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# The Relationship between Academic Performance, Students' Admission Status, and Selected Student Characteristics

Tracy Thorndike-Christ  
*Western Washington University*

Joseph E. Trimble  
*Western Washington University*

Jacqueline M. Andrieu-Parker  
*Western Washington University*

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The Relationship between  
Academic Performance,  
Students' Admission Status, and  
Selected Student Characteristics

Report Number 1991-01

Tracy K. Thorndike-Christ  
Joseph E. Trimble  
Jacqueline M. Andrieu-Parker

## Executive Summary

This report presents the results of analyses of the relationships between a student's admission status, his or her grade point average and a variety of student characteristics, including gender, ethnicity, and age. The records for a sample of 982 Western Washington University upper-division students were provided by the University's Registrar for analysis.

Upper-division undergraduates, defined as those having between 80 and 100 WWU credits, had an average GPA of 2.91.

Students who began their higher education at Western (natives) were found to have a higher average GPA (2.96) than students who transferred from a two-year institution (2.85). These findings are inconsistent with those reported in the profile of 1990 Spring graduates in which transfer students achieved a higher average GPA than natives did. No differences were found between the GPAs of native and four-year transfer students or between two-year and four-year transfer students.

As was also noted in the 1990 graduate profile, females in this sample (55%) had higher GPAs than males (45% of the sample). When comparing students of different age categories, students 40 years of age and older again had the highest GPA overall and students of different ethnic backgrounds achieved effectively equivalent GPAs.

Some majors had higher average GPAs than others. Students from different admission status categories generally did equally well within a given major. The only exception was in the Business/Management major where natives outperformed two-year transfer students.

## Introduction

The following report was prepared in response to questions raised by a profile of characteristics of Spring 1990 Western Washington University graduates (McKinney, Trimble, & Andrieu-Parker, 1990). This profile suggested that those transferring from other institutions outperformed students who began their higher education at Western. It was also reported that, among 1990 Spring graduates, females and students over 40 generally had higher average grade point averages than males or younger students.

The relationships of academic performance to students' admission status (either native or transfer) and a variety of other student characteristics including gender, ethnic background, and age were evaluated for a group of Western Washington University undergraduates to determine if the pattern of relationships for undergraduates would be similar to that found for the 1990 Spring graduates. The records for a sample of WWU upper-division undergraduates, defined as those who had between 80 and 100 WWU credits, were obtained from the Student Information Data Base in the University's Registrar office for analysis. Academic performance was measured in terms of cumulative Western Washington University grade point average.

For clarity, results are organized according to student characteristic categories. Information is presented in summary form. Descriptive statistics, in conjunction with tables and figures where appropriate, are used to report the findings.

### Upper-division Students

A sample of Western Washington University upper-division students, defined as those having a total number of WWU credits of between 80 and 100, was provided by the Registrar for analysis. The records of 982 students were analyzed in this study. While the majority of these students entered Western in the fall of 1986, the records of some date back as far as 1973. The average GPA achieved by these students was 2.91.

#### Gender

Of the 982 students in the study, 542 were female (55%) and 440 were male (45%). Females achieved an average GPA of 2.96 which was higher than that obtained by males (2.84).

#### Admission Status

The study differentiated among three types of admission status: (1) transfer students from a two-year institution; (2)

transfer students from a four-year institution; and (3) students who began their higher education at Western (natives). Transfer students from two-year institutions made up 45% (446 out of 982) of the sample, 4% of the students transferred from four-year institutions (41 out of 982), and 51% (495 out of 982) were natives. Two-year transfer students obtained an average GPA of 2.85, four-year transfer students had an average GPA of 2.91, and native Western students earned an average GPA of 2.96. Natives had a significantly higher GPA than did two-year transfer students. None of the other differences between the average GPAs obtained by the admission status groups were large enough for these GPAs to be considered effectively different (see Figure 1).

### Gender and Admission Status

Grade point averages of females were approximately the same regardless of their admission status. Females who had transferred from a two-year institution (24% of the total sample or 235 out of 982) achieved an average GPA of 2.96, female transfers from four-year institutions (2.5% of the total sample or 24 out of 982) had an average GPA of 2.90, and native females (29% of the total sample or 283 out of 982) obtained an average GPA of 2.97.

Among males, however, grade point average varied somewhat according to admission status. Native males (22% of the total sample or 212 out of 982) had GPAs averaging 2.97 which was significantly higher than the average GPA (2.72) of males transferred from a two-year institution (21% of the total sample or 211 out of 982). Male four-year transfer students (1.5% of the total sample or 17 out of 982) achieved an averaged GPA of 2.93. The GPA of this group was not different enough from those of the other two groups to allow the conclusion that the differences observed here would show up again in another sample (see Table 1).

Additionally, of the 446 students who transferred from a two-year institution, females' average GPA of 2.96 was higher than the GPA of 2.72 achieved by males. Males and females in the four-year transfer and native admission status categories had basically equivalent grade point averages (see Figure 2).

### Ethnicity

Ethnic minority undergraduates (5% of the total sample or 47 out of 982) had an average grade point average of 2.86, Caucasian students (89% of the total sample or 872 out of 982) achieved an average GPA of 2.91, and those in the "other" ethnic category had an average GPA of 2.92. There was effectively no difference in the grade point averages obtained by members of the different ethnic categories.

### Ethnicity and Admission Status

Among ethnic minority students, those who began their education at Western (natives) had an average GPA of 3.10 which was higher than the GPA of 2.61 obtained by minority students who transferred from two-year institutions. No other differences among ethnic groups with different admission statuses were found (see Tables 2 and 3).

### Age

The grade point averages of upper-division undergraduates were found to vary as a function of student age. Students in the 23-24 year-old category had an average GPA of 2.90, those aged 25-29 had an average GPA of 2.88, 30-39 year olds achieved an averaged GPA of 3.02, and those 40 and older obtained an average GPA of 3.32. Students in the 40 and older age category had a higher GPA than either the 23-24 or the 25-29 year olds. No other real differences among the GPAs of these age categories were found (see Table 4 and Figure 3).

### Major/Department

Undergraduates' average GPA varied according to choice of major. Of the 22 major categories used in the study, the Allied Health major had the lowest GPA overall (2.56) and Public Affairs had the highest (3.37). Business Administration (2.62), Communications (2.75), and Engineering (2.75) majors also had low average GPAs whereas those studying the physical sciences, Architecture, and Foreign Language had significantly higher average GPAs of 3.32, 3.26, and 3.17 respectively.

### Major/Department and Admission Status

Within a given major, those of different admission status categories achieved virtually equivalent grade point averages. There was only one exception to this. Native students in the Business/Management major had a significantly higher average GPA (3.05) than either two-year transfer students (2.76) or four-year transfer students (2.55).

## Discussion

In contrast to the findings reported in the profile of 1990 Spring graduates in which transfer students had a higher GPA than natives, upper-division undergraduate native students were found to have higher grade point averages than their transfer student counterparts. Otherwise, the relationships between student characteristics and academic performance reported here are in keeping with those found among the 1990 graduates.

The sample of students whose records were provided by the Registrar's office for analysis in this study consisted of all students enrolled at Western for fall quarter 1990 who had a total of between 80 and 100 WWU credits. Another possible sample that might be drawn to address the question of differences between native and transfer students would be a random sample of all students currently enrolled at Western with greater than 90 total WWU credits. By virtue of being randomly selected from the total population of Western upper-division students, it is likely that such a sample would provide a more accurate picture of upper-division students in general.

The profile of the typical Western Washington University upper-division transfer student is one of a student who entered Western after earning credits at a two-year institution. This student is most likely female, Caucasian, and between 25 and 29 years of age. This student's cumulative WWU GPA is approximately 2.86.

The typical Western Washington University upper-division native student, by definition, entered Western directly out of high school. This student is also likely to be female and Caucasian, but somewhat younger than the transfer student (between 23 and 24 years of age). The native student's cumulative GPA is approximately 2.96.

#### Summary

This report evaluated the relationships between grade point average and a variety of student characteristics among Western Washington University upper-division undergraduates. The average GPA achieved by these students was 2.91.

Female undergraduates had higher GPAs than their male counterparts. Additionally, older students, on the whole, outperformed younger students. No relationship was found between a student's ethnic background and his or her grade point average. These findings are all consistent with those reported in the profile of 1990 Spring graduates.

In the Spring 1990 graduating class, transfer students had higher average GPAs than native students. Among upper-division undergraduates, however, native students had a significantly higher average GPA than two-year transfer students. There were no differences between the grade point averages of two-year transfers and four-year transfers or between four-year transfer students and natives.

Some majors were found to have significantly higher grade point averages than others. Native students majoring in Business/Management outperformed two-year transfer students in that major. No other differences among the GPAs of students in

the same major with different admission statuses were found.



## References

- McKinney, G. R., Trimble, J. E., & Andrieu-Parker, J. M. (1990). A Profile of Selected Characteristics of the Spring 1990 Western Washington University Graduating Class (Report Number 1990-01). Bellingham, WA: Office of Institutional Assessment and Testing, Western Washington University.

**TABLE 1:**  
**Analysis of Variance Summary for WWU GPA**  
**as a Function of Gender and Admission Status**

Source	Sum of Squares	df	Mean Square	F-ratio	Significance
Gender	3.01	1	3.01	10.51	.001*
Admit Type	2.85	2	1.43	4.98	.007*
Gender X Admit Type	3.39	2	1.70	5.92	.003*
Residual Variance	279.61	976	0.29		

\*  $p < .05$

**TABLE 2:**  
**Analysis of Variance Summary for WWU GPA as a Function of Ethnicity and Admission Status**

Source	Sum of Squares	df	Mean Square	F-ratio	Significance
Ethnic Status	0.12	2	0.06	0.20	.819
Admit Type	3.10	2	1.55	5.33	.005*
Ethnic X Admit Type	2.96	4	0.74	2.55	.038*
Residual Variance	282.94	973	0.29		

\* p < .05

**TABLE 3:**  
**Analysis of Variance Summary for WWU GPA of Ethnic Minority Students as a Function of Admission Status**

Source	Sum of Squares	df	Mean Square	F-ratio	Significance
Admit Status	3.46	2	1.73	5.50	.007*
Residual Variance	13.81	44	0.31		

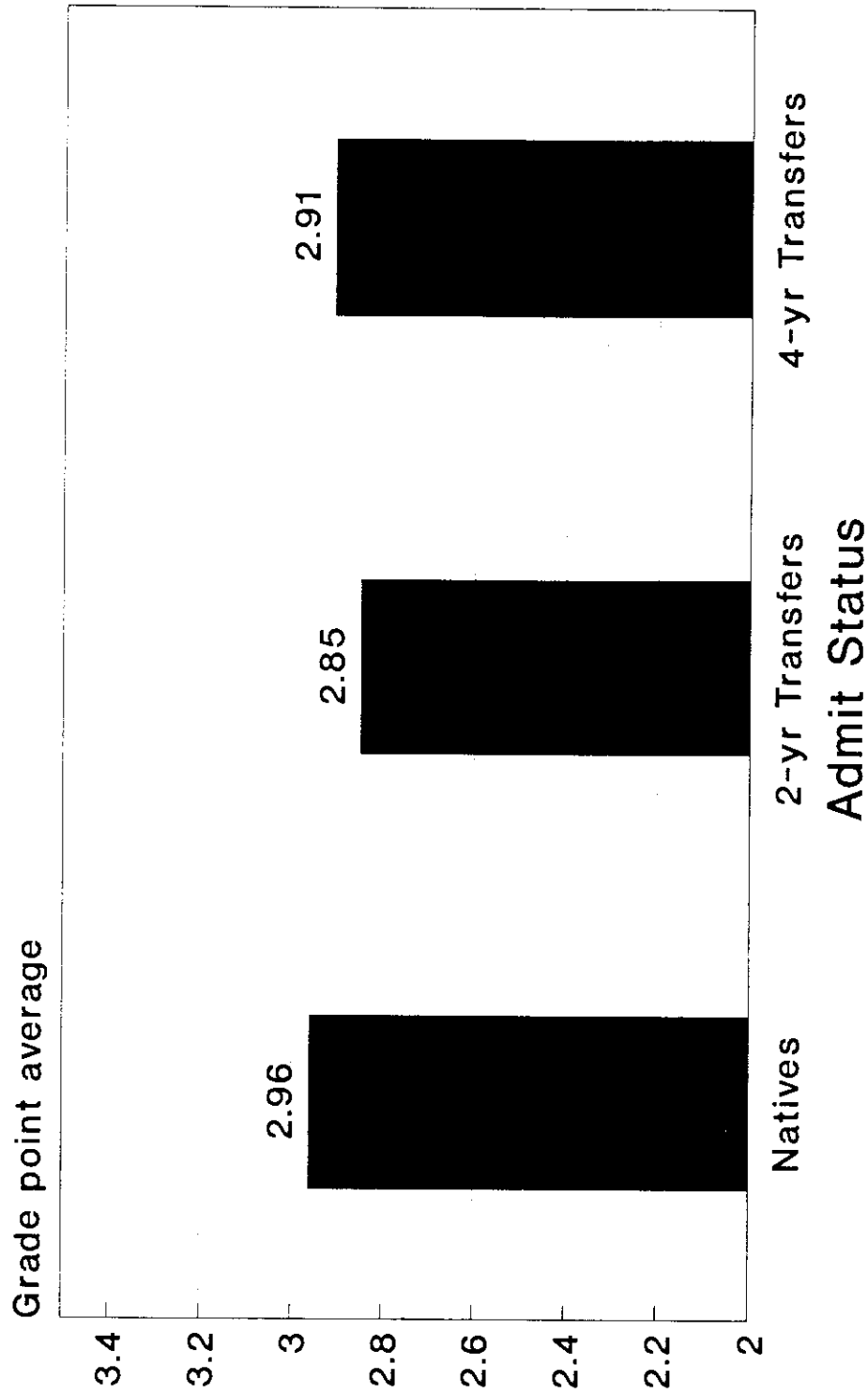
\* p < .05

**TABLE 4:**  
**Analysis of Variance Summary for WWU GPA as a**  
**Function of Age Category and Admission Status**

Source	Sum of Squares	df	Mean Square	F-ratio	Significance
Age	8.19	3	2.73	9.67	.0001*
Admit Type	5.87	2	2.93	10.39	.0001*
Age X Admit Type	2.88	5	0.58	2.04	.071
Residual Variance	273.25	968	0.28		

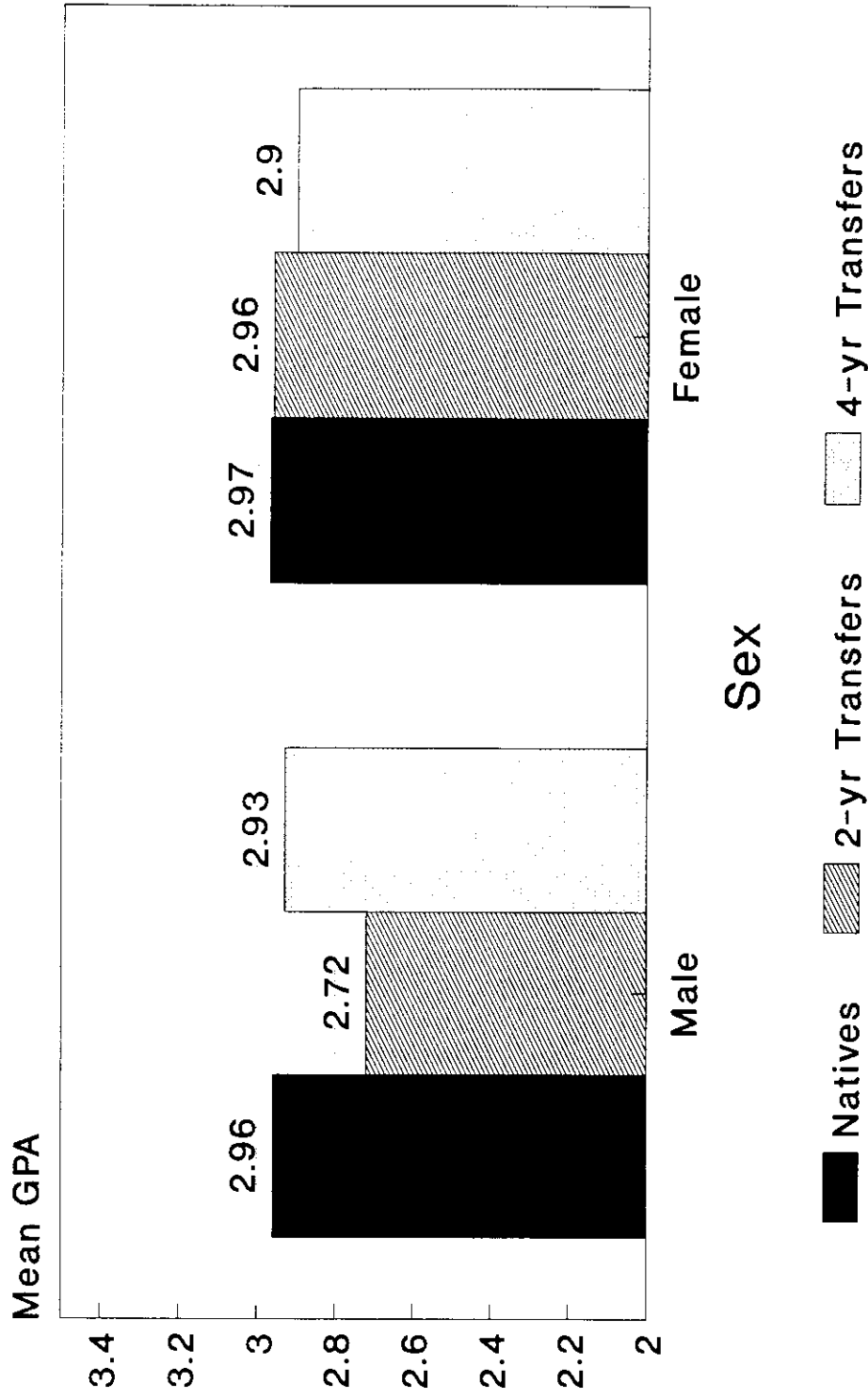
\*  $p < .05$

**FIG. 1 - AVERAGE WWU GPAS**  
Transfer and native students



# FIG. 2 - MEAN GRADE POINT AVERAGE

Admit status by Sex



# FIG. 3 - MEAN GRADE POINT AVERAGE

Admit status by Age groups

