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A Comparative Analysis
of the Academic Performance
of Native and Transfer Students

1991-07

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Executive Summary

This study utilized the records of two samples of WWU upper-division students (those with 90 credits and above) to evaluate the relationships of academic performance to students' admission status (either native or transfer) and other selected student characteristics such as gender, ethnicity, and age. The first sample measured academic performance in terms of cumulative WWU GPA. The second sample looked at grades earned in 300 and 400 level courses only (upper-division GPA). This report was prepared as a follow-up to an earlier study that used a much more limited sample.

Females were found to have consistently higher GPAs than males, regardless of the sample or the type of GPA (cumulative or upper-division) used in the analysis. Older students generally outperformed younger students although the relationship between age and academic performance was mediated by a student's admission status. Students of a given age but with different admission statuses or of the same admission status but of different ages in many cases did not have equivalent GPAs. In general, among younger students natives outperformed two-year transfer students. No such difference was found among older students.

This study also found differences in both the cumulative GPA and the upper-division GPA earned by different ethnic groups. Caucasians had a higher average cumulative GPA than Blacks and a higher average upper-division GPA than both Blacks and Asians. In addition, American Indian students also had a higher average upper-division GPA than Black students.

A student's grade point average when he or she enters Western (high school GPA for natives and GPA at the institution attended before transferring to Western for transfer students) was the best predictor of how well a student would do academically once at Western. WPCT subtest scores also aided in the prediction of both cumulative and upper-division GPAs for both native and transfer students. However, the relative importance of these subtests was different for students of different admission statuses. Prediction of native students' academic performance was most enhanced by the WPCT-Verbal subtest score whereas prediction of a transfer student's academic performance was more improved by the knowledge of his or her WPCT-Quantitative subtest score.

After conducting several separate analyses of the differences and similarities of WWU's native and transfer students, it can be concluded that when comparing students of different admission statuses regardless of age there is effectively no difference in the academic performance of Western's native and two-year transfer students.

Introduction

This report was prepared as a follow-up to an earlier study on the relationship between academic performance, students' admission status, and other selected student characteristics including gender, ethnic background, and age (Thorndike-Christ, Trimble, & Andrieu-Parker, 1991). In contrast to the previous study in which analyses were conducted on the records of a sample of Western Washington University undergraduates with between 80 and 100 total WWU credits, this study utilized two samples of WWU upper-division undergraduates (defined as those with 90 or more WWU credits who had not yet earned a Bachelor's degree).

The first sample consisted of all students with 90 or more credits who were enrolled at Western during fall quarter 1990 (N = 4303). The relationships of academic performance, as measured in terms of cumulative WWU grade point average (GPA), to students' admission status (either native or transfer) and a variety of other students characteristics including gender, ethnicity, and age were evaluated for this sample to determine if the pattern of relationships found among all upper-division students would be the same as those observed in the sample of undergraduates with between 80 and 100 credits used in the previous study.

For the second sample (N = 4746), which consisted of randomly selected upper-division students, academic performance was measured in terms of a recomputed GPA based only on grades earned in 300 and 400 level courses. The grades students receive in freshman and sophomore level courses (general university requirements or GURs) are generally assumed to be lower than those they receive in their major. Since cumulative grade point averages of native students include grade earned in GURs and those of transfer students often do not, it was thought that WWU GPAs of transfer students might be artificially high compared to those of native students. For this reason, the academic performance of native and transfer students was compared using a grade point based only on the grades earned in the 300 and 400 level courses a student had taken.

Knowledge of a student's standing on certain variables, specifically Washington Pre College Test (WPCT) verbal and quantitative subtest scores and high school grade point average, is thought to aid in prediction of how well that student will do academically once in college. Additional analyses were conducted to determine if, depending on a student's admission status, there were any differences in the ability of certain variables to predict academic performance at Western. WPCT verbal and quantitative subtest scores and high school GPA were used to predict how well a native student would perform at Western. For transfer students, transfer grade point average was also used to determine how well a student would be expected to do in college.

Since very few of Western's upper-division students had taken the SAT, SAT subtest scores were not included in the analyses.

The records of students in both samples were obtained from the Student Information Data Base maintained by the University's Registrar Office for analysis. The results are organized according to student characteristic categories. Results of the analyses to predict WWU GPA from pre college test scores and previous grade point averages are presented in a separate section. Information is presented in summary form. Descriptive statistics, in conjunction with figures where needed for clarity, are used to present the results.

Upper-division Students/Cumulative WWU GPA

Student Characteristics and Academic Performance

Gender. Of the 4303 students in the study, 2121 (49.3 percent of the total sample) were male and 2182 (50.7 percent of the total sample) were female. Males achieved an average GPA of 2.79 which was lower than the average grade point earned by females (2.92). See Figure 1.

Admission Status. The study differentiated among three types of admission status: (1) students who began their college education at Western (natives); (2) students who transferred from a two-year institution; and (3) transfer students from a four-year institution. Two-year transfer students made up the largest percentage (52.5 percent) of the total sample. The next largest group was native students (38.6 percent of the total), followed by four-year transfer students (8.9 percent of the total).

Ethnicity. In this study, ethnicity was broken down into seven categories; American Indian, Asian, Black, Caucasian, Hispanic, Foreign students, and those of other, unspecified ethnic backgrounds. Caucasian students made up the largest percentage of the total (91.84 percent) and achieved an average cumulative GPA of 2.86. Percentages of students from other ethnic backgrounds and the average cumulative GPAs earned by members of each category were as follows; American Indian (1.24 percent) GPA = 2.83, Asian (3.24 percent) GPA = 2.72, Black (0.11 percent) GPA = 2.52, Hispanic (1.34 percent) GPA = 2.67, Foreign students (0.78 percent) GPA = 2.71, and other, unspecified ethnic backgrounds (0.65 percent) GPA = 2.82.

Results of the analyses indicated that Caucasian students earned higher average cumulative GPAs than Black students (2.86 and 2.52 respectively). There were effectively no differences in the average GPAs earned by members of any of the other ethnic categories (see Figure 2).

Age. Students' ages were broken down into four categories. Of the 4303 students in this sample, the largest percentage of students (74.4 percent) were 24 years-old or younger. Those aged 25-29 made up the next largest category (14.8 percent of the total sample). Another 7.6 percent of the sample were students between the ages of 30 and 39 years old. Finally, those 40 and older made up 3.1 percent of the sample.

Age and Admission Status. The cumulative grade point averages of upper-division students were found to vary as a function of age. Among students 24 years-old or younger, natives (GPA = 2.83) and four-year transfer students (GPA = 3.00) outperformed two-year transfer students (GPA = 2.75). Additionally, the cumulative grade point average of four-year transfer students was significantly higher than that of native students.

Among 25-29 year-olds, natives (GPA = 2.87) and four-year transfers (GPA = 2.97) again achieved higher grades than two-year transfer students (GPA = 2.69). The difference between the GPAs of the natives and four-year transfers was, however, too small to be considered of practical importance.

Four-year transfer students aged 30-39 outperformed two-year transfer students of the same age (GPAs of 3.33 and 2.85 respectively). There were no other differences among the cumulative grade point averages of students in this age category with different admission statuses.

The same relationship between different admission statuses observed among 30-39 year-olds was also found among those 40 and older. Four-year transfer students (GPA = 3.57) earned higher grades than two-year transfer students (GPA = 3.15). There were no other differences among the cumulative GPAs of students 40 and older.

Those aged 24 years and younger who began their education at Western achieved higher GPAs than 25-29 year-old natives (GPAs of 2.83 and 2.69 respectively). Among two-year transfer students, 30-39 year-olds (GPA = 3.15) and those 40 and older (GPA = 3.15) outperformed 23-24 year olds (GPA = 2.75) and 25-29 year-olds (GPA = 2.87). Additionally, 25-29 year-olds achieved higher grades than 18-24 year-old students. Among the four-year transfer students, those ages 30-39 (GPA = 3.33) and 40 and older (GPA = 3.57) again earned higher grades than younger students (average grades for 18-24 year-olds = 3.00, for 25-29 year-olds = 2.97). See Figure 3.

Major/Department. Upper-division students' grade point averages varied according to their major field of study. Of the 22 major categories used in the study, Engineering majors had the lowest overall GPA (2.27) and Public Affairs had the highest

(3.17). Area and Ethnic studies (2.57), Business and Management (2.77), and Parks and Recreation (2.74) had comparatively low average GPAs whereas those studying Foreign languages, Liberal/general studies, and Health sciences had relatively high average GPAs of 3.06, 3.06, and 3.04 respectively.

Major/department and Admission Status. Regardless of a student's admission status, those majoring in Education achieved higher average grades than those in Engineering and related technologies or those majoring in Business and Management.

In a number of majors, students in different admission status categories differed in the average grades they achieved. Among those majoring in education, students who transferred to Western from another four-year institution had significantly higher average grades (3.22) than either natives (2.96) or two-year transfer students (2.99). Four-year transfer students majoring in Home Economics also had higher GPAs (3.43) than natives (2.80) or two-year transfers (2.81). Among those majoring in Multi/interdisciplinary studies, four-year transfers and two-year transfers outperformed native students (GPAs of 3.19, 2.99, and 2.80 respectively). Native psychology majors had higher GPAs than two-year transfers in that major (3.02 and 2.81 respectively). Of those majoring in social sciences, four-year transfers had higher GPAs (3.11) than either natives (2.79) or two-year transfer students (2.87).

Not all members of a given admission status category earned equivalent grades. Education majors who transferred from a two-year institution had higher average GPAs than two-year transfers majoring in Business and Management. There were no differences between the grades earned by students majoring in different fields among native students or transfer students from four-year institutions.

Prediction of Academic Performance

Native Students. The most important predictor of a native student's academic performance at Western was how well he or she had done academically in high school ($R^2 = .30$). When WPCT verbal scores were considered in addition to high school grade point average, the accuracy of the prediction of college GPA improved ($R^2 = .35$). Only slightly more accuracy in the prediction of WWU GPA was gained by adding knowledge of a student's WPCT quantitative score ($R^2 = .36$). This means that 36 percent of the variability in the grade point averages of native Western students was accounted for by knowledge of their high school GPA and WPCT subtest scores.

Transfer Students. The best predictor of a transfer student's academic performance at Western was his or her grade point average from the post-secondary school from which he or she

transferred ($R^2 = .26044$). The accuracy of prediction was substantially increased by knowledge of a student's WPCT quantitative score ($R^2 = .35234$). Further accuracy was gained when WPCT verbal scores were also considered ($R^2 = .37442$). Transfer GPA and WPCT subtest scores accounted for 37.4 percent of the variability in the grade point earned at Western by transfer students. Knowledge of a student's high school grade point average did not significantly improve the prediction of WWU GPA for transfer students once transfer GPA and the WPCT subtest scores were considered.

Upper-division Students/ WWU GPAs for 300 and 400
Level Courses Only

Student Characteristics and Academic Performance

Gender. Of the 4746 students in the upper-division GPA sample, 2175 (45.8 percent of this sample) were male and 2571 (54.2 percent of this sample) were female. Males achieved an average upper-division GPA of 2.88 which was lower than that earned by females (3.02). See Figure 4.

Admission Status. The majority of students in this sample (50.5 percent) were natives. The next largest group was two-year transfer students (41.9 percent of this sample), followed by four-year transfer students (7.6 percent of this sample).

Ethnicity. As discussed earlier, ethnicity was broken down into seven categories; American Indian, Asian, Black, Caucasian, Hispanic, Foreign students, and those of other, unspecified, ethnic background. The majority of the students in this sample (92.1 percent) were Caucasian. Caucasian students earned an average upper-division GPA of 2.96. Percentages of students from other ethnic backgrounds and the average upper-division GPAs achieved by members of each category were as follows; American Indian (1.2 percent) GPA = 3.02, Asian (3.2 percent) GPA = 2.80, Black (0.9 percent) GPA = 2.61, Hispanic (1.3 percent) GPA = 2.81, Foreign (0.7 percent) GPA = 2.80, and other, unspecified ethnic backgrounds (0.6 percent) GPA = 2.80.

Results of the analyses indicated that Caucasian students earned higher average upper-division GPAs than Asian students (2.96 and 2.80 respectively) and both Caucasian and American Indian students earned higher average upper-division GPAs than Black students (2.96, 3.02, and 2.61 respectively). None of the differences between the average upper-division GPAs earned by members of other ethnic groups were statistically significant (see Figure 5).

Age. The grade point averages earned by students in 300 and 400 level courses varied according to a student's age. Students aged 24 and younger made up 75.4 percent of this sample. Those

25 to 29 were the next largest category (14.1 percent of this sample), followed by 30-39 year-olds (7.2 percent of this sample) and those over 40 (3.3 percent of this sample).

Age and Admission Status. Among students 24 and younger, both four-year transfer students and native students (GPA = 3.13 and 2.95 respectively) outperformed two-year transfer students (GPA = 2.84). In addition, the upper-division GPA of four-year transfer students was significantly higher than that of native students.

Among 25-29 year olds, both two- and four-year transfer students (GPA = 3.12 and 2.91 respectively) had higher average upper-division GPAs than native students (GPA = 2.74). The GPA earned by four-year transfer students was also higher than that earned by two-year transfer students.

No differences were found between the upper-division GPAs of 30-39 year-olds in different admission status categories. Those in their thirties had equivalent upper-division GPAs regardless of their admission status.

Among students 40 and older, four-year transfer students had significantly higher upper-division GPAs than two-year transfer students (3.71 and 3.24 respectively). There were no other differences in GPAs among students 40 and older.

Students of different ages within a given admission status category were found to have different upper-division GPAs. Among native students, those 40 and over outperformed students 29 and younger. Both 30-39 year-olds and those 24 and younger had higher upper-division GPAs than 25-29 year-olds. There were no other differences among the upper-division GPAs of native students.

Among two-year transfer students, those 30 and older outperformed students who were 29 and younger. Finally, four-year transfer students over 40 had higher upper-division GPAs than those 29 and younger and 30-39 year-old four-year transfer students had higher upper-division GPAs than those 24 and younger (see Figure 6).

Major/Department. Students' upper-division grade point averages varied according to their major field of study. Of the 22 major categories used in the study, those majoring in Parks and Recreation or in Business and Management had the lowest upper-division GPAs (both 2.79). Public Affairs, Health Sciences, and Foreign Language majors had the highest upper-division GPAs (3.40, 3.22, and 3.15 respectively).

Students majoring in Public Affairs had significantly higher upper-division GPAs than those majoring in Parks and Recreation, Business and Management, Technology (GPA = 2.87), Computer

Science (GPA = 2.87), Mathematics (GPA = 2.90), Social Sciences excluding Psychology (GPA = 2.91), and Psychology (GPA = 2.96). Health Science majors had higher GPAs than those majoring in Parks and Recreation, Business and Management, or Technology. Visual and Performing Arts (GPA = 3.14), Interdisciplinary Studies (GPA = 3.14), and Education (GPA = 3.12) majors had higher average upper-division GPAs than students majoring in Parks and Recreation, Business and Management, Technology, Communications, or Social Sciences excluding Psychology. Life Science majors (GPA = 3.10) outperformed both Parks and Recreation and Business and Management majors. Finally, those majoring in Foreign Language, Letters (GPA = 3.05), Psychology, and Social Sciences excluding Psychology all had higher upper-division GPAs than Business and Management students.

Prediction of Academic Performance

Native Students. A native student's high school GPA was the best predictor of his or her upper-division college GPA ($R^2 = .14$). High school GPA accounted for 14 percent of the variability in the upper-division GPA of native students. The addition of a student's WPCT-V score improved the accuracy of prediction to $R^2 = .17$. The combination of a student's high school GPA and his or her WPCT-V score accounted for 17 percent of the variability in WWU upper-division GPA.

Transfer Students. Transfer GPA was the best predictor of upper-division GPA among the transfer students in this sample ($R^2 = .18$). A student's grade point average at another post-secondary institution accounted for 18 percent of the variability in WWU upper-division GPA. Prediction of upper-division GPA was slightly improved by knowledge of a student's WPCT-Q score ($R^2 = .20$). The composite of transfer GPA and WPCT-Q score accounted for 20 percent of the variability in WWU upper-division GPA. A transfer student's high school GPA did not improve the prediction of his or her upper-division GPA once his or her transfer GPA and WPCT-Q scores were considered.

Discussion

The typical student in the cumulative GPA sample was female, aged 24 or younger, and Caucasian. She probably earned credits at a two-year institution before transferring to Western.

The average student in the upper-division GPA sample was also female, 24 years-old or younger, and Caucasian. However, in contrast to the student profiled above, this student began her education at Western right after high school rather than attending a Community College first.

Some of the results of this study, specifically those dealing with the relationships of gender and age with academic

performance, were consistent with those found in the previous study that used a more limited sample. Most relationships found when analyzing the samples of Western students with 90 credits and above (both cumulative and upper-division GPA samples) were, however, far more complex than those observed in the sample of students with 80 to 100 total WWU credits.

Females had consistently higher GPAs than males, regardless of the sample or the type of GPA (cumulative or upper-division only) used in the analysis. In addition, older students generally outperformed younger students. However, the relationship between age and academic performance was mediated by admission status for the samples of students with 90 credits and above.

In contrast to the previous study in which, regardless of a student's age, natives were found to have higher average GPAs than two-year transfer students, results of this study revealed that this relationship held only among students aged 29 and younger for the cumulative GPA sample and among those 24 and younger for the upper-division GPA sample. The average upper-division GPA of 25-29 year-old two-year transfer students was higher than that of native students in this age category. Among older students, there was no difference between either the cumulative GPAs or the upper-division GPAs of native and two-year transfer students. With the exception of 30-39 year-olds in the upper-division GPA sample, four-year transfer students had consistently higher average cumulative and upper-division GPAs than two-year transfer students.

This study also found differences in both the cumulative GPA and the upper-division GPA earned by different ethnic groups. Caucasian students had a higher average cumulative GPA than Black students. Caucasian students had a higher upper-division GPA than both Asian and Black students. In addition, American Indian students also had a higher average upper-division GPA than Black students. No differences in the average GPAs earned by different ethnic groups were found in the previous study. However, due to the small number of students in many ethnic minority categories in the earlier study, all non-Caucasian students were considered together and therefore the differences observed here may not have emerged.

A student's grade point average when he or she enters Western, whether from high school for native students or from another post-secondary institution for transfer students, was the best predictor of how well a student would do academically once at Western. WPCT subtest scores improved the prediction of both cumulative and upper-division GPAs for both native and transfer students. However, the relative importance of the two WPCT subtests in predicting academic performance differed for native and transfer students. WPCT-Verbal scores were more important in

the prediction of the GPAs of native students and WPCT-Quantitative scores were more important in the prediction of transfer students' GPAs.

After conducting several separate analyses of the differences and similarities of WWU's native and transfer students, it can be concluded that when comparing students of different admission statuses regardless of age there is effectively no difference in the academic performance of Western's native and two-year transfer students. The previous study found that natives outperformed two-year transfer students; however, since that study was based on a smaller, much more limited, less representative sample of Western's upper-division students, more confidence can be placed in the generalizability of the results of the current study.

**FIGURE 1 - AVERAGE CUMULATIVE WWU GPAS
Gender**

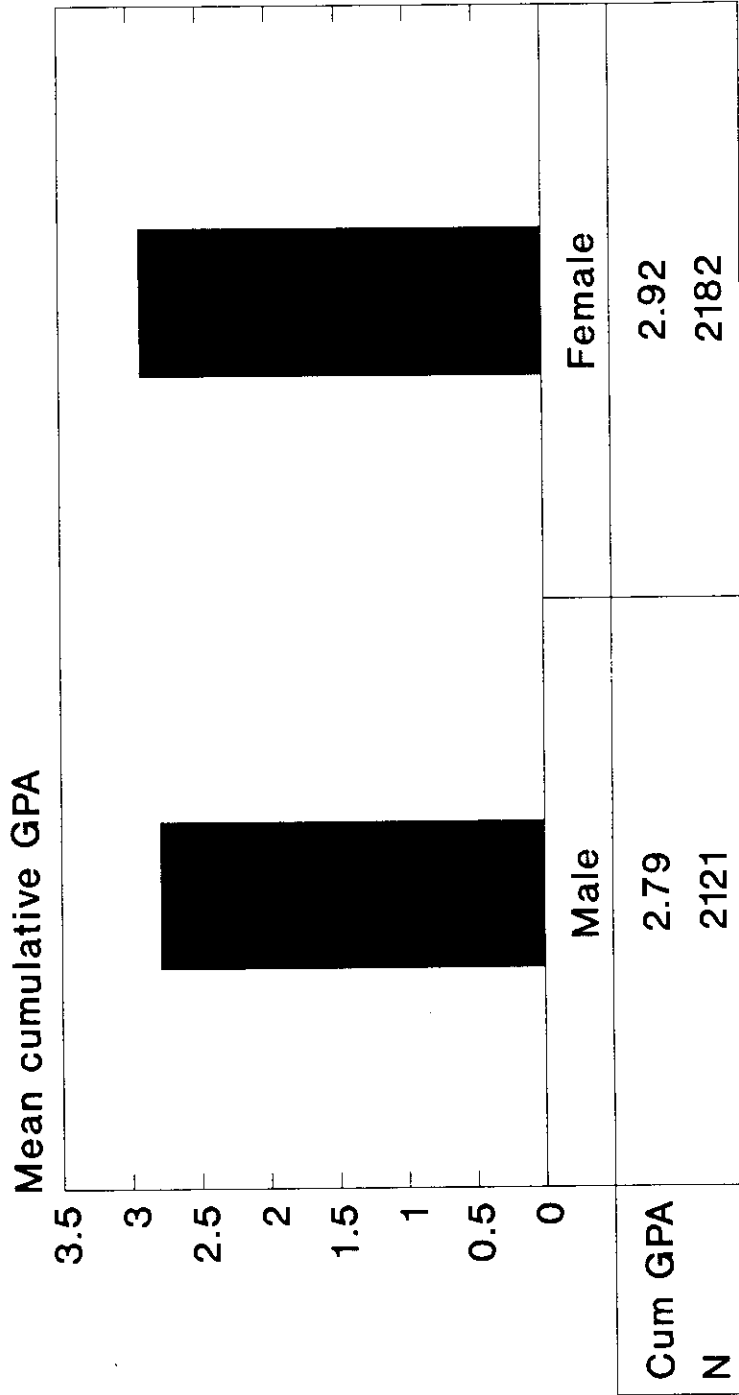
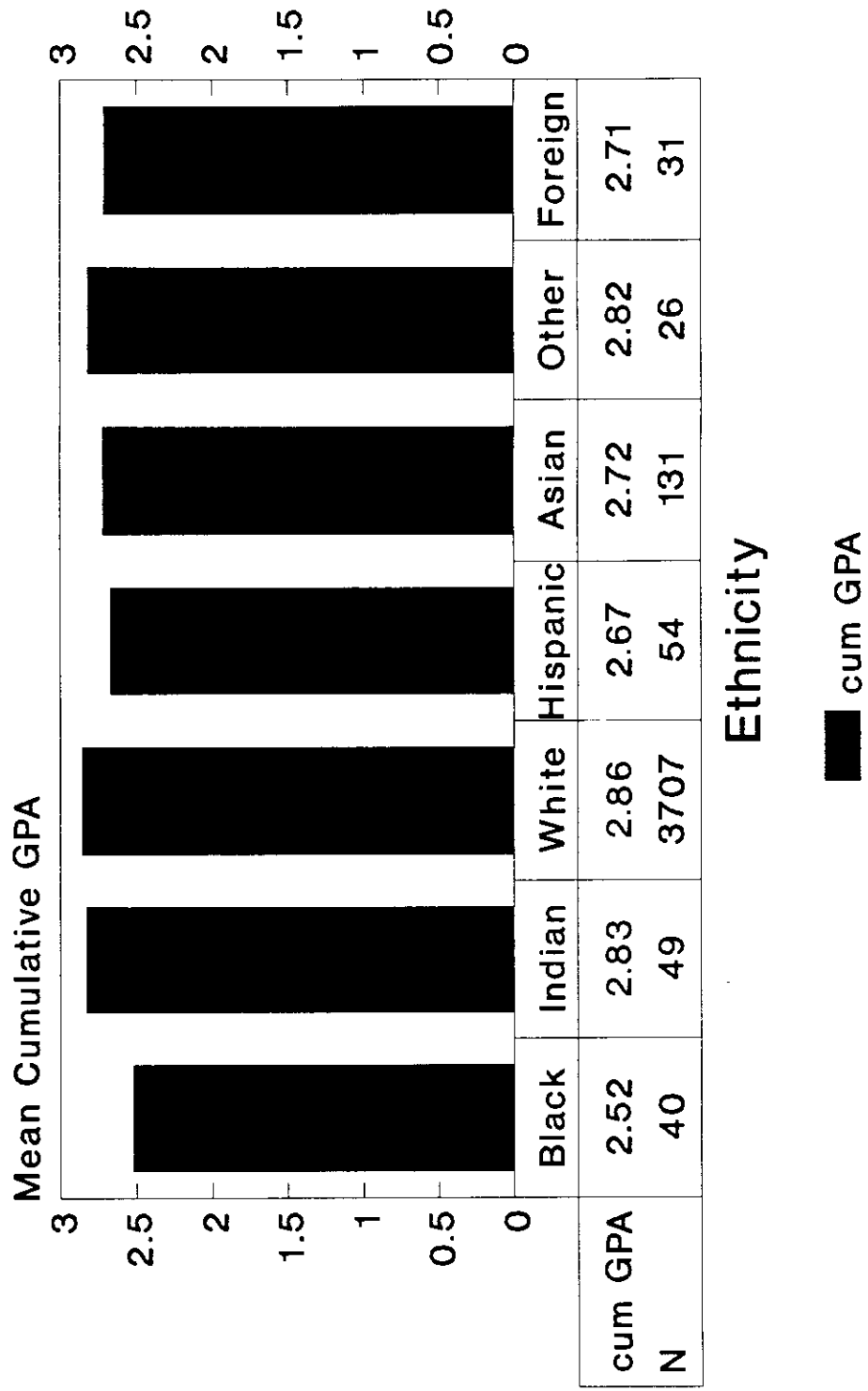


FIGURE 2 - AVERAGE CUMULATIVE WWU GPAS
Ethnicity



**FIGURE 3 - AVERAGE CUMULATIVE WWU GPAS
Age by Admission status**

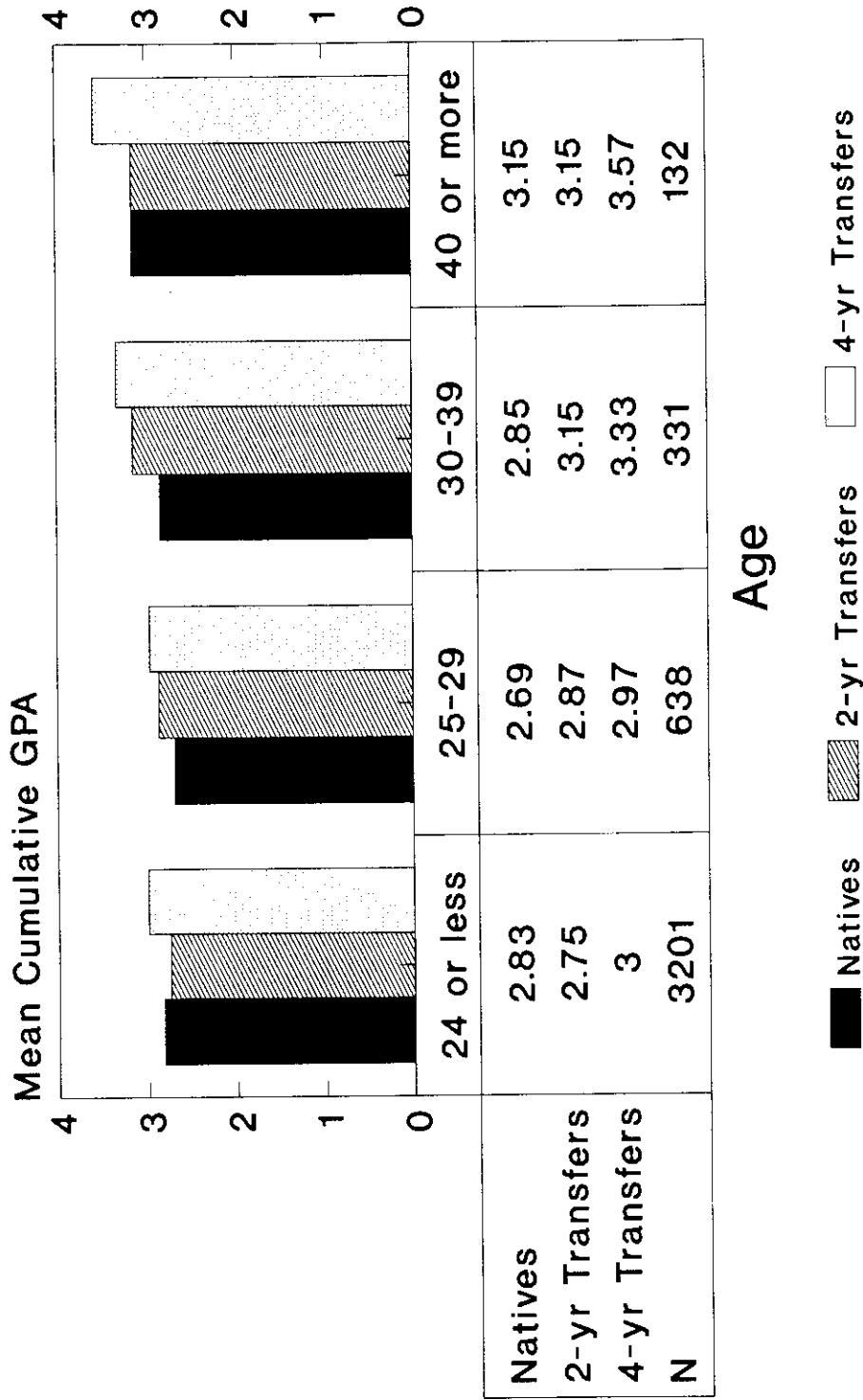


FIGURE 4 - AVERAGE UPPER-DIVISION GPAS
Gender

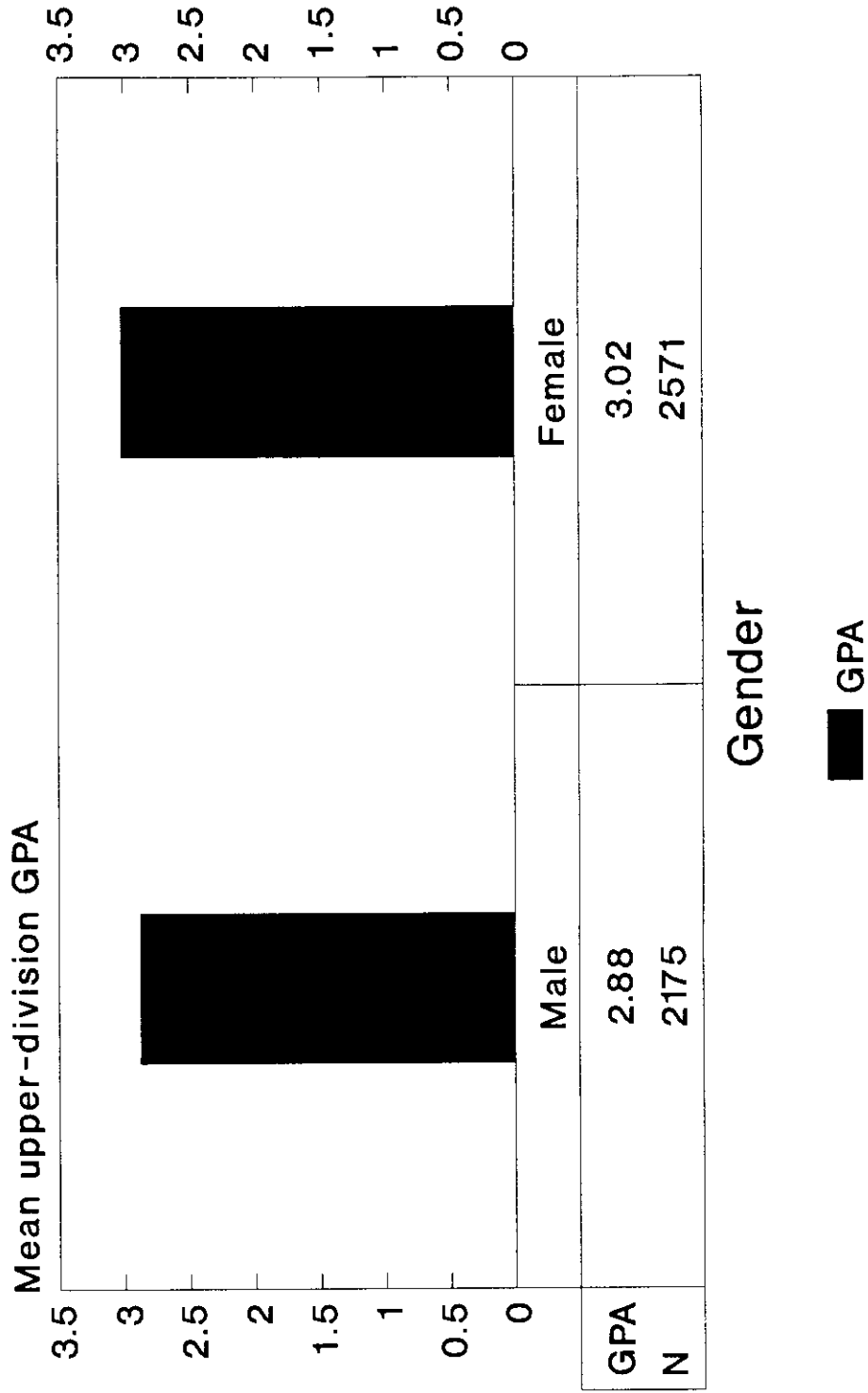
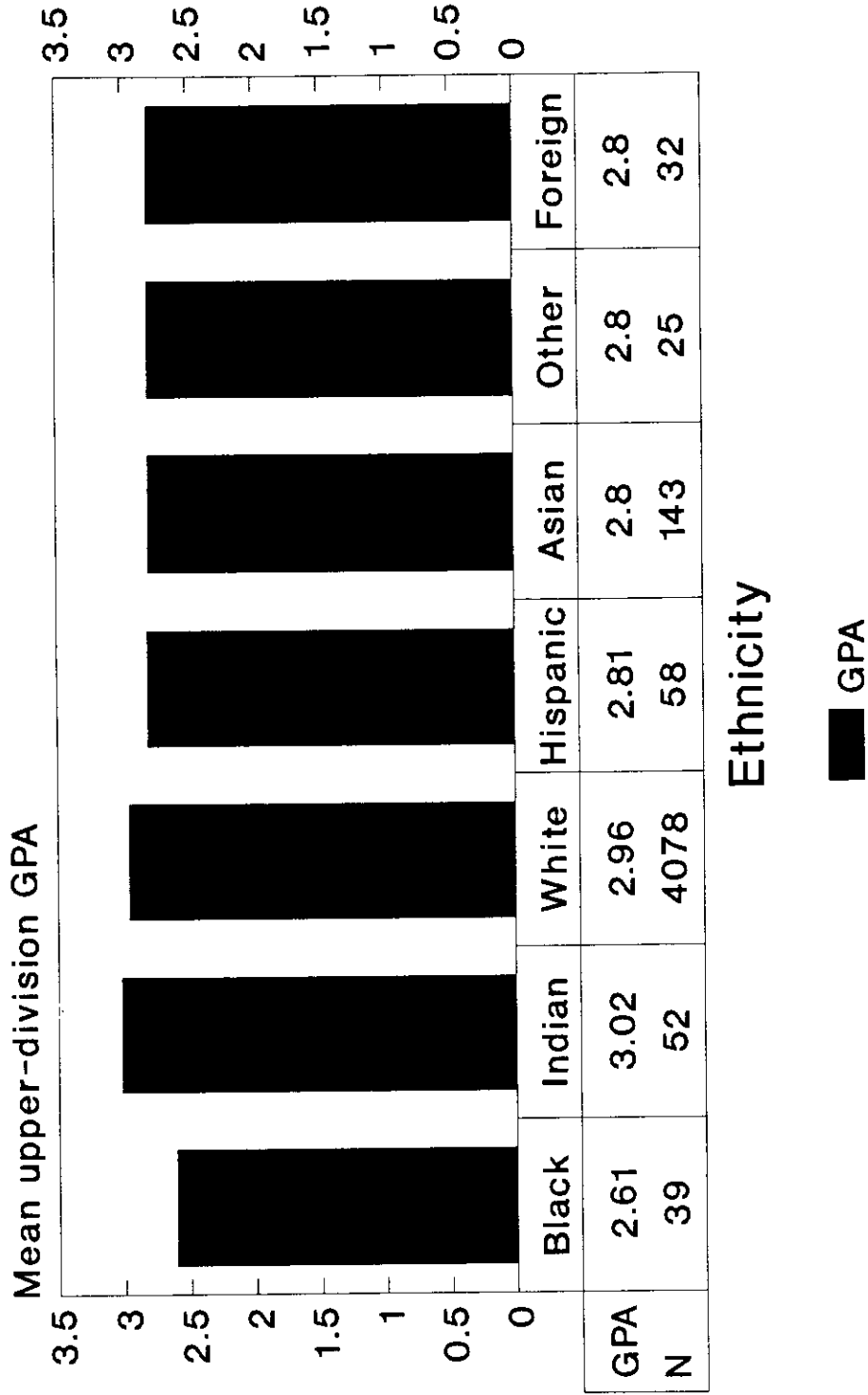


FIGURE 5 - AVERAGE UPPER-DIVISION GPAS
Ethnicity



**FIGURE 6 - AVERAGE UPPER-DIVISION GPAS
Age by Admission status**

