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Ten Years of Fall-to-Fall Retention, Western Washington University

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Executive Summary

Analysis of Fall-to-Fall retention at Western over the period 1987-1997 reveals modest improvement in retention rates, some traditional patterns, and some surprises. Particular groups are identified by the analysis as highest priority for university attention aimed at increasing retention.

Western's overall Fall-to-Fall retention rate increased steadily from 1987 through 1992, then leveled off, to remain stable or decline very slightly since then. In particular, the retention of entering freshmen rose markedly from '87 through '92 and has declined significantly since 1992, although remaining well above its earlier rate. While the early rise in retention may be attributed to increasing selectivity and improved freshman orientation, the subsequent reduction in retention is more difficult to interpret. What we can say is that Western's freshman retention, while higher than nearly all our peer institutions, could be higher, given the composition of our freshman class.

For entering transfers, however, no improvement in retention has been observed over the ten year period. In fact, retention of new transfers is markedly lower than of new freshmen, despite the fact that most transfers are in their junior years--a time when retention tends to be high. Further, over half of new transfer non-retention involves leaving prior to Spring of the first year, rather than after one full year, which suggests that experiences during Fall are especially powerful for transfers.

Retention among African-American students has increased dramatically, by a total of nearly fifteen percentage points, over the past ten years. Retention for this group is now at a par with the majority group. However, retention among Native Americans and the small group of foreign nationals who matriculate here remains considerably lower than for the majority.

Two surprise findings are that students who enter Western in quarters other than Fall, especially in spring, have lower than average retention rates and that students who have freshman standing in Fall quarter but are not entering in that Fall have lower retention rates than newly entering freshmen. Among the small group for whom these two factors overlap, retention is extremely low.

Two other findings that are common with such studies are that older students (over 25) are slightly less likely to be retained, and students with very low grades are especially unlikely to be retained. The first of these findings stems from private life conflicts more often experienced by adults over the age of 25. The second raises the question of whether students who are failing at Western should receive supports to enhance their performance and retention or should be seen as withdrawing appropriately. Since over half of all non-retention is among students whose GPA is under 2.5, the margin for realistic improvement in retention is much smaller than first appearance would suggest.

A final note also reflects on the realistic margin for improvement in retention. Nearly one-fourth of all non-retentions return to Western within two years following the non-retention, and 20.8% of non-retentions graduate from Western within six years. Since we know from other research that leaves of absence are healthy for students and increase their efficiency when they return, such leaves should not be discouraged. Thus, our true non-retention rate is 20-25% lower than our apparent rate.

Introduction

To combat non-retention, we need to know more about who remains at Western and who does not--more precisely, about the causes of non-retention. If particular groups withdraw from Western more often than others, we may wish to concentrate scarce resources on those groups.

This report summarizes what we have learned from an analysis of factors available to us from students' admission files and other Registrar's files. The report is brief, summarizing the analysis and suggesting implications for policy. The sections of the report are as follows:

- Overview of analysis methods.
- Summary of multivariate analysis identifying determinants of retention/non-retention.
- Descriptive retention/non-retention rates for groups identified by determinants of retention, with approximations of the contribution of each to overall retention rates.
- Policy implications.
- Policy directions already undertaken, in planning stages, or envisioned for the future to increase Western's retention among targeted groups.

Analysis Methods

This analysis was conducted entirely on existing records, made available from the Registrar's office.[1] We began with ten files, each including data on all matriculated undergraduate students enrolled during each Fall quarter at Western over the last ten years. One file, for 1989, was damaged, so the analysis was performed on all students enrolled in Fall, 1987, Fall, 1988 and Fall 1990 through Fall 1996. For each of these nine data sets, every student was scored as "retained" if they were either enrolled again the following Fall quarter or had graduated prior to that Fall quarter. Thus, for example, among all students enrolled in Fall, 1996, those who graduated between Fall, 1996 and Summer, 1997 or who were enrolled in Fall, 1997 were counted as retained. All others, whether they left Western permanently or took a leave of absence, were counted as non-retained.

The nine datasets were then combined to create one large dataset spanning a ten year period. Analysis was performed using that dataset, so that we could test for changes over time as well as for the possibility that the retention of particular groups has changed over time. Unless noted otherwise, all results reported here cover the entire period, 1987-88 to 1996-97.

Since the sample size is so large, tests of significance accept extremely small effects. While all significant effects are reported, an effort is also made to assess the magnitude of each estimated effect on retention rates. The attempt is to identify factors that are estimated to have both a statistically reliable impact on retention and a also large enough practical impact to recommend spending resources to improve retention among that group.

This analysis was able to test for differences in retention rates only on those factors available in registrar's files and available for most or all students over the period 1987-1996. The factors we tested are made clear when findings are reported. Other factors such as students' economic needs, health status, and a wide variety of personal factors that influence retention could not be tested.

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[1] Thanks to Lynn Thomas for especially quick work in providing data and Jacquie Parker for early work with the data.

Even some factors we do have in our records were not appropriate to include in this analysis. For example, high school grades or test scores no doubt influence retention, via their influence on Western grades, but Western has no intention of changing its admissions policies in order to enhance retention. Factors such as ethnicity are included in the tests, not with any view toward changing Western's commitment to diversity in its recruiting and admissions, but with a view toward the possibility of taking steps to offer greater support to at-risk groups, if any are identified in the analysis.

Findings from the Multivariate Analysis

Since the outcome variable for this analysis--retention--is dichotomous and skewed, logistic regression is the multivariate method of choice. This means, in turn, that results are displayed as odds-ratios. These are somewhat awkward but quite precise to interpret. Other parameters typically reported from such analysis--slopes of the logged odds of retention--are omitted here because they carry no readily interpretable meaning. Any reader who prefers to view such results should contact the author.

All the findings here are expressed either as deviations from the ten-year average or as the ratios between the odds that one group will remain at Western versus the odds for another group. Absolute levels of retention are not reported here in part to emphasize that we are making comparisons and in part because the method of calculating retention here is slightly different from that for *officially* calculating retention. That difference is minor and occurs for reasons of data management, but it does produce slightly different retention rates.

So little change in retention rates has occurred over time that the multivariate model does not find time to be a significant determinant of retention. That is, while some increase in retention has been noted over time, it is relatively small and inconsistent and is explained in part by changes in the composition of the student body. Nonetheless, the descriptive figures showing change across the years are reported in Table 1, because the issue of change--what change has occurred and how easy or difficult change is to create--is so important. Table 1 shows a consistent increase in retention from 1987 through 1992, with a leveling off and perhaps a slight reduction since then. The only statistically reliable pattern is the increase from 1987 to 1990.

Table 1. Fall-to-Fall Retention Rates among Matriculated Undergraduates by Year (amount over or under the grand mean)

Year	Annual Retention Minus Ten Year Mean Retention
1987	-3.3
1988	-1.3
1990	-0.5
1991	+0.7
1992	+1.9
1993	+0.9
1994	+0.7
1995	+0.6
1996	+0.1

Table two presents the factors found to significantly impact Fall-to-Fall retention over the period 1987-1996. Other factors tested but having no significant effect on retention are listed below, in Table 2.

The figures shown in Table 2 are odds ratios--the most interpretable output from a logistic regression. An odds ratio is the ratio between two other ratios, known as odds. The odds that a particular group will graduate or remain enrolled at Western (i.e., be retained) are calculated by dividing the number who are retained by the number who are not. Thus, on average, odds of retention are in excess of 4.0:1 (more than four times as many are retained as are not retained). After odds of retention are calculated for two groups, those odds can be divided, creating an odds ratio. If, for example, one group has odds of retention equal to 4.0:1 and another has odds of only 3.0:1, then the odds ratio for the second group versus the first is .75. Odds ratios below 1.0 indicate lower retention for the group in question, as compared to all other groups. Odds ratios above 1.0 indicate higher than average retention. The odds ratios reported in Table 2 are calculated taking into account all other effects in the model, including those not shown because they were too small to be statistically reliable.

Table 2. Factors Estimated by Logistic Regression to Significantly Influence Fall-to-Fall Retention

Determinant of Retention	Odds Ratio
African-American	.53:1
Native American	.57:1
Foreign	.52:1
Quarter of entry: Winter	.73:1
Quarter of entry: Spring	.67:1
Quarter of entry: Summer	.71:1
First quarter transfer	.71:1
Class standing: first quarter freshman, no previous credits	.85:1
Class standing: freshman, 1-44 credits	.47:1
Class standing: sophomore	.64:1
Class standing: senior	1.49:1
Age: under 21	1.16:1
Age: over 25	.69:1
First quarter GPA under 2.5	.49:1
African-American * year (an indication of annual increase in retention for African-Americans, 1987-1996)	1.07:1

For example, in Table 2, African-American students are reported to be reliably less often retained as other groups not mentioned in the table, white and Asian American students in particular. The odds for African-American students to be retained are .53 of those for other students. That figure does not mean African-American students are only half as likely to be retained. Descriptively, their retention rate is only about 6.3% lower than the grand average. It does however, mean that after adjustments for all the other factors in the model, the odds of retention for African-American students are estimated to be only about half of those for others. That is, African-American students apparently transfer or leave higher education at a considerably higher rate than factors such as GPA, age, and class standing would predict. Seniors class members provide an example of a higher-than-average odds of being retained, with an odds ratio of 1.49:1. Since juniors are the one class omitted from the model, this means seniors are about 1.5 times more likely to be retained than juniors, all other factors held constant.

The findings may be summarized as follows:

- Compared to European-American students, African-American, Native-American students and foreign students are markedly less likely to be retained. Retention rates are also lower for Hispanic and Asian-American students, but only slightly so and not to a statistically meaningful degree.

- For one group, African-American students, Western's retention rate has risen significantly, on average, over the period 1987-1996. While the annual increase has been modest, the cumulative effect over ten years is substantial. What this means is that African-American retention began this period very low but has risen to near-parity.

- Students who entered Western in any quarter other than Fall are less likely to be retained.

- First quarter transfers to Western are less likely to be retained, and first quarter native freshmen entering with zero transfer credits are slightly less likely than others to be retained.

- Freshmen with at least some credits during the defining quarter--Fall of each year in the sample--are much less likely than others to be retained. This group includes running start students and students who entered during previous quarters, including the previous Fall quarters.

- Sophomores are also considerably less likely than others (juniors) to be retained. Seniors are, of course, much more likely than juniors to be retained.

- The older the student, the less likely retention. This is true only after adjustments for class standing and other factors. However, the oldest tenth of students are less likely to be retained, with or without adjustments.

- As would be expected, retention is much lower among those whose grades are especially low during their first quarter at Western. It is important to recall that the estimated impacts of factors listed above are over and above the effect of this indicator of low first quarter GPA.

Other factors that were tested but found to have either no reliable effect or an effect too small to make any practical difference are other ethnic groups, gender, year, and a series of interaction terms testing whether each group reported above generated a changing retention rate over the ten year period. As reported above, the only group for whom that was found to be true was African-American students.

Descriptive Findings for Groups Identified in the Multivariate Analysis

While findings reported in Table 2 give some indication of how greatly the odds of retention are affected by each factor, concrete interpretation is elusive. The tables that follow are less accurate than Table 2, since they confound many factors separated out in the multivariate analysis, but they have the value of offering concrete descriptive information about retention rates and the numbers of students involved in each category. Each table shows the amount by which the retention rates for each group differ from the grand mean for all students over all ten years. After each table, a brief interpretation is offered, although the tables are offered primarily to offer concrete detail for those who are interested.

Table 3. Fall-to-Fall Retention Rates among Selected Ethnic Groups, by Year (amount over or under the grand mean for all students)

	Annual Retention Minus Ten Year Mean Retention			
Year	White/European-American	African-American	Native-American	Foreign Nationals
1987	-2.7	-15.2	-17.3	-2.6
1988	-0.5	-18.0	-9.8	-10.7
1990	+0.3	-6.6	-12.3	-16.0
1991	+1.3	-6.2	-0.7	-14.0
1992	+2.6	-1.0	-18.3	-18.7
1993	+1.8	-7.9	-1.3	-22.6
1994	+2.1	+2.7	-10.9	-13.8
1995	+1.5	-2.7	-3.7	-20.0
1996	+1.1	-2.0	-3.4	-8.5
Total, all years	+0.9	-6.1	-6.7	-14.1
Average annual Number*	7,600	121	141	84

* Excluded from this table are Hispanic students, Asian-American students, students categorized as "other," and those who declined to indicate ethnicity.

The figures for groups other than the white majority tend to vary widely and somewhat randomly because of the small annual sample size. However some useful patterns are shown here. First and foremost is the remarkable improvement in retention among African Americans. Second, figures for foreign nationals tend to be especially and consistently low. Third, figures for Native Americans are especially interesting for their lack of consistency. Their retention is especially worthy of further study, in hopes of learning why it is often near equity while at other times remarkably low.

Aside from the well-being of each of these groups, this report also has an interest in how much each group can contribute to Western's overall Fall-to-Fall retention rate. Since African-Americans represent an average of 1.4% of all students in this analysis, their

average rise of about .14 retention accounts for an increase in the overall retention rate of .002. The impact of Native American students is barely greater, and that of foreign students is just over half that. Thus, the well-being of these critical groups is submerged when the accountability figure of interest is total Fall-to-Fall retention, but comes into sharp relief when it is retention among each group.

Table 4. Fall-to-Fall Retention Rates among New Freshmen, New Transfers, and all others, by Year (amount over or under the grand mean for all students)

	Annual Retention Minus Ten Year Mean Retention		
Year	New Freshmen	New Transfers	All Others
1987	-7.8	-7.5	-1.0
1988	-5.8	-7.7	+1.3
1990	-5.0	-7.6	+1.7
1991	-6.2	-4.5	+3.2
1992	-1.5	-8.0	+4.2
1993	-0.8	-9.2	+2.9
1994	-1.0	-9.8	+2.9
1995	-4.3	-8.9	+3.1
1996	-3.6	-8.7	+2.2
Total, all years	-4.4	-8.1	+2.4
Average annual Number*	1517	1038	6547

* Excluded from this table are Hispanic students, students categorized as "other," and those who declined to indicate ethnicity.

Although the multivariate test of possible changes over time among new freshmen and new transfers found no linear effect, Table 4 shows retention for these groups over time in order to show a nonlinear effect. Freshmen retention begins low, improves markedly until near-parity with upperclassmen, and then declines again, although not to its previous low. That same pattern of rise and fall is seen, to a modest degree, among sophomores and upperclassmen ("all others"). Among transfers, however, no similar trend is observed. In fact, there is a small linear annual decline, large enough to be statistically reliable but too small to be meaningful organizationally.

Of greatest importance in terms of current policy regarding retention is the fact that retention has recently been considerably more problematic among new transfers than among new freshmen, averaging about nine percentage points below the overall average, as compared to about three percentage points. Since new transfers represent about eleven percent of Western students at any given point in time, bringing their retention up to average would increase the overall retention rate about one percent. New freshmen represent about 17%

of Western students. Raising their retention rate to average would increase overall retention by only about one-half of one percent. Raising it by six percentage points would raise the overall rate by one percentage point.

Other tables presented below are shown for the overall population rather than broken down by year, because no meaningful over-time trends exist among them. The first of these, Table 5, shows retention rates by year of entry. These figures show only small differences in retention depending on entry point. However, when factors such as GPA, class standing, and ethnicity are taken into account (see Table 2), these differences are magnified. It appears that some aspect of entering "off-quarter" works against students' retention in ways that are not explained by obvious issues such as poor grades.

Table 5. Fall-to-Fall Retention Rates by Quarter of Entry to Western (amount over or under the grand mean for all students)

Entered Western in:	Annual Retention Minus Ten Year Mean Retention
Fall	+0.3
Winter	+ 0.0
Spring	-1.8
Summer	-1.0

The descriptive differences by quarter entered, shown in Table 5, are deceptively small. Apparently, judging from the multivariate analysis, these individuals' retention is increased by other factors while being decreased by entering at times other than the most typical Fall quarter entry. In addition, only 10.3% of all students enrolled during these nine Fall quarters entered during any quarter other than Fall (5.4% entered in Winter, 2.3% in Spring and 2.7% in Summer).

Therefore, focusing attention on increasing retention among these people can affect overall retention only slightly. Yet it appears that weaknesses in advisement, entering without a cohort, entering the curriculum out of sequence, or some other more personal quality of those entering during quarters other than Fall puts these individuals at greater risk than they would be had they entered during Fall quarter. The university may wish to focus some attention on these individuals, even though retention rates can be affected only a little by doing so.

Table 6 continues the presentation of descriptive figures by examining differences by class standing. It shows retention somewhat lower than the overall average for students entering as new freshmen in the Fall. That difference is expected; it is, in fact, not as large as is often the case. Virtually all of the thousands of studies of college retention find the greatest attrition occurring during freshman year, with the largest proportions leaving after the first full year and the second largest after the first quarter. Our findings are consistent, but offer two twists of interest, one shown in Table 6 and the other in Table 4. Both these are highlighted in multivariate analysis.

First, Table 6 shows a somewhat larger deficit among students who have freshman status but who entered prior to the Fall in question. This finding might be thought to echo the finding that entering any time other than Fall lowers retention. However, the multivariate findings show retention considerably lower among this group even after adjustments for quarter of entry as well as various other factors. In this report, we are forced to leave this finding as provocative, rather than confirmatory, because we lack the detailed information

about these individuals to determine what it is about them that leads to this deficit in retention.

Table 6. Fall-to-Fall Retention Rates by Class Standing (amount over or under the grand mean for all students)

Class Standing:	Annual Retention Minus Ten Year Mean Retention
first quarter freshmen	-4.4
freshmen with 1-45 credits	-6.5
46-90 credits	+4.4
91-135 credits	+6.1
136+ credits	+7.4

The second area in which Western's findings depart somewhat from the majority of the literature is that entering transfers, the great majority of whom enter with 90 credits, are retained by the following Fall less often than new freshmen. Their class standing works for higher retention, but something about the transfer process, Western's transfer orientation, class access, or the individuals who transfer reduces their likelihood of retention. Table 4 shows the average retention among first quarter transfers 8.1 percentage points lower than the grand average for all students. This difference is confirmed in the multivariate analysis (see Table 2).

The State of Washington's policy of forcing many students to transfer in order to complete a four year degree adds importance to these findings and to Western's need to focus on this group. Bringing their retention to the grand average would increase our overall retention by about one percent. More importantly, we need to learn as quickly as we can whether the reasons for the lower retention of new transfers is something that Western can influence, as opposed to a set of individual qualities such as economic situation and personal motivation, that we can not influence.

The other factors identified in the multivariate analysis as important to the explanation of retention/non-retention are age and first quarter GPA. The descriptive tables for these are presented below.

Table 7. Fall-to-Fall Retention Rates by Age Category (amount over or under the grand mean for all students)

Age:	Annual Retention Minus Ten Year Mean Retention
22 or younger	+0.2
23-25	+0.9
26-29	-1.2
30 or more	-0.5

Table 7 presents a deceptively simple picture. If students are in the "standard" age range to be pursuing undergraduate studies, their retention is higher than if they are older. That simple finding glosses a myriad of specific life conditions that cannot be analyzed with this dataset. One factor important to mention is that course success is not part of the explanation. In fact, older students receive higher grades. That is at least part of the reason why the finding for age is stronger in the multivariate table than in this descriptive table.

Since only 11.1% of Western's student bodies over the last ten years have been 26 or older, changing the retention of this group will have little impact on the overall retention. In addition, this group's retention, important in itself, may be difficult to influence. These tend to be people whose course performance is acceptable but who make geographical or economic relocations that are a part of an adult life.

Table 8. Fall-to-Fall Retention Rates by First Quarter GPA (amount over or under the grand mean for all students)

	Annual Retention Minus Ten Year Mean Retention
GPA, First Quarter:	
2.0 and below	-13.5
2.01-2.5	-1.5
2.51 to 3.0	+2.4
3.01 to 3.5	+3.9
3.51 and above	+4.4

The picture drawn by Table 8 is very much to be expected. The higher one's first quarter grades, an indicator we have available for all those who left Western as well as those remaining, the higher the probability of being retained by the following Fall. In particular, those whose performances placed them on academic probation are much less likely to be retained. Indeed, there is a sense in which we may be surprised that so many--well over 70%--of those who began in this failing category remained at Western a year later.

A major part of the reason for that is that each year's Fall enrollments include many who entered in previous years. Of these, some had weak first quarters and then improved. Those who did not improve tend not to be enrolled in future quarters, omitting them from the figures. A more accurate picture is offered by Table 9, which calculates retention by GPA among those who were in their first quarter in the base year from which Fall-to-Fall retention was computed. Here, we see that new students whose grade average is under 2.0 in the first quarter have a retention rate 28.6% lower than that for the entire student body as a whole. Those whose initial grades fall in the 1.0-2.5 range have only a modestly lower than average retention rate. Those with high grades are barely above the overall average, illustrating that first year retention is still somewhat problematic, countervailing the effects of high grades.

While course grades give us one look at the retention issue, it is problematic to consider too wide a range of ways to keep failing students enrolled. If all entrance selection could be perfect, then no students should be failing. At the same time, if all grading were a perfect indication of students' long term prospects in college, then no students who received failing first quarter grades should be retained. Where the truth lies between these poles is impossible to ascertain with any certainty.

Table 9. Fall-to-Fall Retention Rates by First Quarter GPA among Entering Students only. (amount over or under the grand mean for all students)

	Annual Retention Minus Ten Year Mean Retention
GPA, First Quarter:	
2.0 and below	-28.6
2.01-2.5	-6.9
2.51 to 3.0	-0.5
3.01 to 3.5	+0.6
3.51 and above	+1.5

Over the ten year period of this analysis, 13.4% of all students had a GPA of 2.0 or less in their first quarter, a figure that does not change over time. For new students only, the figure is 16.2%. This means that 7.0% of all new students entering Western leave and do not return after having received a failing grade point average during the first quarter.

Another view of the same issue is that 5.2% of all the students registered in the last ten years of Fall quarters eventually generated a GPA of lower than 2.0, the minimum required for graduation. Of these, 32.5% were retained for at least one Fall quarter; the others left Western prior to that.

Whether these figures are unreasonably high is open to question. In a period most often criticized for grade inflation, and given that students are not always emotionally prepared for their first experience away from home, the figure is probably not too high. The question, then, is whether advising or other supports should be brought to bear to help more of these people to ultimately succeed at Western than at present.

We know that some instances of low GPA represent the result of an early decision to leave or poor early adjustment, rather than the cause of a later withdrawal decision. For those individuals, steps to make the adjustment more effective would have the dual result of reducing withdrawals and reducing failure rates. Unfortunately, we have no real way of separating these individuals from others. One 1995 study asked entering students how difficult their transition to Western was. Very few reported problems, suggesting the number at risk of failure and withdrawal from poor transition is small.

A Note on the Timing of Withdrawal

Intervention attempts require information about the timing of withdrawal. Entering freshmen and transfers prove to be quite different in this respect. Over one-fourth of non-retention among continuing students (those not new during the Fall defining each year's Fall-to-Fall retention) left during or after Fall, not re-enrolling for Winter quarter. Among freshmen entering new that Fall who were not retained by the following Fall, only 18.0% failed to return for Winter. New transfers were like continuing students, with 25.1% failing to return.

If we ask what proportion of eventual non-retentions left before Spring quarter, differences between freshmen and transfers intensify. Among continuing students, just under half of non-retentions leave before Spring quarter; among new freshmen the figure is only 32.7%;

among new transfers the figure is 53.5%. While most freshman withdrawal occurs over Summer, more than half of withdrawal among transfers occurs after Fall or Winter quarters.

While freshman retention may be susceptible to influence any time during the first year, intervening with transfers apparently requires policy changes that take effect earlier in the transfer student's experience at Western.

A Note on the Permanence of Non-Retention

We know that some proportion of non-retention is the result of students taking leaves of absence and returning to Western, but we have not had accurate figures on how widespread such "stopping out" is. Using the Fall-to-Fall retention samples from Fall '87 through Fall, 94, we calculated the proportion of all non-retentions who retumed to Westem some time within the two years after the one-year Fall-to-Fall retention period. The result is that 24.3% of all non-retentions returned to Westem within a two year lag period after their non-retention. In addition, at the time of our analysis, 15.3% of all non-retentions had graduated from Westem. If we look only at the cohorts prior to 1992, allowing a total of six years for graduation, the rate of graduation among non-retentions is up to 20.8%. This means that the eventual rate of graduation among non-retentions will approach 22-23%.

Other research we have conducted on time-to-degree has shown that taking a leave of absence is, on average, a positive influence on the efficiency of students' degree completion. After returning, students decide their majors more quickly and move more efficiently to the degree. We also know that such leaves help clarify goals for many students, and therefore make choices such as major field more thoughtful and more likely to play out well in the years after college.

We have therefore established as policy that we will not take any steps that would discourage leaves of absence. Effectively, just under one-fourth of our non-retention rate is therefore conceptually different from the rest. We would not wish to reduce that portion of non-retention.

A Note on The Effects of Preparation Prior to Entering Western

The analysis presented here does not include controls for preparation--for test scores or performance in high school or Community College. The reason is that, as a matter of policy, we will not entertain changes in admissions in order to improve performance standards. The analysis does include categorical variables for receiving low first quarter grades at Westem and for demographic background because Westem could decide to focus retention efforts on those who perform poorly here or whose group membership appears to put them at risk. But we have not included previous performances as a control variable.

It is, however, useful for understanding the pattems we are observing, to ask how much of the impact we see from various factors (see Table 2) stems directly from poor preparation prior to entry. Policy responses must be different if pre-Westem preparation is an important issue than if not. Performing the analysis shown in Table 2 with ;the ;inclusion of high school GPA for those entering as freshmen and transfer GPA for those entering as transfers, we find remarkably little change in the pattem of findings for other variables. Of course, previous GPA has a marked impact on likelihood of retention, more than doubling the odds of retention among the top GPA group as compared to the lowest group. In addition, two factors reported in Table 2 become non-significant when prior GPA is included: entering in Spring and entering in Summer. Most important, however, is that all the other factors reported in Table 2 retain significant effects, and the effects estimated remain essentially unchanged from those reported in Table 2.

Policy Discussion

This analysis has identified several categories of students as particularly at risk of non-retention: students with low grades, new transfer students, students entering Western in quarters other than Fall and having freshman status, Native-American and foreign national students, and students older than 25 years of age. In addition, to a lesser extent, new freshmen experience a higher than average non-retention rate.

New Freshmen. It is very likely that retention has improved among new freshmen because of a) increasing selectivity and b) marked improvements in freshman orientation. The only reason for concern here is that retention rates for new freshmen have slipped in the two most recent years. Since these are highly selected students, their retention should be higher than it is. Western already has a committee working on recommendations for improving the first year experience for freshmen. Its recommendations will be available by about Mid-May.

New Transfers. New transfer students' retention is more problematic. It is low and has not improved during the last ten years. If anything, it has declined slightly. This is a group clearly recommended by this analysis for focused retention efforts.

Further, the timing of transfers' departure from Western is earlier than for new freshmen, suggesting that the transition to Western is part of the problem. Consistent with that interpretation, we have already identified two issues that are particularly problematic for transfers: course access during the first quarter here and articulation of prerequisites between Community College curricula and Western's curriculum.

In addition, some factors over which Western has no influence help account for the higher non-retention rate among transfers. Transfers are somewhat less select than our entering freshman class, but this difference is modest. Also, transfers are, by choice and by experience, more open to the possibility of changing schools, the major reason for non-retention.

How much transfer non-retention is a result of these personal characteristics and how much it is something Western policy can change is unknown. However, we certainly assume that Western can have some influence on these rates, and that we can create a somewhat better experience for transfers. Several policies that might improve transfer retention are now being put in place or are under consideration:

- Better coordination with Community Colleges (underway)
- Improved orientation (underway)
- Acceptance into the major as a part of the transfer acceptance (being considered)
- Year-long registration, allowing students to confirm eventual seating in desired classes if they are full during the first quarter of entry (under consideration)
- Enhanced course access, eliminating bottlenecks, etc. (under consideration on an ongoing basis)
- Enhanced student advising systems (some new proposals now being implemented; a study group now meeting to develop new proposals)

Ethnic and National Minorities. Western has devoted extensive efforts to the retention of groups long identified as being especially at risk of non-retention: ethnic minorities. We also have services for foreign national students. We have not been especially conscious of

their low retention rates, although such long-distance arrangements are likely to produce higher withdrawal rates.

Particularly intense efforts have been made over recent years to retain African-American students, early identified as our most seriously at risk of non-retention, primarily because of transfer to more urban areas. We are pleased that those efforts appear to have paid off, bringing retention of this group to near par during the last three years, despite their experience of greater problems with academic success.

We can also be pleased that retention rates for Asian-Americans are identical to those of "other white" students, and that rates for Hispanic students are almost at par. On the other hand, we are very concerned about rates for Native-Americans and are now doing a closer examination of reasons for non-retention. We hope to have conclusions soon that will allow us to develop more effective interventions.

Freshmen who Entered in Quarters other than Fall. While most groups identified as at risk of non-retention were expected, our analysis also identified two categories that were surprises: students who entered in quarters other than Fall and those who, in any given Fall, were not newly entered, but were still in the freshmen class. Indeed, freshmen who were not newly arrived in any given Fall had higher risk of non-retention than entering freshmen.

If we join these two conditions, identifying students who had between 1 and 45 total credits from all sources and who entered during any quarter other than a Fall quarter, the resulting group, while small, appears particularly at risk of non-retention, having a retention rate fully 28.4 percentage points below the average for all students. While this group is too small to impact overall retention rates, at only .6% of all students, the severity of their risk status recommends our attention.

The two policy areas most likely for Western to focus on with regard to these students are a) improved orientation and supports for students entering "off schedule," and b) improved advising and tracking of students during the critical period after their orientation and before their sophomore years. Our finding that most new freshmen entering in Fall quarter complete one full year before leaving reinforces the importance of the period after entry and before 45 credits. This period is the focus of our already-working "first year experience study group."

Students over Age 25. Western already has in place special services for older returning students. We also find them more successful than average, measured in terms of success at Western. Although we cannot at this point be certain, it appears most likely that the higher-than-average non-retention among this group is the result of their private life situations. They tend to have family and work responsibilities that hinder full-time continuity in their studies. While they are likely to graduate, they are less likely to be "retained" on the quarter by quarter basis demanded by the state accountability measure. We think, therefore, that this group is not one on which Western needs to focus additional effort beyond the special efforts already directed to them and beyond increased attention to retention in general.