2.2	9.0	88.8
86.0	1049	6.3	9.2	84.6	887	4.3	7.6	88.2
91.9	1585	1.3	6.2	89.5	1419	1.4	9.0	89.6
	1032	6.1	9.4	84.5	872	4.9	7.7	87.4
	1356	1.0	7.8	91.2	1236	.6	9.1	90.3
			Third Semester[e]				Fifth Semester[e]	
82.7	140	15.0	18.6	66.4	93	7.5	18.3	74.2
83.7	61	21.3	19.7	59.0	36	11.1	16.7	72.2
81.9	79	10.1	17.7	72.2	57	5.3	19.3	75.4
82.5	119	15.8	17.6	65.5	78	6.4	19.2	74.4
85.5	21	4.8	23.8	71.4	15	13.3	13.3	73.3
88.4	36	11.1	13.9	75.0	27	11.1	25.9	63.0
80.0	84	19.0	19.0	61.9	52	3.8	15.4	80.8
90.9	35	8.6	8.6	82.9	29	6.9	24.1	69.0
81.0	104	17.3	21.2	61.5	64	7.8	15.6	76.6
80.3	38	23.7	13.2	63.2	24	16.7	8.3	75.0
81.4	39	5.1	23.1	71.8	28	7.1	25.0	67.9
78.5	55	25.5	10.9	63.6	35	11.4	14.3	74.3
10.2	34	0	23.5	76.5	26	0	19.2	80.8

that point. A similar proportion dropped out in the fifth semester.

The variables associated with NADs in the spring entering cohorts are quite different from fall entering cohorts. Although some of the family history of spring entrants looks like that of fall entrants, some does not - especially in the fifth semester. Also, academic talent factors are quite clearly, and directly, related to spring cohort drops among NADs.

Since the spring cohorts are relatively few in number, generalizations based on fall cohorts are seen as most reliable. One such generalization is that the proportion of students who drop out without academic difficulty (NADs) increases with successive semesters, and that females, out-of-state students, students whose parents were not alumni, and who lived in urban areas are the most likely to be in the NAD group.

Table 2 looks at College Board (SAT) total scores (Verbal plus Mathematics) in relation to persistence. Essentially one conclusion arises from these data. Persisters and nonacademic dropouts look very much alike; academic dropouts tend to be slightly lower in SAT scores than either PERs or NADs. Nonresidents have higher admissions requirements and consequently will have higher SAT scores. Other differences are small and appear to be within the expected range of two standard errors of measurement (about 170 points).

Table 3 shows relative rank in the high school class for ADs, NADs and PERs. Relative rank is found by dividing the student's position in his graduating class by the number in

the class, then multiplying by 100. This procedure is used to equate position in small classes with position in large classes. For example, a student who ranked tenth out of a class of 50 is not the same kind of student who ranked tenth out of 500. Some adjustment needs to be made in raw rank to illustrate the student's status relative to his classmates. This adjustment is found in the student's relative rank.

Table 3 leads to conclusions similar to Table 2. The relative ranks of the academic dropouts tend to be lower than either the NADs or PERs. No other major distinctions among groups, e.g., parent alumni--non-alumni, were apparent in Table 3.

Table 4 presents the record of a single class (1971) over six semesters, with categorical data accumulated across semesters. Therefore, in the total group the ten per cent academic dropouts after the fourth semester included all dropouts of previous semesters.

Table 4 supports the following generalizations. Males are more frequently represented among academic dropouts, while females are more often found in the NAD group. For example, by the end of six semesters slightly less than a fifth of the males, and a tenth of the females had become academic dropouts. Residents are more likely to be academic dropouts than non-residents are. This is probably because non-residents have more stringent admissions requirements.

On the other hand, non-residents are more likely to be NADs. In fact, a third of the non-residents fell into the NAD group by the end of the sixth semester.

Table 2

Mean of SAT Sums for Academic Dropouts, Nonacader

	Fall Cohor						
	First Semester[a]				Second Semester[b]		
	N (71,73,74)	Mean of SAT Sums for: Academic Dropouts	Nonacademic Dropouts	Persisters	N (71,73)	Mean of SAT Sums fo Academic Dropouts	Nonacademic Dropouts
All Students	13290	904	983	1003	8411	902	1007
Males	6441	918	1016	1024	4135	920	1046
Females	6849	885	968	982	4276	878	983
Resident	10999	897	956	985	6936	897	974
Nonresident	2298	1004	1057	1087	1474	976	1093
Nonurban*	8157	893	854	985	3810	907	982
Urban	4820	907	954	985	3112	877	960
Parent Alum	2435	892	1001	1009	1586	870	1016
No Parent Alum	10780	908	980	1001	6760	908	1007
Low 1/3 SAT	4305	773	817	805	2434	788	801
High 1/3 SAT	4653	1172	1173	1188	3168	1150	1188
Low 1/3 Rank	3793	851	892	895	2270	856	906
High 1/3 Rank	3999	1043	1066	1108	2556	1057	1109

	Spring Cohor		
	First Semester[d]		
All Students	296	891	901
Males	141	903	903
Females	155	875	900
Resident	263	882	877
Nonresident	233	1130	979
Urban*	83	768	854
Nonurban	183	902	891
Parent Alum	54	1012	720
No Parent Alum	241	876	913
Low 1/3 SAT	127	803	738
High 1/3 SAT	81	1144	1180
Low 1/3 Rank	132	883	903
High 1/3 Rank	53	917	1115

[a] Based on 1971, 1973 & 1974 Fall cohorts
[b] Based on 1971 and 1973 fall cohorts
[c] Based on 1971 Fall cohorts
[d] Based on 1971 & 1973 Spring cohorts
[e] Based on 1971 Spring cohorts

*Based on Indiana Residents

	Fourth Semester[c]				Sixth Semester[c]			
ersisters	N	Mean of SAT Sums for: Academic Dropouts	Nonacademic Dropouts	Persisters	N	Mean of SAT Sums for: Academic Dropouts	Nonacademic Dropouts	Persisters
116	3870	920	1023	1033	3397	955	1056	1033
135	1882	943	1062	1049	1670	979	1063	1050
198	1988	885	998	1018	1727	913	1053	1016
100	3180	913	992	1016	2800	952	1031	1017
195	690	1050	1114	1112	597	1000	1125	1111
100	1736	903	975	1019	1509	957	1035	1020
199	1429	929	1015	1012	1278	947	1026	1013
123	785	968	1039	1045	720	966	1054	1047
114	3026	910	1019	1029	2621	953	1053	1029
110	1049	789	815	817	887	815	833	815
92	1585	1206	1183	1198	1419	1179	1220	1197
107	1001	851	918	925	850	937	944	922
120	1341	1080	1122	1134	1222	1029	1146	1134

	Third Semester[e]				Fifth Semester[e]			
73	113	910	1025	996	76	890	1092	992
72	49	917	1009	999	28	840	1047	1021
74	64	889	1039	995	48	957	1067	974
69	98	897	1013	1010	64	872	1069	1008
104	15	1080	1145	921	12	935	968	912
76	31	792	952	1018	24	970	1067	1004
68	68	915	1034	1005	41	725	1070	1009
108	30	1020	1003	984	24	935	1045	968
65	92	882	1044	1002	52	872	1073	1002
114	38	829	814	804	24	733	849	815
132	39	1090	1181	1186	28	1175	1180	1190
91	42	914	889	871	26	803	967	865
123	29	---	1154	1117	22	---	1176	1100

Table 3

Mean Relative H. S. Ranks for Academic Dropouts,

Fall Cohorts

	First Semester[a]				Second Semester[b]		
	N (71,73,74)	Mean Relative H.S. Rank for: Academic Dropouts	Nonacademic Dropouts	Persisters	N (71,73)	Mean Relative H.S. Rank Academic Dropouts	Nonacademic Dropouts
All Students	12762	40	26	25	7948	39	24
Males	6209	45	29	30	3930	44	30
Females	6553	33	25	21	4018	33	20
Resident	10463	41	26	26	6466	40	25
Nonresident	2298	27	26	21	1481	33	21
Nonurban*	5812	47	24	24	3485	38	23
Urban	4644	40	30	28	2920	43	27
Parent Alum	2323	45	30	25	1493	49	21
No Parent Alum	10362	39	25	25	6389	38	24
Low 1/3 SAT	4083	48	34	36	2382	44	33
High 1/3 SAT	4267	27	16	14	2878	27	15
Low 1/3 Rank	3986	56	49	50	2362	54	48
High 1/3 Rank	4089	7	7	6	2607	8	5

Spring Cohorts

	First Semester[d]		
All Students	327	43	35
Males	158	47	60
Females	169	38	35
Resident	295	44	51
Nonresident	32	6	21
Urban*	90	35	51
Nonurban	209	46	48
Parent Alum	61	41	65
No Parent Alum	265	43	44
Low 1/3 SAT	118	42	47
High 1/3 SAT	75	29	34
Low 1/3 Rank	163	59	57
High 1/3 Rank	61	7	3

[a] Based on 1971, 1973, & 1974 Fall cohorts
[b] Based on 1971 and 1973 Fall cohorts
[c] Based on 1971 Fall cohorts
[d] Based on 1971 & 1973 Spring cohorts
[e] Based on 1971, Spring cohorts

*Based on Indiana Residents

onacademic Dropouts, and Persisters by Semester

		Fourth Semester[c]				Sixth Semester[c]		
or: ersisters	N	Mean Relative H.S. Rank for: Academic Dropouts	Nonacademic Dropouts	Persisters	N	Mean Relative H.S. Rank For: Academic Dropouts	Nonacademic Dropouts	Persisters
24	3824	36	24	23	3349	38	22	23
29	1865	36	28	27	1653	41	29	27
20	1959	34	22	19	1696	31	18	18
25	3125	36	25	24	2746	38	23	23
20	699	34	20	20	603	25	16	20
24	1707	34	25	22	1478	39	20	22
27	1401	38	26	25	1253	36	27	25
26	775	33	25	23	710	42	22	22
24	2991	36	24	23	2585	36	22	23
36	1027	41	35	35	870	39	32	35
14	1526	20	15	14	1368	29	14	14
50	1032	52	48	49	872	52	49	49
6	1356	7	6	6	1236	7	6	6

		Third Semester[e]				Fifth Semester[e]		
45	130	53	26	31				
43	57	57	36	44	33	45	46	43
29	73	46	17	24	53	41	18	24
36	114	52	29	32	75	51	31	27
31	16	70	9	28	11	23	30	29
40	35	46	31	37	26	28	27	38
34	80	54	29	29	50	42	27	29
32	34	39	22	30	28	38	30	29
36	95	56	23	32	58	45	25	32
48	35	26	24	19	21	49	54	51
19	36	21	10	15	25	23	12	23
58	55	20	17	18	35	56	50	55
7	34	--	7	6	26	--	6	7

Table 4

Percent of 1971 Fall entering class still enrolled, and percent dropouts, at various points after original enrollment (AD = Academic Dropout; NAD = Nonacademic Dropout; PER = Persister)

	After 2nd Semester			After 4th Semester			After 6th Semester		
	AD	NAD	PER	AD	NAD	PER	AD	NAD	PER
Total	7.1	7.63	85.27	10.00	15.47	74.53	11.77	21.84	66.39
Males	8.24	5.60	86.16	11.87	11.96	76.16	16.35	14.33	69.31
Females	6.04	9.51	84.44	8.26	18.73	73.00	9.47	26.87	63.66
Resident	8.11	6.46	85.43	11.49	13.50	75.00	13.54	19.15	67.31
Nonresident	2.76	12.66	84.58	3.57	23.94	72.50	4.14	33.49	62.37
Nonurban	10.03	7.07	82.85	13.57	14.70	71.69	18.79	16.67	64.48
Urban	5.67	5.73	88.59	8.88	12.02	79.10	7.77	18.31	70.72
Parent Alumni	5.99	5.21	88.91	8.31	10.42	81.37	10.53	15.96	73.61
No Parent Alumni	7.40	8.16	84.44	10.44	16.71	72.84	12.05	23.29	64.66

Non-urban students are more likely to drop out than are urban students. Non-urbans are more often found in both the AD and NAD groups up to the sixth semester. And lastly, students whose parents are alumni of Indiana University are less likely to drop out than students whose parents are not alumni. At the sixth semester 16 per cent of the PARGRADs were NADs while 23 per cent of the NONPARGRADs were nonacademic dropouts.

It is interesting to note that the trends noted in the above generalizations are established by the end of the second semester and are not appreciably altered after that time.

An additional analysis was based on academic area of the student's major. This analysis was done on the 1971 class only, and this class was followed through six semesters for the relevant data, the figures are in Table 5. Unfortunately, 1,296 students in that class did not have a major listed. Some of these students were merely "undeclared" and a number of these departed from the University without having identified a major. This group appears to be high risk for dropouts, and the development of career planning for them may be relevant to retaining at least a portion of them.

Of the 3,331 students who began the second semester, and who had declared majors (six semesters later), the great majority persisted beyond that second semester. The great majority of students who did not persist were nonacademic dropouts. Students in the applied sciences were least likely to drop out (.6 of a per cent NADs) while students in the social sciences were most likely to drop out (2.3% were NADs).

Table 5

Percent of 1971 fall entering class by academic area who became Academic Dropouts (AD), Nonacademic Dropouts (NAD), and Persisters (PER) at the end of second, fourth and sixth semesters

Academic Area	Second Semester				Fourth Semester				Sixth Semester			
	N	%AD	%NAD	%PER	N	%AD	%NAD	%PER	N	%AD	%NAD	%PER
Humanities	606	0	2.0 (12)	98.0 (594)	594	1.0 (6)	7.9 (47)	91.1 (541)	541	0.6 (3)	9.6 (52)	89.8 (486)
Biological Science	336	0	1.8 (6)	98.2 (330)	330	0.9 (3)	3.9 (13)	95.2 (314)	314	0.6 (2)	8.9 (28)	90.4 (284)
Physical Science	126	0	1.6 (2)	98.4 (124)	124	0.8 (1)	9.7 (12)	89.5 (111)	111	0.9 (1)	11.7 (13)	87.4 (97)
Social Science	476	0.2 (1)	2.3 (11)	97.5 (464)	464	1.3 (6)	5.8 (27)	92.9 (431)	431	1.2 (5)	10.9 (47)	87.9 (379)
Applied Science	1787	0.1 (1)	0.6 (10)	99.4 (1776)	1776	0.9 (16)	5.9 (104)	93.2 (1656)	1656	1.3 (22)	5.6 (92)	93.1 (1542)
	3331				3288				3053			
Missing Observations	129											

The differences among academic disciplines at the end of the second semester were relatively small, however.

By the end of the fourth semester the percentage of dropouts in each discipline became more conspicuous. Again the largest proportion of students were NADs. Nearly ten per cent of the students who enrolled in the physical sciences for the fourth semester dropped out while doing satisfactory academic work. Humanities was close behind with about eight per cent of their students who began the fourth semester dropping out.

At the end of six semesters physical science and humanities majors continued to drop out at relatively high rates (11.7 per cent and 9.6 per cent respectively). However, social sciences also joined this group with 10.9 per cent dropouts. These figures refer to nonacademic dropouts - students whose grades were satisfactory at the time of termination.

An interesting note is that the applied sciences continued to have the lowest dropout rate of all disciplines at the end of each of the points cited in Table 5. This group reached a maximum of 5.9 per cent NADs at the end of the fourth semester and 5.6 per cent at the end of the sixth semester.

A second interesting note is that the academic dropout (AD) rate was consistently lower than the nonacademic dropout rate. ADs were a consistent percentage across each semester and across all disciplines. The rate ranged near one per cent for each discipline at each semester observed. The

Table 6

Means and Standard Deviations for
Academic Dropouts, Nonacedemic Dropouts, and Persisters on
Predicted Grade Point Averages (PGPA), Actual Grade Point Average (GPA)
and Residual (Difference between GPA and PGPA)

		N	Mean PGPA (s.d.)	Mean GPA (s.d.)	Difference (s.d.)
Academic Dropout	Males	85	2.32 (.44)	.41 (.60)	-1.91 (.80)
	Females	69	2.45 (.45)	.53 (.67)	-1.91 (.88)
	Total	154	2.38 (.45)	.46 (.64)	-1.91 (.83)
Nonacademic Dropouts	Males	24	2.55 (.39)	2.72 (.52)	.17 (.46)
	Females	38	2.74 (.44)	2.77 (.52)	.03 (.51)
	Total	62	2.66 (.43)	2.75 (.52)	.08 (.48)
Persisters	Males	1873	2.69 (.44)	2.74 (.79)	.05 (.61)
	Females	2135	2.81 (.43)	2.86 (.73)	.05 (.69)
	Total	4010	2.75 (.44)	2.81 (.76)	.05 (.65)

s.d. = standard deviation

reason for the NADs leaving the University should be a topic of continuing interest. These are students who are doing acceptable work. Some effort to retain these students seems relevant.

The last analysis in this study looked at discrepancies between a student's grade achievement and the grade point average predicted for him, based on SAT scores and his relative high school rank. Predicted grade point averages are based on the following formulas.

Males PGPA = .0012 SAT - .0132 RHSR + 1.8719

Females PGPA = .0016 SAT - .0128 RHSR + 1.543

The relevant results are given in Table 6. The discrepancy between mean predicted grade point average (PGPA) and actual grade point average (GPA) is the significant feature in the table. Academic dropouts achieved conspicuously below their predicted level, while persisters and nonacademic dropouts achieved very near to their predicted level. To the extent that the talent indicators - SAT and relative high school rank - reflect grade achievement potential, the academic dropouts did not achieve up to their potential. This may be due to a variety of causes such as poor study skills, undisciplined class attendance and study behavior, a variety of economic and social distractions. In any case, it appears that many of the academic dropouts have the intellectual potential to achieve satisfactory grades, but are not doing so. Possibly causes can be found to explain this fact and programs initiated to ameliorate the conditions.

Conclusions

The data appear to support the following conclusions.

1. Spring entering students drop out faster than fall entering students.
2. Approximately 60 per cent of fall entering students persist for eight semesters. Of these students, males are slightly more persistent than females.
3. Of all the students who drop out, the great majority are not in academic difficulty when they drop out.
4. The students who drop out while doing satisfactory work (nonacademic dropouts) are most likely to be female, out-of-state residents, and have parents who are not alumni of Indiana University. However, academic talent indicators are not a conspicuous variable in identifying nonacademic dropouts.
5. In Scholastic Aptitude Test scores persisters and non-academic dropouts look very much alike, but academic dropouts score lower.
6. In relative high school ranks persisters and non-academic dropouts are very similar, but academic dropouts rank slightly lower.
7. When persistence data are accumulated over many semesters, academic dropouts are more likely to be males and residents, while nonacademic dropouts are more likely to be female and non-residents. Non-urban students are more likely to drop out than urban students, while students whose parents are alumni of Indiana University are less likely to drop out.

8. Students in applied sciences are least likely to drop out, while students in the physical sciences and humanities are most likely to drop out.

Aside from the above conclusions this study raises an important question. Why do students whose work is academically acceptable leave the University? Clearly they have the talent to profit from the University experience. Some effort should be exercised to discover why nonacademic dropouts depart from the University.

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