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ABSTRACT

This paper investigated the predictive validity of the Scholastic Aptitude Test (SAT) for members of different gender and minority status groups. The following data were obtainted on 45,067 undergraduates enrolled in 31 different institutions in a state college system: SAT Verbal (SAT-V) and SAT Mathematics (SAT-M) scores; high school average (HSA); cumulative credit hours carried and cumulative credit hours earned; and cumulative grade point average. Regression equations of GPA with SAT scores, HSA, and indicators of college experience were calculated by institution for all students and for black females, black males, white females, and white males. The regression coeffecients for SAT-V, SAT-M, HSA, the constant term, the standard error of estimate, and the adjusted R squared were graphically presented. Findings provided some support for the supposition that GPA's are less predictable for black males - largely due to the lower weights of HSA and SAT-V in predicting GPA for black males as compared with weights for white females, and for the other groups to a lesser extent. There was no clear pattern effect for type of institution attended. While both gender and minority status differences in SAT score validity were apparent, the difference in SAT-V weights between white females and males was greater than the difference between white and black males. (BS)

The Predictive Validity of Scholastic Aptitude Test Scores For Minority College Students

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The Predictive Validity of Scholastic Aptitude Test Scores For Minority College Students

Scholastic Aptitude Test (SAT) scores are widely used as predictors of college performance. The number of colleges using the test has risen 13% since 1980 to almost 1,600 (Stipp, 1985). The predictive validity of the SAT is investigated in this paper with special focus on its predictive validity for members of different gender and minority status groups. The importance of this issue is highlighted by concerns expressed since the publication of mean SAT scores by minority status. Additionally, the calls for both increases in student quality as well as in the measurement of student outcomes raise concerns about the use of SAT scores and other academic background indicators as measures of student quality.

In this paper, a systematic analysis is made of the predictive validity of SAT scores within the context of a model predicting college performance by race and sex across different types of institutions. The large data base and comparable variables across institutions with similar policy guidelines present a unique analysis framework. By maximizing comparability and minimizing contaminating variables, comparisons of predictive validity are facilitated.

Previous Research

Fincher (1974) analyzed SAT data in a statewide system over a 13-year period. Firm evidence was found of the SAT's incremental effectiveness when used to supplement high school grades in the prediction of college GPA's. By using the SAT, the predictive efficiency increased 46% for males and 43% for females over use of high school grades alone.

Other authors have presented criticisms of the SAT and question its predictive validity. Nairn and Associates (1980) have calculated the

predictive accuracy of the SAT and claim the test is a poor predictor of college grades. Slack and Porter (1980) concluded that the SAT is a third-rate predictor of college performance that adds little to the high school record. Additionally, they doubt the fairness of the test and claim to have ample evidence that students can successfully train for the SAT. Trusheim and Crouse (1982) suggest that using the SAT with high school records for college admissions decisions adds virtually no useful predictive information over use of high school records alone.

Support for the use of the SAT continues. Jackson (1980) has responded to the criticisms of Slack and Porter (1980) and refuted their claims on a point by point basis. Anastasi (1981) clarified the training or coaching issue by describing the distinctions between coaching, test-taking orientation, and instruction in broad intellectual skills. By equalizing test sophistication, test-taking orientation could only improve test validity, while instruction in broad intellectual skills would increase both test and criterion performance, leaving test validity unchanged. Only true "coaching", which raises test scores without affecting criterion performance, would invalidate test scores; SAT test items susceptible to coaching are discarded from the operational forms of the test.

The coaching issue is also discussed by Messick (1981) who defended the SAT against some of the criticisms of Slack and Porter (1980), and described the problem of selection bias which is prevelant in studies of coaching. Emphasis was on the magnitude of the coaching effect rather than simply determining if the effect is or is not present. A positive relationship between the contact time of coaching programs and coaching effect was found, with diminishing returns. It is concluded that high and low-scoring students, who most need or desire coaching benefits, would gain

little in percentile rank from an increase in score of 20 or 30 points.

Schaffner (1985) investigated the predictive validity of the SAT at a selective private, four-year liberal arts college where SAT scores are optional, and where applications withholding SAT scores are reviewed without prejudice. Validity coefficients were reported for high school class rank (.37), SAT-V (.36), and SAT-M (.28), with an unadjusted multiple correlation of .48.

In a study of adult learners in a statewide system, Fincher (1983) investigated the predictive efficiency of the SAT for students who were at least 25 years old and who were enrolled in some unit of the system. Unstandardized regression weights for HSA, SAT-V, and SAT-M were reported for white males (.31, .16, and .11 respectively), black males (.34, .25, -.18), white females (.42, .07, .20), black females (.22, .26, .06), and the total group (.44, .18, .11). The R^2 for the total group was .19. College grades at four-year colleges were found to be the most predictable, with performance at universities the least predictable.

A recent meta-analysis described by C. Fincher (personal communication, January 11, 1985) reported mean correlation coefficients compiled from hundreds of studies. The multiple correlation between HSA, SAT-V, SAT-M and freshman GPA was .58 for males and .64 for females. For males attending historically black institutions the mean correlation was .53, while at predominantly white institutions a mean multiple correlation of .59 was found. Similarly, for females the values were .58 and .65 respectively. Correlations at university level institutions were lower than at other institutions for both males (.58) and females (.60), though the trend was more pronounced for females.

METHODS

Data

The data for this paper were obtained on 45,067 undergraduate students enrolled in 31 institutions of a state college system. These students enrolled summer and/or fall term 1983. For each student, SAT Verbal (SAT-V) and SAT Mathematics (SAT-M) scores, high school average (HSA), cumulative credit hours carried, cumulative credit hours earned, and cumulative grade point average (GPA) were obtained. Additionally, gender and minority status were included.

Procedure

The regression model is the most commonly used approach for evaluating whether test scores are comparable in terms of prediction for members of different minority status and gender groups (Linn, 1976). The regression model for this study includes the following independent variables: SAT-V, SAT-M, HSA, cumulative credit hours carried, and cumulative credit hours earned.

The dependent variable is cumulative GPA. Although GPA is often the selected criterion for predictive validity studies, some errors of prediction can be attributed to the unreliability of the GPA (Goldman & Slaughter, 1976). Interpretations of validity coefficients must be made in light of such considerations. Cumulative GPA is based on a 4.0 scale ranging from zero for a letter grade "F" to four for an "A". The GPA is based only on academic courses that carry credit towards an associate or bachelors degree. Remedial work, lower division physical education, and military science are excluded. Courses in which students withdrew while failing are included as "F's".

The independent variables include SAT-V and SAT-M scores. HSA is also included as an independent variable, with values ranging from zero to four. Only grades for academic courses such as English, mathematics, social studies, etc., are included. Not included are grades for nonacademic courses such as home economics and shop. Cumulative credit hours carried is compiled by summing the total number of credit hours that a given student has completed and for which he has received a grade from " A" to "F". If the student withdrew from a course while passing, th. ours are not included in hours carried; however, if he withdrew while failing, the hours are included as hours carried. Grades such as incompletes, audits, and nonpunitive grades are not included in the cumulative hours carried. Cumulative hours earned includes all hours included in hours carried in which a grade of "D" or higher was obtained.

These six variables are included in a regression equation for each of the 31 institutions. Also, four other equations were computed for each institution by gender and minority status (i.e., black female, black male, white female, and white male). The institutions are identified by type and include two large statewide universities, seven senior colleges which are residential and offer bachelors and masters degrees, and four commuter colleges offering bachelors and masters degrees, but lacking residential facilities. There were four traditionally or historically black colleges which include three senior colleges and one community college. Additionally included were four junior colleges which are residential schools offering associate degrees, and ten community colleges offering associate degrees, but lacking residential facilities.

The question of whether the SAT is differentially valid across minority and majority groups can be addressed using unstandardized

coefficients for the SAT-V and SAT-M variables (Blalock, 1972). While most predictive validity studies tend to rely on bivariate and/or multiple correlation coefficients, this paper focuses on the unstandardized regression coefficients themselves. Correlation coefficients are dependent upon the amount of variance in a given sample or population, and are thus attenuated or inflated by the variances found (Linn, 1976). On the other hand, unstandardized regression coefficients do not include the population variance and allow comparisons across populations. The regression coefficient allows for a comparison of the actual weights of the SAT scores and other variables in predicting GPA's, rather than providing a simple measure of association which may be heavily influenced by variability.

FINDINGS

The regression equations of GPA with SAT scores, HSA, and indicators of college experience were calculated by institution for all students and for black females (BF), black males (BM), white females (WF), and white males (WM). The actual equations are given in the appendix. Although a sample size of 50 or more is recommended for developing a regression equation for admission purposes (Sawyer, 1984), regression equations were reported in this study whenever a minimum of 25 students were found in a given category. The regression coefficients for SAT-V, SAT-M, HSA, the constant term, the standard error of estimate (S.E.E.), and the adjusted R^2 are graphically presented. A graphic display was used because it allows almost 1,000 coefficients and indicators to be presented in a fashion that facilitates comparisons. Given the complexity of the data and the limited theoretical background, an exploratory mode was adopted in order to maximize the potential of finding patterns and differences.

SAT-V Coefficients

The graph of the regression coefficients for the SAT-V score by gender and minority status with institutional type is shown in Figure 1. This display shows that the median verbal coefficient for the total group is .0018. For the total group, only the coefficient for one community college is negative. The highest coefficients tend to be found in the WF group, which had a median coefficient of .0019. Two of the highest SAT-V coefficients for WF are found at historically black institutions. Similarly, for WM, two of the three highest coefficients are found at historically black institutions. The median for the WM group is .0014.

The median SAT-V coefficient for BF is .0013. This group has the second highest coefficient following WF, and has one coefficient that is negative. Reviewing the graph shows that for BF, community colleges tend to have higher SAT-V coefficients than senior colleges. The lowest median coefficient is .0010 for BM. This BM group has four negative coefficients, as well as the lowest maximum coefficient of the four groups.

The verbal coefficients show some degree of differential impact across gender and minority status. The biggest contrast is between WF and BM, with WM and BF having similar distributions. The distribution of SAT-V coefficients tends to be more spread out for blacks of both sexes than for whites.

SAT-M Coefficients

In Figure 2 the coefficients for SAT-M are graphed. It is immediately apparent that the SAT-M coefficients tend to be approximately one half the size of the SAT-V coefficients. While black males have the lowest median SAT-V coefficient, they have the highest median SAT-M coeffiecient (.0008). At one junior college the SAT-M coefficient for BM is .0031. Four

coefficients are found to be negative for this group. Both BF and WF groups have a median SAT-M coefficient of .0007. BF have five negative coefficients while WF have two. WM have a median of .0006, with eight negative coefficients. The median for the total group is .006, with four negative coefficients. WF have the smallest range and most compact distribution for SAT-M coefficients.

Given that SAT-M is positively correlated with GPA, the question arises of why the coefficient for SAT-M is negative in over 20 equations. One possible interpretation involves the "suppressor variable" (Guilford, 1965) concept. A suppressor variable is an independent variable in a regression equation which suppresses in the other independent variables the variance that does not correlate with the criterion.

HSA Coefficients

The HSA coefficients may be found in Figure 3. The median HSA coefficient for all students is .28. The highest coefficient for HSA tends to come from one of the universities, with a value almost twice the median value for each group. WM have a median of .25, while for BF the median is .24. The lowest median is .21 for BM. There is one negative coefficient for the BM group, and one for WF.

Constant and S.E.E.

The graph for the constant term is shown in Figure 4. The highest median constant term is .81 for BM, followed by BF (.72), WM (.69), total group (.53), and WF (.49). For this data analysis, it appears that the higher the constant term, the lower the degree of predictability for a given group. Another indication of the variability or error in prediction is the S.E.E. Interestingly, the lowest median S.E.E. is for BM and BF

(±.51). The highest S.E.E. for BM is for one of the historically black institutions. The median S.E.E. for WF is ±.55, for WM it is ±.56, and for the total group it is ±.57.

Adjusted R^2

The adjusted multiple correlation coefficient is an R^2 statistic adjusted for the number of independent variables in the equation and the number of cases. The R^2 for the equations is given in Figure 6. For WM the multiple correlation ranges from .01 at a historically black college to .79 at a senior college. The median R^2 for WM is .45. The highest median R^2 is .47 for WF. BF have a median of .44, while the total has a median of .45. The lowest median is found for BM (.36). In all groups but BM, the R^2 tends to cluster towards higher values. For black males the R^2 tends to be lower.

SUMMARY AND CONCLUSIONS

The purpose of this paper has been to explore the relationship of SAT scores with academic performance at a variety of types of colleges. Data on students from 31 institutions at a state college system were used. A multiple regression model was developed with the dependent variable being cumulative GPA, and the independent variables being SAT-V and SAT-M, HSA, and college experience as measured by credit hours carried and earned.

The regression equations were calculated for each institution for all students and by gender and minority status, that is BF, BM, WF, WM. The question of whether the SAT is less valid for black students was explored using these regression equations. For SAT-V scores, it was found that the weight for the BM group tended to be lower than that of other groups. The BM median SAT-V weight was .0010, compared with that of BF at .0013, WM at

.0014, and WF at .0019. While this difference among coefficients appears large, its impact upon predicting GPA is relatively small. On the other hand, the median weight for SAT-M for BM was .0008, which was the highest median weight of the groups. Another large difference in weight for the BM group is in the HSA. Given the fact the HSA tends to have the strongest correlation with GPA, the lower weight for HSA seems to have more impact for black males than the differential found for the SAT-V weights.

In summary, WF have the strongest weights for SAT-V scores and HSA, followed by WM and BF, with BM showing the lowest weights. The slightly higher weights that BM have for SAT-M scores would not correct for their generally lower weights for SAT-V and HSA. Black males also tend to have lower R^2's.

IMPLICATIONS

The findings of this paper provide some support that GPA's are less predictable for black males. To a large extent, this is due to the lower weights of HSA and SAT-V in predicting GPA for this group as compared with weights for WF and to a lesser extend WM and BF. On the other hand, BM tend to have higher weights for SAT-M scores.

No clear pattern of the type of institution attended was found indicating lower or higher weights. For instance, blacks attending historically black institutions did not have unusually different weights from blacks attending universities, senior colleges, commuter colleges, community colleges, and junior colleges. Concerns that have been expressed about the SAT having less validity for blacks must be reexpressed with more precision. While both gender and minority status differences in the validity of SAT scores are apparent, the difference in SAT-V weights between WF

and WM is greater than the difference between WM and BM. Furthermore, much of the differences in prediction for BM is due to HSA showing smaller weights compared with the other groups. The focus of concern should be directed towards the differentials found for black males over that of the other groups. Additionally, interest is raised concerning the strong weights for SAT scores and HSA for the WF group.

References

Anastasi, A. (1981). Diverse effects of training on tests of academic intelligence. In B. F. Green (Ed.), New directions for testing and measurement: Issues in testing-Coaching, Disclosure, and Ethnic Bias, No. 11. San Francisco: Jossey-Bass.

Blalock, H., Jr. (1972). Social statistics (2nd ed.). New York: McGraw Hill.

Fincher, C. (1974). Is the SAT worth its salt? An evaluation of the use of the Scholastic Aptitude Test in the University System of Georgia over a thirteen year period. Review of Educational Research, 44, 293-305.

Fincher, C. (1983). Adult learners and the SAT in the University System of Georgia. Athens: University of Georgia, Institute of Higher Education.

Goldman, R. D., & Slaughter, R. E. (1976). Why college grade point average is difficult to predict. Journal of Educational Psychology, 68, 9-14.

Guilford, J. P. (1965). Fundamental statistics in psychology and education (4th ed.). New York: McGraw Hill.

Jackson, R. (1980). The Scholastic Aptitude Test: A response to Slack and Porter's "Critical Appraisal." Harvard Educational Review, 50, 382-391.

Linn, R.L. (1976). In search of fair selection procedures. Journal of Educational Measurement, 13, 53-58.

Messick, S. (1981). The controversy over coaching: Issues of effectiveness and equity. In B. F. Green (Ed.), New directions for testing and measurement: Issues in testing-Coaching, Disclosure, and Ethnic Bias, No. 11. San Francisco: Jossey-Bass.

Nairn, A., & Associates. (1980). The reign of ETS: The corporation that makes up minds. Washington: Ralph Nader.

Sawyer, R. (1984). Determining minimum sample sizes for multiple regression grade prediction equations for colleges (Research Report No. 83). Iowa City: American College Testing Program.

Schaffner, P. E. (1985). Competitive admission practices when the SAT is optional. Journal of Higher Education, 56, 55-72.

Slack, W. V., & Porter, D. (1980. The Scholastic Aptitude Test: A critical appraisal. Harvard Educational Review, 50, 154-175.

Stipp, D. (1985, February 5). College SAT's grow in importance despite long history of critjcism. Wall Street Journal, p.33.

Trusheim, D., & Crouse, J. (1982). The ETS admissions formula: Does the SAT add useful information? Phi Delta Kappan, 64, 59-61

Figure 1

Comparison Of Regressional Coefficients By Gender And Minority Status For Institutional Types

SAT Verbal

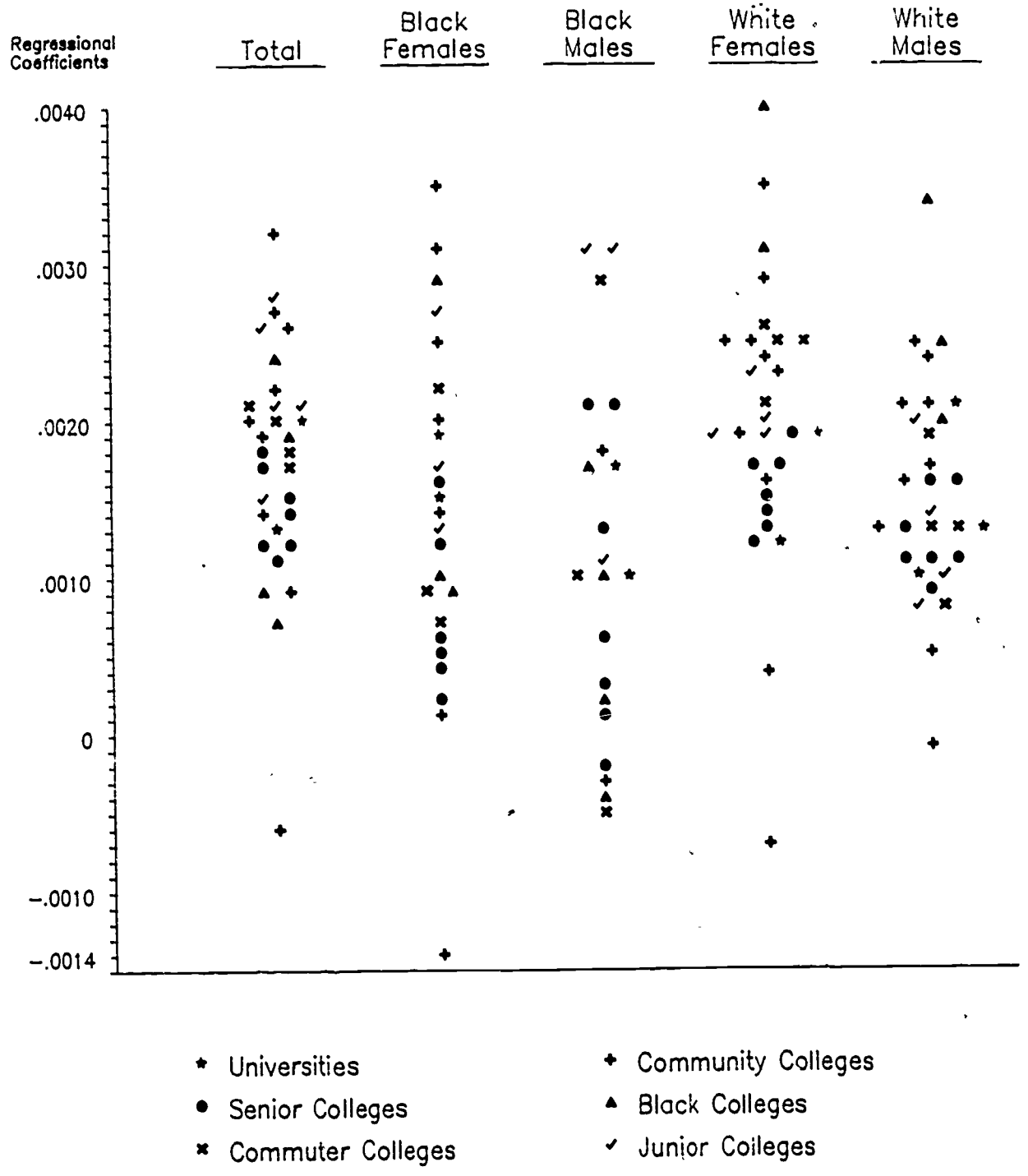

Figure 2

Comparison Of Regressional Coefficients By Gender And Minority Status For Institutional Types

SAT Math

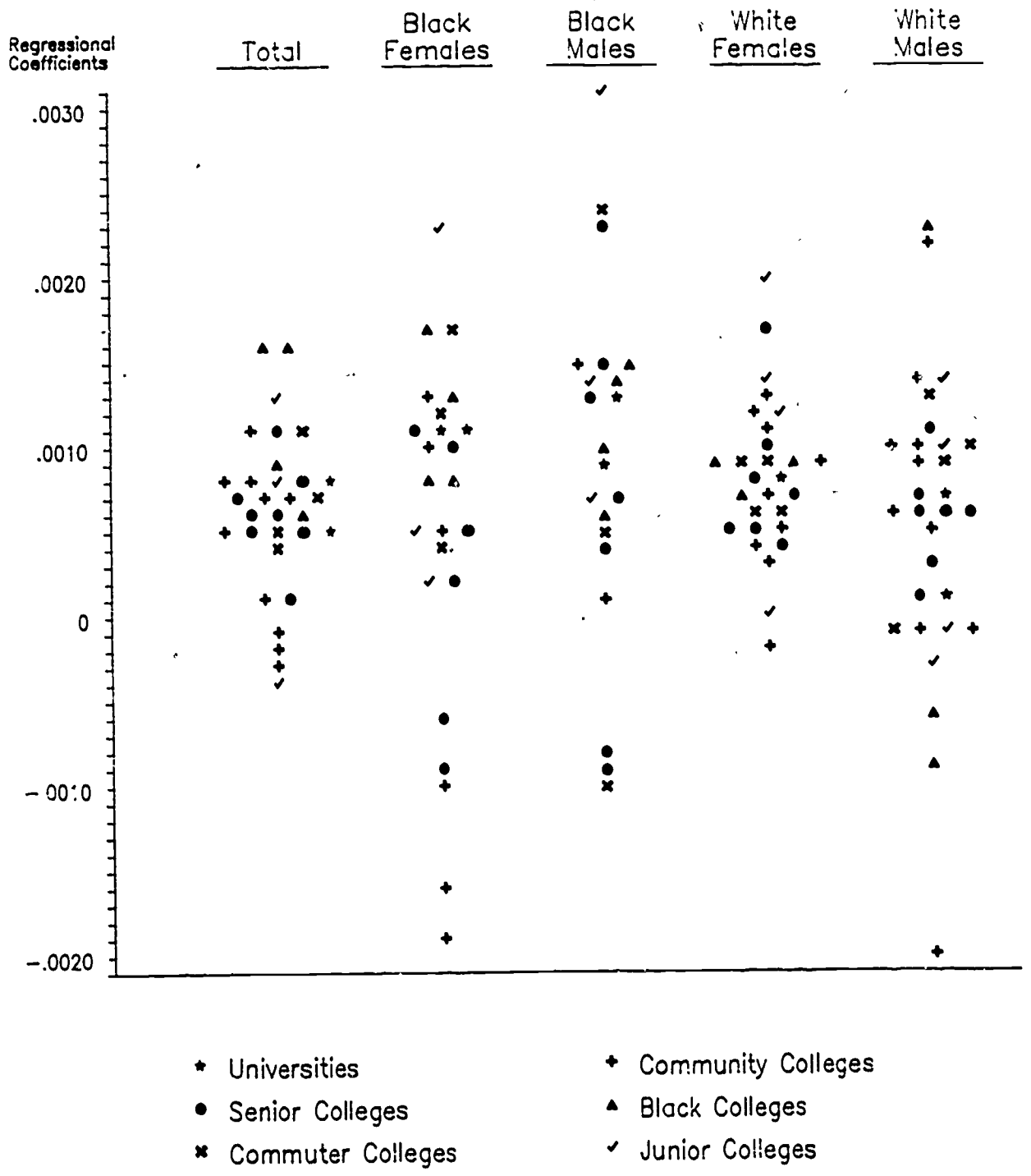

Figure 3

Comparison Of Regressional Coefficients By Gender And Minority Status For Institutional Types

HSA

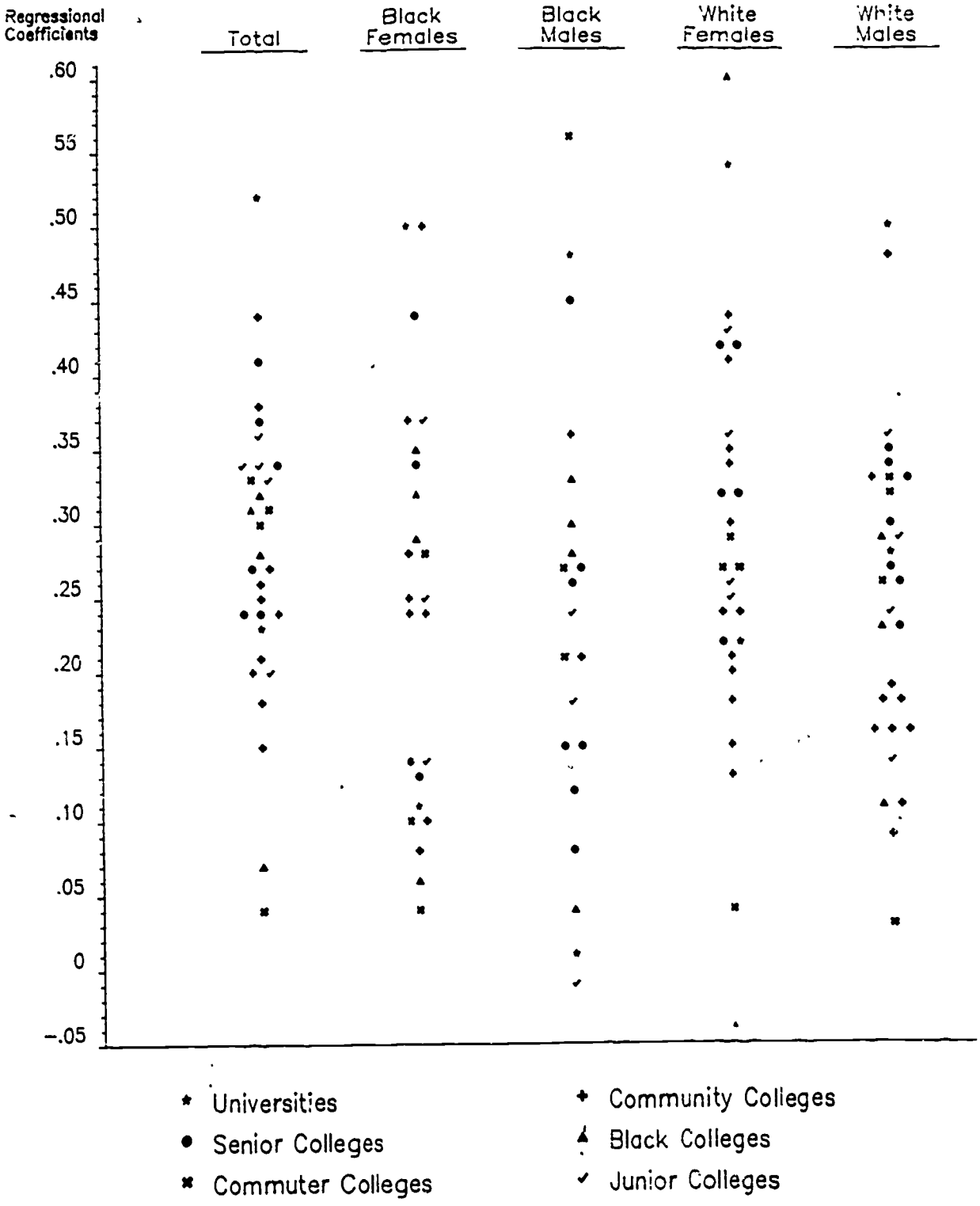

Figure 4

Comparison Of Regressional Coefficients By Gender And Minority Status For Institutional Types

Constant

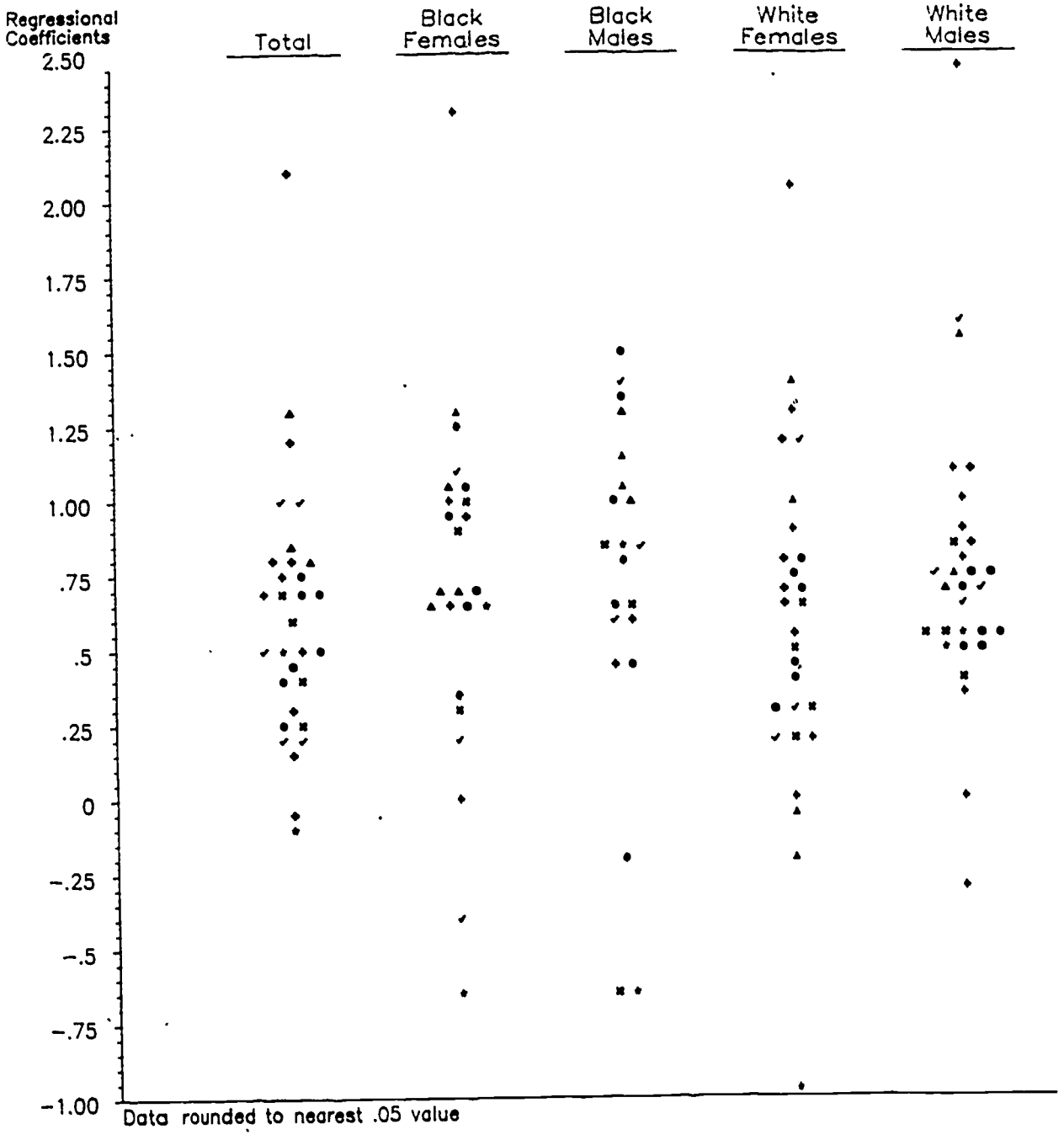

Figure 5

Comparison Of Regressional Coefficients By Gender And Minority Status For Institutional Types

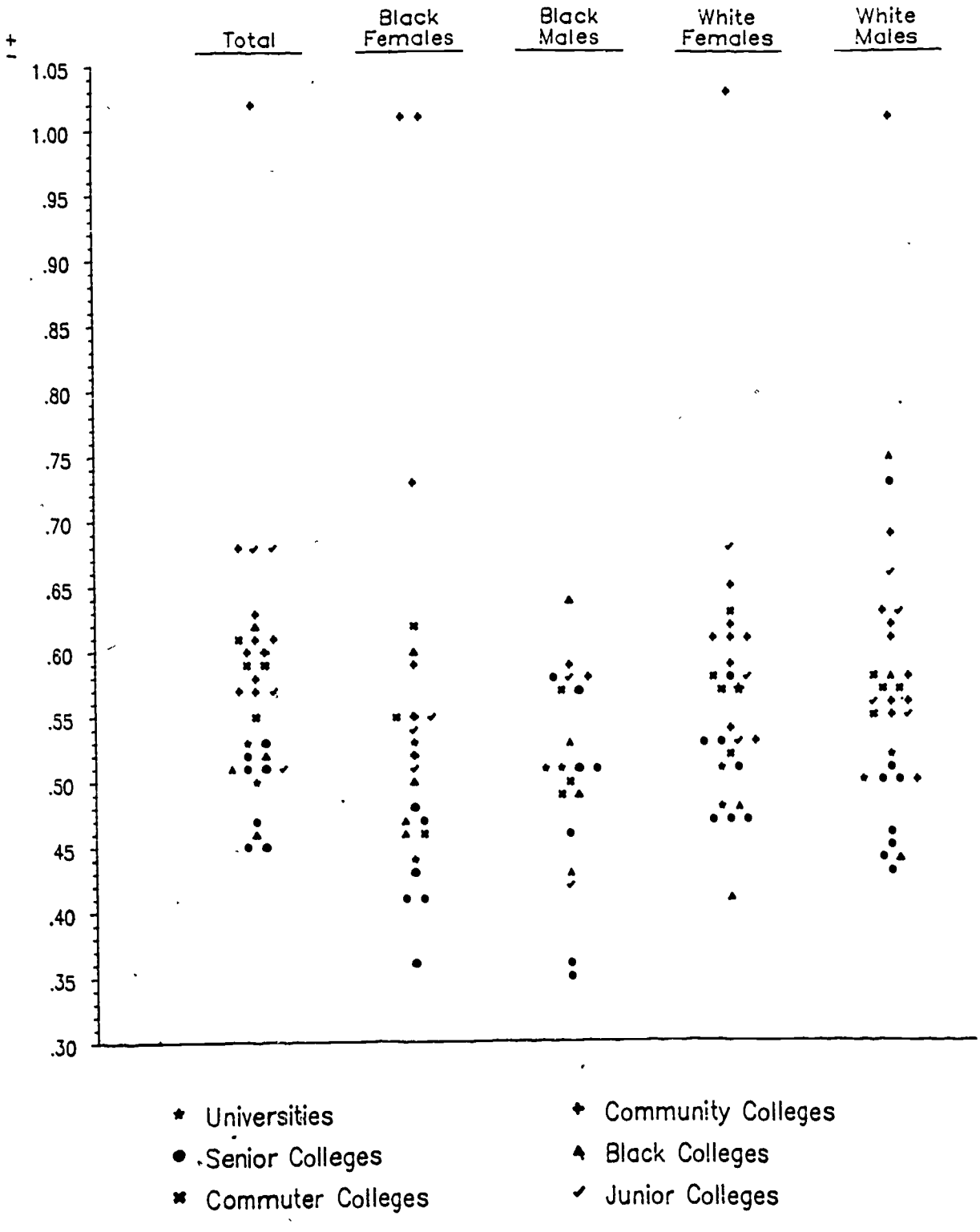

Figure 6

Comparison Of Regressional Coefficients By Gender And Minority Status For Institutional Types

R 2

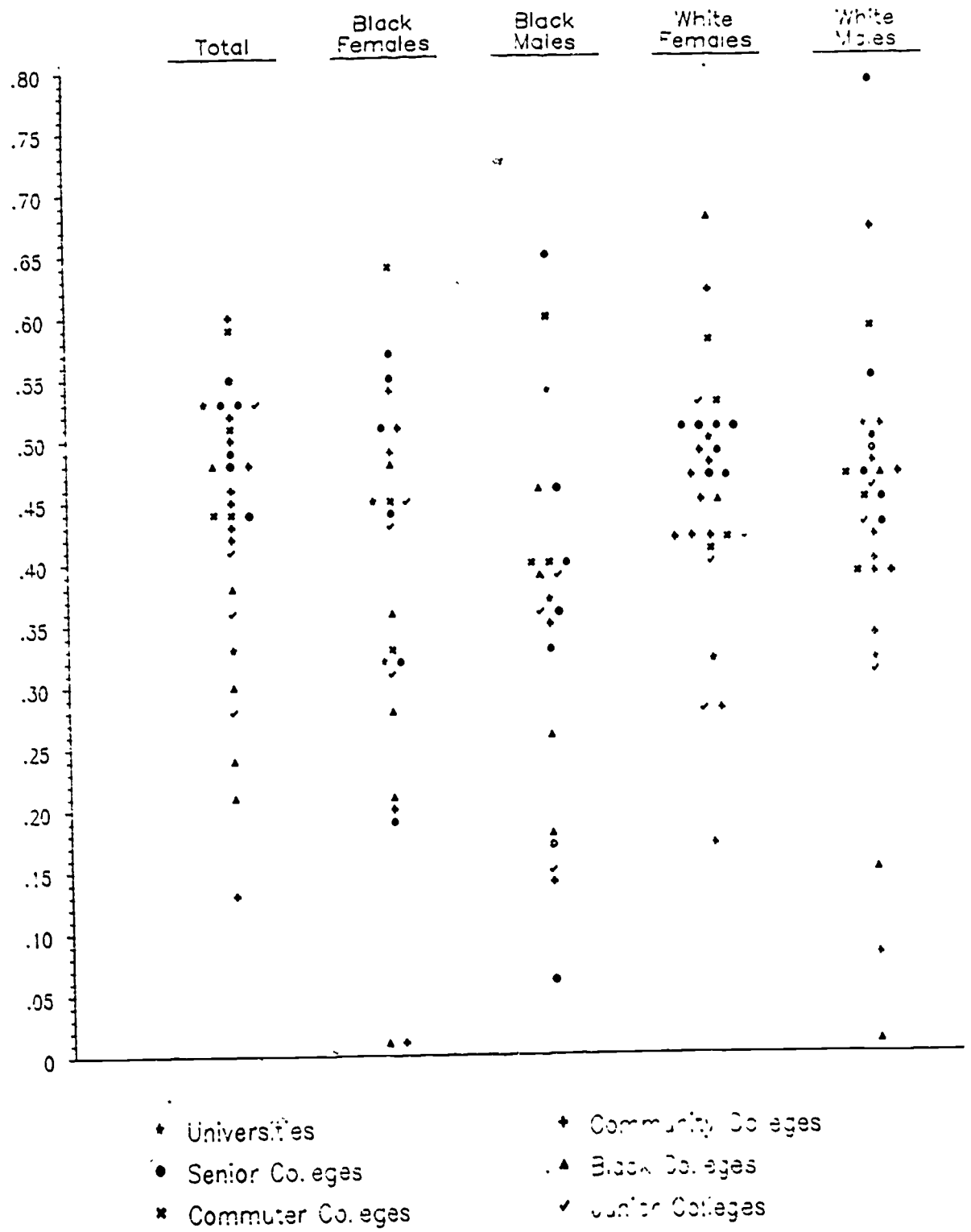

Table A-1

Regression Equation to Predict GPA by Institution for Summer and Fall Quarter 1983

Total

Institution	SAT V	SAT M	HSA	C.H. Carried	C.H. Earned	Constant	S.E.E.	R^2	N
University A	.0020	.0005	.22	-.040	.045	.49	± .53	.53	3570
University B	.0013	.0008	.51	-.003	.004	- .12	± .50	.33	7487
Historically Black College A	.0019	.0006	.30	-.030	.032	.71	± .46	.48	916
Historically Black College B	.0009	.0016	.31	.001	-.002	.86	± .51	.24	821
Historically Black College C	.0007	.0016	.27	-.015	.032	.77	± .52	.21	1328
Historically Black College D	.0024	.0009	.06	-.062	.069	1.27	± .62	.38	1060
Senior College A	.0018	.0006	.33	-.032	.035	.39	± .52	.44	1578
Senior College B	.0012	.0006	.35	-.030	.033	.48	± .45	.49	3021
Senior College C	.0014	.0005	.26	-.030	.035	.67	± .45	.53	835
Senior College D	.0015	.0005	.40	-.028	.032	.24	± .51	.55	1088
Senior College E	.0012	.0011	.23	-.037	.042	.45	± .51	.48	1303
Senior College F	.0017	.0008	.23	-.050	.054	.73	± .47	.53	2355
Senior College G	.0011	.0001	.36	-.019	.023	.67	± .52	.44	2873
Commuter College A	.0020	.0011	.03	-.042	.046	.68	± .55	.51	1360
Commuter College B	.0017	.0004	.29	-.027	.031	.59	± .59	.44	1631
Commuter College C	.0018	.0007	.32	-.016	.019	.37	± .59	.44	1844
Commuter College D	.0021	.0005	.30	-.084	.021	.23	± .61	.59	1167
Junior College A	.0015	.0008	.33	-.046	.050	.49	± .51	.53	1285
Junior College B	.0028	-.0004	.19	-.031	.033	.90	± .68	.28	313
Junior College C	.0021	.0013	.32	-.021	.022	.21	± .57	.41	742
Junior College D	.0026	.0007	.33	-.023	.024	.22	± .68	.36	502
Community College A	.0022	.0008	.43	.001	.002	- .05	± .68	.30	1076
Community College B	.0019	-.0001	.37	-.053	.058	.74	± .57	.52	300
Community College C	-.0006	-.0002	.23	-.029	.029	2.08	±1.02	.13	215
Community College D	.0020	.0007	.14	-.073	.079	.77	± .58	.45	1431
Community College E	.0014	.0007	.26	-.062	.071	.48	± .63	.48	962
Community College F	.0032	.0011	.20	-.074	.080	.14	± .57	.60	196
Community College G	.0026	-.0003	.25	-.056	.059	1.03	± .60	.46	743
Community College H	.0021	.0001	.19	-.073	.076	1.21	± .61	.43	986
Community College I	.0027	.0008	.17	-.089	.066	.28	± .61	.50	1756
Community College J	.0009	.0005	.24	-.049	56	.79	± .60	.42	258
Total	.0016	.0005	.30	-.006	.008	.56	± .63	.29	45067

Table A-2

Regression Equation to Predict GPA by Institution for Summer and Fall Quarter 1983

Black Females

Institution	SAT V	SAT M	HSA	C.H. Carried	C.H. Earned	Constant	S.E.E.	R^2	N
University A	.0015	.0011	.10	-.038	.043	.65	± .53	.45	525
University B	.0019	.0011	.49	-.009	.011	- .65	± .44	.32	336
Historically Black College A	.0020	.0008	.31	-.028	.030	.66	± .46	.48	598
Historically Black College B	.0010	.0017	.34	.001	-.002	.72	± .47	.28	442
Historically Black College C	.0009	.0013	.28	.001	.001	.72	± .50	.21	684
Historically Black College D	.0029	.0008	.05	-.001	.076	1.27	± .60	.36	586
Senior College A	.0012	.0005	.36	-.022	.027	.36	± .48	.44	216
Senior College B	.0005	.0011	.12	-.033	.035	1.03	± .41	.32	200
Senior College C	.0006	.0002	.33	-.023	.029	.69	± .36	.57	144
Senior College D									17
Senior College E	.0004	-.0009	.43	-.044	.050	.96	± .41	.51	24
Senior College F	.0016	-.0006	.23	-.048	.052	.65	± .43	.55	249
Senior College G	.0002	.0010	.13	-.074	.088	1.23	± .47	.19	270
Commuter College A	.0007	.0012	.03	-.055	.061	1.01	± .46	.64	130
Commuter College B	.0009	.0017	.09	-.033	.039	.86	± .62	.33	144
Commuter College C	.0022	.0004	.27	-.019	.024	.29	± .55	.45	230
Commuter College D									16
Junior College A	.0013	.0002	.13	-.046	.052	1.09	± .54	.31	108
Junior College B									20
Junior College C	.0027	.0023	.24	-.015	.021	- .40	± .51	.45	62
Junior College D	.0017	.0005	.36	-.063	.067	.22	± .55	.43	80
Community College A	.0001	.0006	.23	.001	.001	1.06	± .73	.01	167
Community College B	.0014	-.0016	.49	-.044	.051	.95	± .55	.49	31
Community College C	-.0014	-.0010	.27	-.024	.023	2.27	±1.01	.01	35
Community College D	.0025	.0013	.07	-.100	.108	.65	± .59	.51	50
Community College E									10
Community College F									17
Community College G	.0035	-.0019	.24	-.030	.034	1.01	±1.01	.20	40
Community College H									23
Community College I	.0031	.0010	.09	-.046	.057	.02	± .52	.54	216
Community College J									22
Total	.0610	.0007	.20	-.001	.003	.93	± .64	.14	5688

Table A-3

Regression Equation to Predict GPA by Institution for Summer and Fall Quarter 1983

Black Males

Institution	SAT V	SAT M	HSA	C.H. Carried	C.H. Earned	Constant	S.E.E.	R^2	N
University A	.0010	.0009	.02	-.035	.042	.85	±.51	.54	242
University B	.0017	.0013	.47	-.040	.006	- .66	±.51	.37	206
Historically Black College A	.0010	.0006	.27	-.034	.037	.98	±.43	.46	312
Historically Black College B	.0002	.0015	.29	.001	-.003	1.16	±.53	.18	342
Historically Black College C	-.0004	.0014	.32	-.028	.030	1.03	±.49	.28	483
Historically Black College D	.0017	.0010	.03	-.056	.064	1.32	±.64	.39	420
Senior College A	.0013	.0015	.14	-.025	.029	.67	±.58	.17	52
Senior College B	.0021	.0007	.26	-.031	.033	.44	±.46	.36	136
Senior College C	.0021	-.0009	.07	-.032	.036	- 1.49	±.35	.33	47
Senior College D	.0003	.0023	.44	-.026	.031	- .22	±.57	.46	33
Senior College E	.0006	.0001	.25	-.030	.036	.78	±.36	.65	72
Senior College F	.0001	.0013	.11	-.052	.056	1.34	±.51	.40	119
Senior College G	-.0002	-.0008	.14	-.010	-.010	1.02	±.51	.06	156
Commuter College A	.0029	.0024	.20	-.046	.050	- .63	±.49	.60	36
Commuter College B	.0010	-.0011	.26	-.020	.029	.85	±.50	.40	55
Commuter College C	-.0008	.0003	.55	-.020	.025	.64	±.57	.40	94
Commuter College D									10
Junior College A	.0011	.0007	.17	-.026	.031	.83	±.58	.15	46
Junior College B									10
Junior College C	.0031	.0014	-.02	-.015	.016	.61	±.42	.39	37
Junior College D	.0031	.0031	.23	.067	.072	1.39	±.68	.36	30
Community College A	.0018	-.0002	.35	-.001	-.001	.59	±.58	.14	57
Community College B									17
Community College C									11
Community College D									18
Community College E									1
Community College F									8
Community College G									21
Community College H									12
Community College I	-.0003	.0015	.20	-.036	.047	.47	±.59	.35	73
Community College J									2
Total	.0004	.0006	.18	-.001	.001	1.23	±.64	.08	3158

Table A-4

Regression Equation to Predict GPA by Institution for Summer and Fall Quarter 1983

White Females

Institution	SAT V	SAT M	HSA	C.H. Carried	C.H. Earned	Constant	S.E.E.	R^2	N
University A	.0019	.0004	.21	-.048	.051	.79	± .51	.50	1289
University B	.0012	.0008	.53	.001	.001	- .99	± .48	.32	3350
Historically Black College A									12
Historically Black College B									8
Historically Black College C	.0031	.0007	.59	-.075	.077	1.02	± .48	.45	55
Historically Black College D	.0040	.0009	-.05	-.085	.093	1.42	± .41	.68	25
Senior College A	.0019	.0007	.31	-.036	.039	.46	± .53	.47	758
Senior College B	.0012	.0005	.41	-.029	.031	.41	± .47	.49	1411
Senior College C	.0017	.0008	.21	-.036	.040	.75	± .47	.51	355
Senior College D	.0015	.0005	.41	-.038	.041	.31	± .53	.51	558
Senior College E	.0013	.0017	.40	-.065	.089	- .20	± .58	.47	130
Senior College F	.0017	.0010	.19	-.049	.052	.80	± .47	.51	1010
Senior College G	.0014	.0003	.31	-.030	.034	.68	± .51	.51	1309
Commuter College A	.0025	.0009	.03	-.042	.046	.64	± .52	.53	680
Commuter College B	.0021	.0006	.26	-.023	.026	.52	± .58	.41	782
Commuter College C	.0026	.0009	.26	-.016	.017	.28	± .57	.42	805
Commuter College D	.0025	.0006	.28	-.088	.096	.18	± .63	.58	727
Junior College A	.0019	.0012	.35	-.045	.048	.29	± .53	.53	530
Junior College B	.0019	-.0001	.25	-.076	.079	1.18	± .57	.42	170
Junior College C	.0020	.0014	.42	-.016	.016	- .05	± .58	.40	330
Junior College D	.0023	.0020	.24	-.012	.013	.19	± .68	.28	236
Community College A	.0024	.0009	.43	.001	.001	- .09	± .65	.28	476
Community College B	.0016	.0009	.34	-.071	.075	.68	± .54	.45	148
Community College C	-.0007	.0002	.23	-.043	.045	2.05	±1.03	.17	99
Community College D	.0025	.0004	.17	.079	.084	.67	± .57	.48	804
Community College E	.0019	.0007	.33	-.073	.080	.18	± .62	.49	532
Community College F	.0036	.0012	.29	-.099	.102	.02	± .53	.62	107
Community College G	.0029	-.0003	.23	-.066	.066	1.18	± .59	.42	400
Community College H	.0025	.0003	.12	-.076	.078	1.30	± .61	.42	494
Community College I	.0023	.0011	.14	-.089	.064	.53	± .61	.42	897
Community College J	.0004	.0013	.20	-.074	.082	.89	± .61	.47	144
Total	.0021	.0075	.29	-.008	.010	.36	± .62	.32	18665

Table A-5

Regression Equation to Predict GPA by Institution for Summer and Fall Quarter 1983

White Males

Institution	SAT V	SAT M	HSA	C.H. Carried	C.H. Earned	Constant	S.E.E.	R^2	N
University A	.0021	.0001	.27	-.036	.041	.56	± .52	.51	1397
University B	.0013	.0007	.49	-.005	.006	.51	± .50	.32	3514
Historically Black College A									4
Historically Black College B	.0034	-.0009	.28	.001	.001	.76	± .75	.01	26
Historically Black College C	.0020	-.0006	.22	-.061	.062	1.55	± .58	.15	92
Historically Black College D	.0025	.0023	.10	-.058	.062	.72	± .44	.47	44
Senior College A	.0016	.0006	.29	-.036	.040	.51	± .45	.45	540
Senior College B	.0011	.0006	.32	-.031	.034	.55	± .43	.49	1246
Senior College C	.0009	.0007	.26	-.028	.033	.71	± .46	.50	281
Senior College D	.0013	.0003	.33	-.025	.029	.49	± .44	.55	489
Senior College E	.0011	.0011	.22	-.035	.040	.54	± .51	.47	1064
Senior College F	.0016	.0006	.25	-.049	.052	.73	± .73	.79	954
Senior College G	.0011	.0001	.34	-.021	.024	.74	± .50	.43	1118
Commuter College A	.0019	.0013	.02	-.035	.040	.55	± .57	.45	493
Commuter College B	.0013	-.0001	.32	-.029	.033	.86	± .57	.47	598
Commuter College C	.0008	.0010	.31	-.015	.018	.56	± .58	.39	663
Commuter College D	.0013	.0009	.25	-.075	.085	.40	± .55	.59	402
Junior College A	.0008	.0010	.28	-.048	.053	.69	± .56	.46	593
Junior College B	.0010	-.0003	.13	-.045	.051	1.59	± .63	.31	112
Junior College C	.0014	.0014	.23	-.029	.030	.63	± .55	.39	303
Junior College D	.0020	-.0001	.35	-.063	.063	.77	± .66	.43	154
Community College A	.0021	.0010	.47	.011	.004	-.29	± .69	.34	360
Community College B	.0021	-.0001	.17	-.050	.056	1.12	± .62	.40	104
Community College C	-.0001	-.0020	.18	-.020	.023	2.45	±1.01	.08	89
Community College D	.0013	.0010	.08	-.063	.072	.85	± .56	.42	520
Community College E	.0005	.0014	.10	-.056	.066	.90	± .63	.47	414
Community College F	.0025	.0022	.15	-.094	.101	.02	± .50	.67	64
Community College G	.0017	.0005	.15	-.054	.061	1.08	± .55	.51	279
Community College H	.0016	.0006	.17	-.065	.071	.98	± .58	.45	434
Community College I	.0024	.0009	.15	-.062	.069	.36	± .61	.48	556
Community College J	.0010	-.0001	.32	-.037	.042	.81	± .56	.39	88
Total	.0014	.0008	.29	-.011	.013	.44	± .33	.60	18959