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ABSTRACT

This study compared characteristics of students who persisted in undergraduate study and those who dropped out when matched on high school performance and Scholastic Assessment Test scores. Subjects were 747 full-time students at a major research university who entered in fall 1996 but did not return for fall 1997 (leavers) and a matched sample of 746 students who did return for the fall 1997 semester (stayers). The groups were matched on the following characteristics (in order): high school rank, Scholastic Assessment Test total score, major, ethnicity, gender, on-campus versus off-campus housing, and whether or not they attended freshman orientation, all factors previously identified as influencing retention. Analysis of student questionnaire responses and student records did not find additional variables that would predict which students would stay and which would leave. The most striking finding was that 51.4 percent of the leavers but only 4.3 percent of stayers had a grade point average below 2.00 as of fall 1997. However, such factors as interactions with faculty and staff, finances, and goals did not differ significantly between stayers and leavers.  
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# New Directions in Student Retention Research: Looking Beyond Interactional Theories of Student Departure

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This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of AIR Forum Papers.

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**New Directions in Student Retention Research:  
Looking Beyond Interactional Theories of Student Departure**

In an attempt to look beyond traditional interactional theories of student departure, this study deliberately controlled for variables that had been reported in the literature as influencing retention. The question this study asked was whether or not there were variables *in addition* that would help predict staying or leaving. Results showed that a larger percentage of Leavers had grade point averages below 2.00 than did Stayers, even after the two groups were matched on high school performance and SAT score. Interactions with faculty and staff, finances, and goals did not differ significantly between Stayers and Leavers.

## **New Directions in Student Retention Research: Looking Beyond Interactional Theories of Student Departure**

In an attempt to look beyond traditional interactional theories of student departure, this study deliberately controlled for variables that had been reported in the literature as influencing retention. The question this study asked was whether or not there were variables *in addition* that would help predict staying or leaving. Results showed that a larger percentage of Leavers had grade point averages below 2.00 than did Stayers, even after the two groups were matched on high school performance and SAT score. Interactions with faculty and staff, finances, and goals did not differ significantly between Stayers and Leavers.

### Theoretical Background

Understanding why students leave college before graduation has been an important issue in higher education for decades. Early retention research focused on student characteristics such as gender, racial/ethnic background or socioeconomic factors. More recently, researchers, such as Astin, Pace, Tinto, Pascarella and Terenzini developed interactional theories of student departure from college. According to these theories, leaving college is a function of the student's experience in the total culture of the institution including the formal and informal aspects of this organization. However, the interactional theories of student departure also have limitations. For example, external forces (e.g. work off campus, effects of commuting, volunteer participation in community events) have not been considered. Nor do these theories adequately account for the internal organizational policies and procedures that influence whether students stay or leave (Hossler, 1991). Tinto (1986, 1987) and others (e.g. Hossler, 1991) have called for a more comprehensive theory of student departure, one that includes a more detailed definition of "dropping out", accounts for the rich variety of ways students are involved and interact with the formal and informal aspects of the institution, incorporates the time-specific nature of the departure process,

includes the relative impact of institutional policy and procedures, as well as some measure of the quality and intensity of student effort in the academic experience.

### Interactional Theories

Interactional theories of student departure now dominate the current research on retention. The advantage of interactional models of student departure is that they "...go beyond description of the differences between leavers and stayers to an explanation of how those differences arise within the context of a specific institution" (Tinto, 1986, p. 367).

As a refinement in the study of the college environment, How College Affects Students (Pascarella and Terenzini, 1991) dealt with the developmental influences of the college experience and the effect of that experience on retention. Astin's 1993 update of a previous work, What Matters in College: Four Critical Years Revisited, addressed the importance of student-student and student-faculty interactions.

In terms of student involvement with peers, faculty, and the campus in general, Tinto (1987) stressed the importance of the centrality of the group to which the student belongs. If students (especially minorities) feel that programs established for them are marginal to the institution, then their 'fit' with that institution, and therefore their commitment to that institution, is lessened and the student is more likely to leave.

According to Tinto (1986), there is little evidence to support the contention that financial forces are paramount to individual retention decisions. Although financial considerations are important in considerations to stay or withdraw from an institution of higher education, they are of secondary importance.

Frost (1991) proposed that academic advising is an underutilized mechanism to promote retention. The academic advisor can help the student experience success by aiding the underprepared student in selecting courses, programs of study, and careers that employ the student's particular strengths. According to Frost, retention can be improved when out-of-class and in-class learning experiences are integrated.

Hanson and Swann (1993) examined "...the relationship between involvement in multiple educational programs and selected educational outcomes while controlling for student input variables" (p. 72). They found that performance in the classroom was the most important variable in explaining student retention, college preparation was second, and participation in multiple student service retention programs was the third most important factor.

### Purpose

The purpose of this research was to look beyond the traditional interactional theories of student departure to find other evidence that might explain student departure from college. In addition, we wanted to explore alternative retention research designs with the hope of finding a better way to collect and examine the evidence about why students leave. Finally, as result of this research, we hope to offer a more comprehensive conceptualization of the departure process.

### Study Methodology

#### Subjects

Two groups of students were studied. The first group consisted of 747 full-time students at a major research university who enrolled as first-time freshmen in Fall of 1996 (and Summer 1996 continuing into Fall 1996) and did not return for Fall 1997 (Leavers). The second group was a matched sample of 746 full-time students who were enrolled in Fall 1996 and returned for the Fall 1997 semester (Stayers). The Stayers were matched to the 747 Leavers on the following characteristics (in order): high school rank, SAT Total score, major, ethnicity, gender, on-campus versus off-campus housing, and whether or not they attended freshman orientation.

#### Data Collection

The 55-question survey instrument was designed by an internal committee of administrators involved with student retention, then pretested on 50 students and administered to Leavers and Stayers by the Office of Survey Research. Questions were grouped as follows: Background Information, issues related to Academics, Career, Social Factors, Institutional Factors, Faculty, Support Services, Finances, Persistence, Diversity, Personal Factors, and

Involvement with the university. These questions all had coded responses, with the majority having choices on a 5-point Likert scale including Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. The Leavers were also asked questions on their future plans and an open-ended question: “Is there anything the university could do differently in the future to help students like you stay enrolled?”.

In addition to the data collected through the questionnaire, student record information was obtained and linked to the student’s survey responses. Student record information included gender, ethnicity, academic status at point of leaving, participation in retention programs, enrollment in gatekeeper courses, last semester enrolled, first semester and cumulative GPA, performance in gatekeeper courses, etc.

## Results

### Comparison of the Two Groups

The first question asked is how similar were the two groups surveyed (Stayers and Leavers). The sample of 746 Stayers was matched very closely to the 747 Leavers. However, there were large differences between the Stayer and Leaver groups on grade point average (GPA), even though they had been matched on high school rank and other academic predictor variables. For survey respondents, only 4.3% of Stayers had GPAs below 2.00, while 51.4% of the Leavers had GPAs below 2.00 as of Fall 1997.

### Background Information

There were seven background questions on the survey designed to gauge student involvement at the university. They focused on why students decided to attend the university, where they lived, how much they worked, and how often they missed class. A larger percentage of respondents who stayed chose the university because of its convenient location, reasonable cost, and family influences, while a larger percentage of Leavers chose the university because of its prestige and believed that it was the best school for them. Slightly more Leavers than Stayers (48.6% versus 41.31%) reported that they lived on campus during their first year at the university.



The majority of freshmen responding to this survey reported that they did not work during their first year at the university (73.8% of Stayers and 63.7% of Leavers). For those who worked on campus, 93.6% of the Stayers and 73.1% of the Leavers worked 20 hours or less per week. For those respondents reporting that they worked off campus, 56.0% of the Stayers and 54.3% of the Leavers worked 20 hours or less. In terms of hours spent studying outside of class, 56.4% of the Stayers and 71.5% of the Leavers reported spending 10 hours or less. Twice as many Stayers as Leavers reported that they never skipped as class because it just didn't seem worth going (29.8% versus 14.1%). Thirty-four percent of the Stayers reported that they met with faculty at least 11 times outside of the classroom, while 26.1% of the Leavers met with faculty at least 11 times outside of the classroom.

### Statistical Analyses

T-tests were conducted to determine statistically significant differences in responses between the Stayer and Leaver groups. Table 1 lists the 13 statements that had statistically significant t-test differences between Respondent Stayers and Leavers, in order of highest percentage response for Stayers. For this table, percentages are presented for students reporting that they agreed/strongly agreed with the statement. The statements noted in italics were ones that were significant in the t-test analysis, but not in the Logistic Regression analysis (Table 2).

Table 1

Statements with Significant t-test Differences between Respondent Stayers and Leavers

Percentage Reporting Agree/Strongly Agree

	<u>Stayers</u> (n=305)	<u>Leavers</u> (n=284)
<i>I believe I received a good education.</i>	93.8%	84.5%
<i>I feel I belong here.</i>	89.2%	66.2%
My family/friends encouraged me to stay here.	85.6%	64.4%
It is important for me to graduate from here.	79.0%	49.7%
I am certain about what I want to major in.	67.5%	54.2%
I performed academically as well as I thought I would.	52.8%	37.3%
<i>My classes were too large.</i>	36.7%	53.2%
I have observed discrimination directed at minority students.	22.6%	15.5%
The adjustment has been more difficult than I expected.	15.4%	48.2%
I am so involved with friends that I do little else.	11.8%	31.3%

Table 1 (cont.)

Statements with Significant t-test Differences between Respondent Stayers and Leavers

Percentage Reporting Agree/Strongly Agree

	<u>Stayers</u>	<u>Leavers</u>
I have misgivings about my decision to attend.	5.6%	22.5%
A change in my family situation caused me to consider leaving.	6.2%	22.9%
Health problems caused me to consider leaving.	2.0%	16.9%

A t-test analysis looks at each individual statement and determines whether that statement, by itself, was a statistically significant discriminator between the Stayers and Leavers. Since students may respond to related items in a similar manner resulting in highly correlated variables, a logistic regression analysis was conducted to determine which variables added to the prediction equation that a student would leave, after controlling for other items entered previously. Table 2 presents, in order of statistical significance, the Chi-Square values and probabilities (of these results occurring by chance) obtained through this analysis for those questions that were statistically significant at least at the 0.05 level. The statements noted in italics were significant in the Logistic analysis, but not in the t-test analysis.

Table 2

Logistic Regression Analysis, Significant Chi-Square Values, Respondents

	<u>Chi-Square</u>	<u>Probability</u>
The adjustment has been more difficult than I expected.	77.86	0.0001
Health problems caused me to consider leaving.	33.22	0.0001
I have observed discrimination directed at minority students.	21.42	0.0001
It is important for me to graduate from here.	15.35	0.0001
A change in my family situation caused me to consider leaving.	15.33	0.0001
I am so involved with friends that I do little else.	8.69	0.0032
<i>A conflict with a friend/roommate made it difficult for me to keep up with my studies.</i>	7.56	0.0060
<i>When I first came here, I did not know how to study.</i>	7.01	0.0081
<i>My work schedule did not interfere with my class schedule.</i>	6.84	0.0089
I performed academically as well as I thought I would.	5.65	0.0175
<i>I am satisfied with the number of courses required for my degree.</i>	4.31	0.0379
I am certain about what I want to major in.	4.00	0.0456
I have misgivings about my decision to attend.	3.92	0.0478

In addition to determining which items individually contribute to differentiating between Stayers and Leavers, an attempt was made to see if groups of statements (i.e., factors) differentiated in a statistically significant way between Stayers and Leavers. These factors highlight issues involved in student persistence at the university. A Principal Factor Analysis with a varimax rotation was conducted on the survey statements. A variable indicating status as Stayer versus Leaver was also included. In this analysis, the higher the score the more likely the students were to stay. For factors with negative factor loadings, the higher the score the more likely the students were to leave. Statements were assigned to only one factor, and those presented have factor loadings of at least 0.40 or are the two highest factor loadings in that factor. From this analysis six factors emerged. The first three factors are statistically related to leaving, the last three are not. Factors are presented in order of the strength of the relationship between the factor and staying or leaving. The six factors are:

Table 3  
Factors Associated with Predicting Staying/Leaving

	Factor Loadings
<b>Factor 1 - Personal Academic Responsibility</b>	
I performed academically as well as I thought I would.	0.63
The adjustment has been more difficult than I expected.	-0.57
When I first came here, I did not know how to study.	-0.45
I am so involved with friends that I do little else.	-0.41
Factor Loading on Leaving/Staying	-0.50
<b>Factor 2 - Sense of Belonging/Prestige</b>	
I feel I belong here.	0.65
It is important for me to graduate from here.	0.63
I have misgivings about my decision to attend.	-0.60
It has been easy for me to meet and make friends with other students.	0.47
Factor Loading on Leaving/Staying	-0.43
<b>Factor 3 - Diversity</b>	
I have observed discrimination directed at minority students.	0.46
I believe the university is sensitive to the needs of minority students.	0.45
Factor Loading on Leaving/Staying	0.35
<b>Factor 4 - Goals</b>	
I am certain about what I want to major in.	0.39
It is important for me to get a college degree.	0.39
Factor Loading on Leaving/Staying	-0.05

Table 3 (cont.)

Factors Associated with Predicting Staying/Leaving		Factor Loadings
<b>Factor 5 - Faculty/Staff</b>		
I received adequate feedback from faculty on my performance.		0.58
Most faculty members seem to be genuinely interested in teaching.		0.55
I am satisfied with the opportunity to meet informally with faculty.		0.55
I felt I could talk to faculty/staff members about leaving.		0.52
I was unable to find someone here to help me with career goals.		-0.45
I could relate the materials in my courses to my career goals.		0.42
Academic advisors were helpful.		0.40
	Factor Loading on Leaving/Staying	0.02
<b>Factor 6 - Finances</b>		
I ran out of money and had to work more hours.		-0.48
Housing cost more than I expected.		-0.48
Financial aid has been sufficient.		0.46
It costs more than I expected.		-0.45
	Factor Loading on Leaving/Staying	-0.02

Factor loadings show how strongly each item is related to the underlying variable. In this study, factor loadings for the Leavers/Stayers variable which are close to zero (Factors 4, 5 and 6) show no relationship with that variable. Factors 1, 2 and 3 present groups of items that are moderately related to Staying/Leaving.

Factor 1, Personal Academic Responsibility, deals with students' personal responsibility in the academic realm. Stayers were more likely to agree that they performed academically as well as they thought they would. Leavers were more likely to agree that: their adjustment had been more difficult than expected, they did not know how to study when they first came here, and they were so involved with friends that they did little else. Factor 2, Sense of Belonging/Prestige, deals with students' feelings about attending the university. Stayers were more likely to agree that: they felt they belonged here, it was important for them to graduate from here, and it had been easy to meet and make friends with other students. Leavers were more likely to agree that they had misgivings about their decision to attend. Factor 3, Diversity, deals with students' perception of discriminatory acts at the university. Stayers were more likely to agree that they had observed discrimination directed at minority students, and that the university is sensitive to the needs of minority students.

### Open-ended Questions

In addition to the Likert-style questions designed to determine differences between Stayers and Leavers, a series of open-ended questions were asked. Two of these questions were specifically designed to determine why the students left and if there was anything that the university could have done to help them stay enrolled. Academic and personal problems were the two specific responses given most often as to why the students left the university. These findings correspond to results from previous studies.

Almost 50% of the Leavers replied that they did not know what the university could have done to help students like them stay enrolled, with another 20% giving “other” as a response. For students giving a specific response, the most frequently listed responses were improve student/teacher ratio, provide better counseling, give more financial aid, and have professors more involved.

While the majority of students, 51.8%, indicated they did not know what helped them stay enrolled, those who cited reasons for staying indicated they never considered leaving, or stayed because of the academic reputation or prestige of the university, friends, and the college or department they were in was the best.

According to the survey, 79.6% (or 226) of the survey respondents who left were enrolled in an institution of higher education at the time the survey was conducted (December 1997/January 1998). Results also show that 153 students said they would return to the university. In fact, a review of student records shows that 126 Leavers (as of Fall 1997) were enrolled Spring or Summer 1998.

### Academic Status of Leavers

Accessing student record data allowed the academic status of students who left (forced withdrawal, probation, or good standing) to be determined. Responses to the statements with significant t-test differences are presented for Stayers and for Leavers by their academic status.

Table 4

Percentage of Stayer/Leaver by Academic Status Responding Agree/Strongly Agree

Statements with Significant t-test Differences

	Stayers	Leavers			All
	<i>Number</i> 305	Good Standing 149	Probation 47	Dismiss 88	589
I believe I received a good education here.	93.8%	89.1%	80.9%	80.7%	89.6%
I feel I belong here.	89.2%	64.2%	63.8%	71.6%	78.2%
My family/friends encouraged me to stay.	86.7%	58.8%	58.7%	78.4%	76.2%
It is important for me to graduate from here.	79.3%	39.9%	51.1%	65.9%	65.1%
I am certain about what I want to major in.	67.8%	60.1%	61.7%	40.9%	61.3%
I performed academically as well as I thought I would.	52.8%	61.2%	17.4%	9.1%	45.6%
My classes are too large.	36.8%	50.3%	63.8%	53.4%	44.9%
I have observed discrimination directed at minority students.	22.7%	15.5%	17.0%	14.9%	19.3%
The adjustment has been more difficult than I expected.	15.4%	35.8%	63.8%	61.4%	31.3%
I am so involved with friends that I do little else.	11.9%	19.6%	31.9%	51.1%	21.4%
I have some serious misgivings about my decision to attend.	5.6%	25.0%	27.7%	15.9%	13.8%
A family situation caused me to consider leaving.	6.3%	21.5%	27.7%	22.7%	14.3%
Health problems caused me to consider leaving.	2.0%	11.6%	25.5%	21.6%	9.2%

When the group of Leavers was divided into three subgroups based on academic standing at the time they left, generally, Stayers and “Leavers in Good Academic Standing” gave similar responses, while “Leavers on Academic Probation” and “Leavers Dismissed for Academic Reasons” gave similar responses.

An additional analysis was conducted on the statement, My classes were too large. While self reports by students showed that Leavers agreed more than Stayers that their classes were too large, data show that there were relatively little differences between Stayers and Leavers in the number of classes they were enrolled in with over 150 students. It may be that those students who dropped out or were dismissed/on probation may be using class size as a justification for their

leaving the university. It may also be that those who leave simply find large classes more difficult to handle. Further study is needed in this area.

### Participation in Retention Programs

Accessing student record data also allowed students' participation in retention programs to be determined. An analysis was conducted of the number and percent of *all* students, not just survey respondents, from the Fall/Summer 1996 entering class who participated in various retention programs across campus.

Over half of the students who stayed at the university participated in at least one retention activity, and over 40% of the students who left participated in at least one retention activity. While there is a ten-percentage point difference (with Stayers participating more than Leavers), these figures also show an overall relatively high participation rate in these programs.

### Enrollment in Gatekeeper Courses

Since Stayers and Leavers differed greatly on academic performance, an attempt was made to discern where these differences occurred by looking at all freshmen students' performance in gatekeeper courses. Gatekeeper courses often function as filters since students unable to meet academic standards in the gatekeeper courses are not permitted to enter certain majors. In addition, these gatekeeper courses often have options for supplemental instruction (SI) sections. These sections offer students extra help in mastering the requirements of the gatekeeper course. There was very low participation for Leavers in the SI courses, with less than 10 students in four out of five courses. But while there were small numbers in some cells of this analysis, some general conclusions can be drawn. Stayers generally did better in these gatekeeper courses, whether they were enrolled in sections with supplemental instruction or not. For students who were no longer enrolled at the university for Fall 1997, students enrolled in supplemental instruction general did close to half a grade point better than those not enrolled in supplemental instruction.

## Discussion

The results of this study must be viewed within the context of the study design. This study deliberately controlled for variables that had been reported in the literature as influencing retention: high school rank, SAT total score, major, ethnicity, gender, on-campus versus off-campus housing, and whether or not the student attended orientation. The question this study asked was whether or not there were variables *in addition* to the ones identified in the literature, which would help predict whether or not a student stayed or left after their first year. After controlling for 7 factors, this study did *not* find additional variables which would predict which students would stay and which would leave. While there were statistically significant differences between the Stayers and Leavers, the Stayers and Leavers looked remarkably similar. The most striking finding was that the Leavers did much worse academically than the Stayers. Given that academic preparation was controlled for, Leavers experienced greater academic difficulty than could have been predicted ahead of time.

Because of the extreme interest in participation in higher education by students of various racial and ethnic groups, this study looked at the effects of ethnicity on staying or leaving. Although we know there are differences in retention rates by ethnicity, because we matched those selected for the survey by ethnicity, that variable did not add to our ability to predict retention. This does not mean that Blacks and whites are retained at the same rate, but after controlling for ethnicity and academic preparation, there were no additional factors that showed ethnic differences between the Stayers and Leavers.

As reflected in the literature on interactional theories of retention, discussion points have been divided broadly into academic and nonacademic findings. A short discussion on interactional theories is also included.

### Academic Findings

From this study it can be concluded that: a larger percentage of students who left had grade point averages below 2.00 than did students who stayed, even after the two groups were matched on high school performance and SAT score; there was a high rate of participation in retention



activities by both Stayers and Leavers; Stayers generally did better in gatekeeper courses; and, in terms of academic standing at the time they left, the responses of “Leavers in Good Academic Standing” resembled the responses of Stayers, while the responses of “Leavers on Probation” resembled those of “Leavers Dismissed for Academic Reasons”. It is recommended that more research be conducted on “Leavers in Good Standing” to determine if there was something that the institution could have done to keep these students.

### Nonacademic Findings

In terms of nonacademic findings: Leavers reported greater difficulty adjusting to the University and were more likely to cite health and personal issues as reasons why they left the University. Self-reported information on interactions with faculty and staff, finances, and goals did not differ significantly between the groups of Stayers and Leavers.

There were two dimensions involved in adjustment to the university. In terms of Personal Academic Responsibility, students who left: did not perform as well academically as they expected, believed that adjustment to the university was harder than expected, did not know how to study when they arrived, and were so involved with friends they did little else. In terms of Sense of Belonging/Prestige, students who left: did not feel they belonged here, did not believe it was important for them to graduate from here, had serious misgivings about their decision to attend, and did not find it easy to make friends at the university. The Personal Academic Responsibility factor is also strongly related to grade point average. Some of the largest differences between groups (at least 39 percentage points between Stayers and dismissed Leavers) occurred with statements dealing with Personal Academic Responsibility. The dismissed Leavers agreed/strongly agreed that the adjustment to the university had been more difficult than expected and they were so involved with friends that they did little else. Stayers agreed/strongly agreed that they had performed academically as well as they thought they would.

Twenty-two percent of the Leavers said they left the university because of personal problems. Leavers agreed more than Stayers that health problems/family situation caused them to

consider leaving. However, neither of these statements appeared in one of the six factors associated with predicting staying or leaving (Table 5).

Self-reported interactions with faculty and staff, finances, and goals did not differ significantly between the groups of Stayers and Leavers. It should also be noted that these three factors were not related to staying or leaving in a statistically significant manner. The faculty/staff statements (adequate feedback from faculty, faculty interested in teaching, findings someone to help with career goals, etc.) showed no differentiation among the two groups. In addition, the factors on Finances and Goals showed no differentiation among Stayers and Leavers.

### Interactional Theories of Student Departure

One of the interesting findings of this study was the very limited support for the interactional models of student departure. Interactional theories of student departure now dominate the current research on retention. These theories reflect a dynamic, interactive view of student experience where a student's leaving reflects individuals' experience in the total culture of the institution as manifested in both the formal and the informal organization of the institution. However, this study found that academic and social integration did not carry equal weights. Even after controlling for variables that had been reported in the literature to influence retention (high school rank, SAT total score, major, ethnicity, gender, on-campus versus off-campus housing, and whether or not the student attended orientation) the biggest difference between Stayers and Leavers was academic; i.e., a larger percentage of students who left had grade point averages below 2.00 than did students who stayed. This same finding was reported in an earlier study done at the university. Hanson and Swann (1993) examined "...the relationship between involvement in multiple educational programs and selected educational outcomes while controlling for student input variables" (p. 72). They found that performance in the classroom was the most important variable in explaining student retention, college preparation was second, and participation in multiple student service retention programs was the third most important factor.

While the present study did not provide direct support for the interactional theories of student departure, additional exploration of "why" students perform poorly in their academic

studies is warranted. If the traditional factors found in other retention literature, such as student involvement with faculty, work on or off campus, and institutional financial support do not distinguish between those who stayed and those who left, perhaps there are other, more subtle, interactions that should be investigated.

### Recommendations

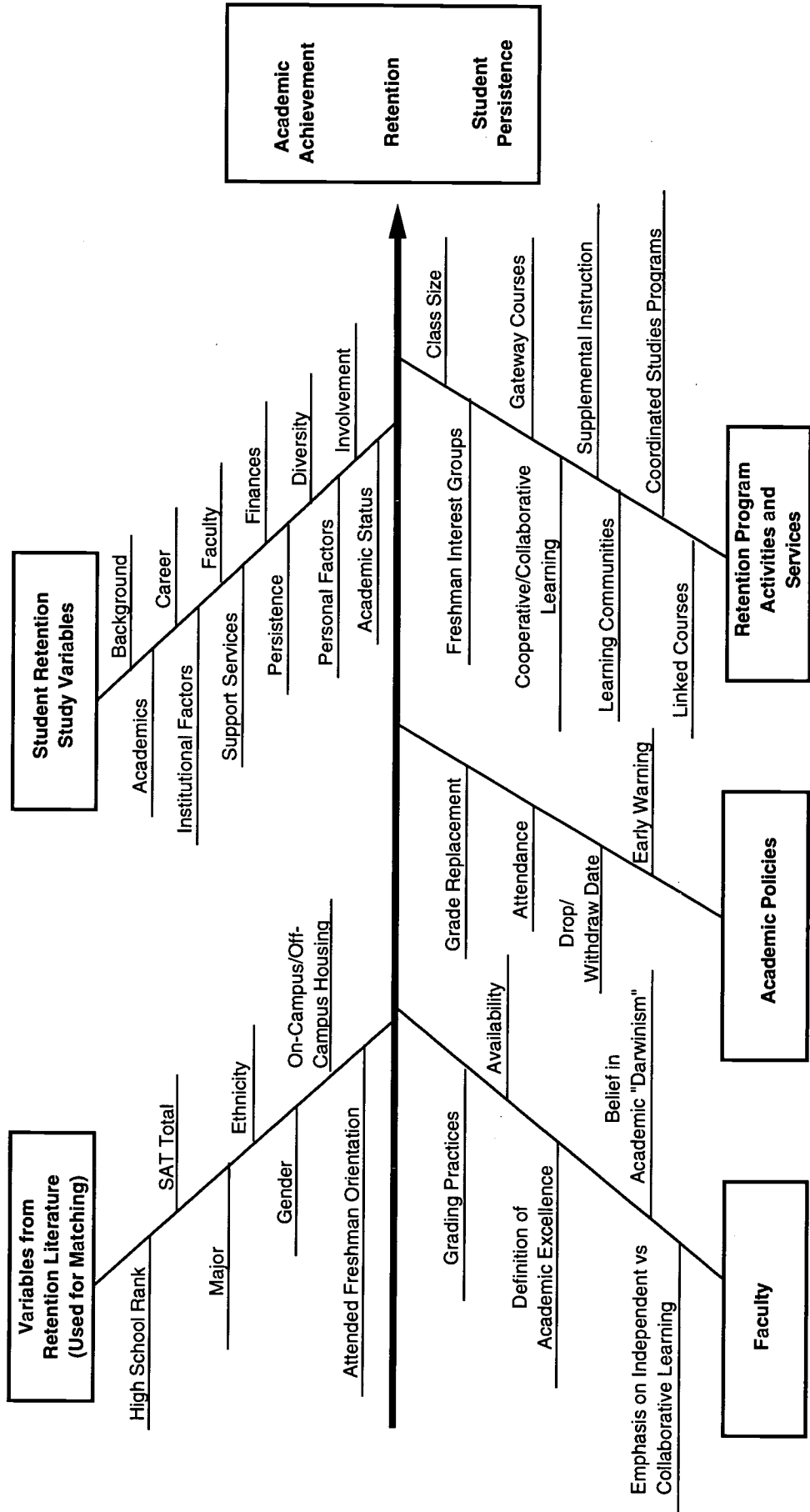
Approximately half of the students in this survey who left were having academic difficulty. Academic difficulty did not seem to be related to academic preparation. What is not known is the extent to which academic difficulty is related to poor adjustment to the university, personal problems, or less than optimum learning conditions. The following recommendations were made to the administration based on the results:

- 1) Identify, as early as possible, those students who are having academic difficulty.
- 2) Provide training for faculty, TAs, academic advisors, resident hall advisors, pledge trainers, etc. to spot and intervene on behalf of these students.
- 3) Maintain present retention programs.
- 4) Provide programs for those students identified early in their first semester who appear to be having academic difficulty.
- 5) Review current academic policies to determine possible effects on freshman retention.
- 6) Study the faculty in terms of attitudes and culture towards grading, philosophy on gatekeeper courses, etc.

### Further Study

As mentioned in Recommendation #6, retention research has historically concentrated on only half of the equation--students. Research needs to be done on faculty--their grading practices, views on teaching, etc. Figure 1 presents a diagram of variables affecting students retention: the variables in this study, along with some variables that may be involved in future research. The top half of the diagram describes this study (upper left quadrant): the Stayers and Leavers were

**Figure 1**  
**Variables Affecting Student Retention**



matched on high school rank, SAT total, major, ethnicity, gender, on-campus/off-campus housing, and whether or not the student attended freshman orientation. The upper right quadrant gives the variables the Stayers and Leavers were surveyed about: background, issues concerning academics, career, institutional factors, faculty, support services, finances, persistence, diversity, personal factors and involvement, along with the academic status of the student obtained from student records.

The bottom half of the diagram presents variables that need further study. Most importantly, students have been studied for thirty years, but the faculty's role in retention and student persistence has not been studied nearly as often (lower far left). Especially in large, research universities, the issue of academic "Darwinism" must be addressed: to what extent does it exist, how does it affect students, what can be done about it? According to Tinto (1998),

Faculty must be involved. Indeed, they must lead institutional retention efforts. Nevertheless, as 'retention' is in fact everyone's business, institutions must build partnerships and draw upon the collaborative efforts of all members of the university: faculty, student affairs, and administration.

Tinto goes on to say one of the keys to student success is enhancing student involvement:

"Students will get more involved in learning and spend more time on task when they are placed in supportive educational settings that require them to share the experience of learning with others."

The lower far right portion presents different structural ways to involve students in learning. Since this study concluded that academic difficulty was a key determinant between Stayers and Leavers (after controlling for traditional variables from the literature), these course-taking experiences are possible ways to involve students in learning to enhance their academic success and ultimately their retention. With more students involved in cooperative and collaborative learning, we may be better able to study their effects on student retention. The center portion of the lower part of the figure presents academic policies that need further study.

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