Assessing the Usefulness of SAT and ACT Tests in Minority Admissions

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Executive Summary

This study sought to determine whether the use of standardized test scores contributes any useful information regarding First Time in College (FTIC) students' probable success at USF, using more detailed analysis of underrepresented minorities and women, who Micceri (2009) shows, experience substantial negative bias relative to males and whites on such tests.

Methods

Combined historical USF admissions, degrees granted and enrollment data from Academic Year (AY) 1999 through 2008 were analyzed for FTIC matriculants from AY 1999 through 2003 thereby allowing a minimum of six complete academic years for graduation. Academic progress was defined by a six level progress variable ranging from 1, failure to complete three USF hours or maintain a 2.0 GPA to 6, earning a USF BA or BS. Pre matriculation predictor variables included a concordance of the highest of SAT or ACT total scores (Dorans, 1997), high school GPA, high school class rank, transfer hours, geographical region, race/ethnicity and sex. All of these, except the tests, have previously shown at least minimal relationships with various definitions of academic progress. Descriptive and multiple regression analyses were conducted.

Findings

Consistent with all historic research on the topic, in this study, standardized tests failed to relate with academic progress at USF. The SAT/ACT regression beta weights were slightly negative (Table 1, Table 2), and, as Figure 2 indicates, the highest SAT/ACT scores occurred among the lowest two progress levels, while the lowest test values occured at the highest academic progress level (BA/BS). Further, as Figure 1, Figure 2, Figure 6 and Figure 7 show, use of these tests as criteria perpetuates discrimination against both women and all minorities, including Asians, and a greater level of discrimination against underrepresented minorities when viewed from this more thorough academic progress definition. Figure 6 and Figure 7 show that tests are almost completely flat across academic progress levels for African American and Hispanic students and therefore provide no useful information regarding college performance. Perhaps the only group for whom tests may possibly be of some value is Asians, where the only technically meaningful differences (60 points or more, ETS, 2001) occurred between those in the lowest progress group (< 3 hrs/< 2.0 USF GPA) and those in the highest (USF BA/BS earned). Note that both high school GPA and class rank exibit a comparatively monotonic positive upward trend as the acadmic progress level increases for all racial/ethnic groups and both sexes (Figure 3 throught Figure 7). None of the differences between adajcent progress levels are meaningfully different, it is the trends that are important and meaningful. Appendix A provides details for these findings.

Conclusion

Consistent with Micceri (2009), it appears that the use of test scores as admissions criterion for either females (from any racial/ethnic group), or underrepresented minorities (from any racial/ethnic group), negatively discriminates in favor of whites and males when viewed from the perspective of academic progress at USF. It would appear that ceasing to use such measures for females and minorities would be the most egalitarian admissions approach given current and historical research findings.

Introduction and Background

This study sought to determine whether the use of standardized test scores contributes any useful information regarding First Time in College (FTIC) students' probable success at USF, using more detailed analysis of underrepresented minorities and women, who Micceri (2009) shows, experience substantial negative bias relative to males and whites on such tests. Research questions of interest were:

1. Do underrepresented minorities, females and/or overrepresented minorities (e.g. Asians) exhibit different entry test scores than majority students (e.g. white)?
2. Do differences on test scores associate meaningfully with academic progress for underrepresented minorities, females or any other classification group?

Methods

Combined historical USF admissions, degrees granted and enrollment data from Academic Year (AY) 1999 through 2008 provided data to evaluate student performance and success at USF relative to admission qualifications in general and standardized tests in particular. Specific attention was directed at female and underrepresented minority performance. The sample included only First Time In College (FTIC) students who matriculated between summer 1999 and spring 2003, thereby assuring at least six (6) years for degree completion. Admissions variables evaluated were high school GPA, high school class rank, the number of transfer hours, the ACT composite, the SAT total score, plus a combined SAT/ACT score based on the highest of SAT or ACT using the ETS SAT/ACT concordance (Dorans, 2008; Dorans, *et. al.*, 1997). Additionally, geographic source defined as USF Region or not was dummy coded based on historic findings that local students tend to out-perform others. A progress variable included hours earned at USF, a student's final USF GPA, their final class level (upper or lower), and the level of degree earned at USF (AA/AS, BA/BS). Full-time/part-time enrollment would have been used as a context variable, however, unfortunately, for the 2002 and 2003 cohorts, the full-time indicator frequently reflects part-time USF enrollment combined with enrollment at a community college, thus, this flag was not used.

Analyses

Analyses included (1) descriptive comparisons of students' USF performance relative to the tests separately by race/ethnicity and/or sex and (2) multiple regression to determine which, if any of the high school based predictor variables contributed a reasonable amount to predicting success at USF. Because an earlier study (Micceri, Brigman, Spatig, 2009), had found the strongest relationship between predictor admission variables and USF outcomes to occur for a combined USF GPA and Hours completed variable, a comparable ordinal variable was created in this study with the following levels: 1 = fewer than 3 hrs completed or less than a 2.0 USF GPA, 2 = between three and 15 USF hours completed, 3 = more than 15, but less than 30 completed hours, 4 = 30 to 59 hours completed, 5= more than 60 hours completed, upper level standing, or a USF AA/AS earned, and 6 = a USF BA or BS earned. The analyses involving graduation were limited to 16,854 USF FTIC students who matriculated between summer 1999 and spring 2003 and for whom complete data were available. This

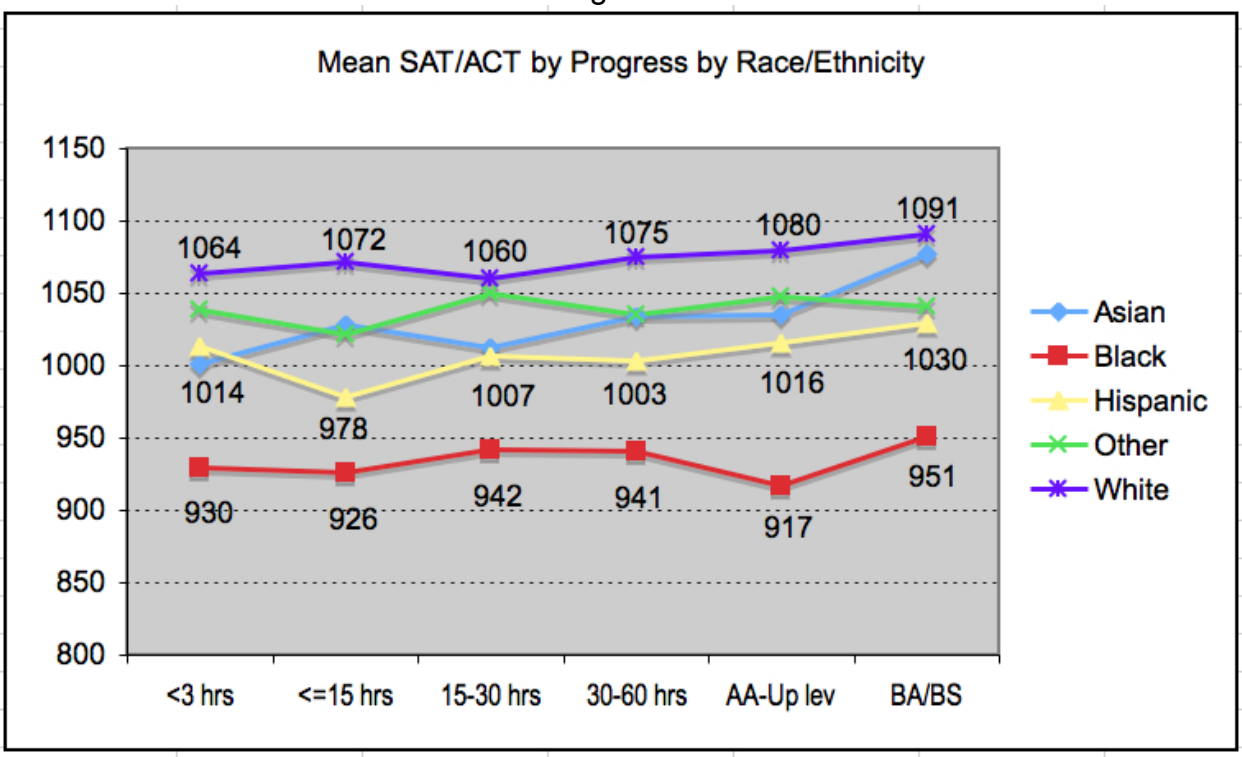
sample, using a last degree granted semester of spring 2009, allows all students a full six years to complete a baccalaureate degree (highest scaled value of 6).

Results and Discussion

Please note that several charts in this report use a truncated y-axis to better show changes or differences among groups. Appendix A provides detailed tables.

Initial analyses sought to determine whether differences in test scores occurred for different levels of progress/achievement at USF. Figure 1 tells us that for the highest of SAT or ACT scores (SAT/ACT), only among Asians does a meaningful difference occur (60 points)[1] between any progress levels, with an 80 point gap between those who failed to earn three hours or a 2.0 USF GPA, and those who earned a BA/BS. Overall, the lines across academic progress levels are relatively flat, indicating no relationship. Figure 1 shows the clear discrimination against all minorities that these standardized tests always exhibit.[2] Note that the apparent upward jump among African Americans from upper-level/AA to BA appears to be idiosyncratic, because all four lower levels show almost no increase to the BA level. However, the increase for Asians appears real, and is a bit greater than between other levels (not 60 points, however). Micceri (2009) shows that the test discrimination among Asians drops quite a bit as high school GPA increases. This likely relates to affluence and the resultant better Standard English plus reduced cultural bias among such students, both of which prove to be factors in scoring higher on standardized tests (Hodgkinson, 1999; Mortenson, 2000; Micceri, 2009).

Figure 1

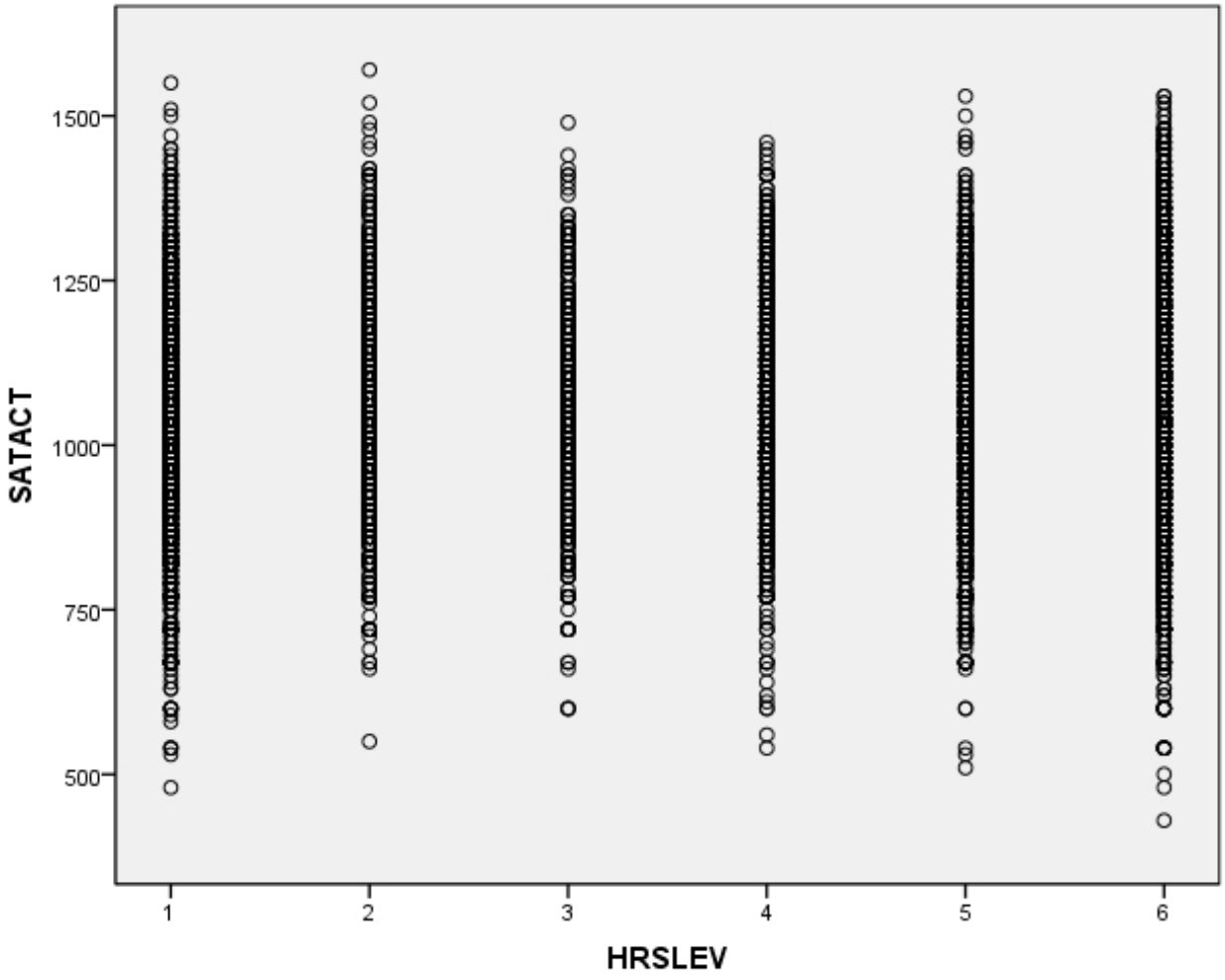


[1] ETS (2001)

[2] See Micceri (2009) for a thorough empirical exposition of this discrimination.

Perhaps Figure 2 best displays the relationship between tests (the highest of SAT or ACT scores = SATACT) and Academic Progress, where 1 in the HRSLEV (Progress variable) represents < 2.0 or < 3 hrs, and 6, a BA/BS degree. Clearly, the distribution of scores at every progress level extends through nearly the entire range of possible SATACT scores (400 to 1600),[3] with the highest scores occurring for the two lowest levels of progress and the lowest scores (below 500) occurring among those earning a BA/BS degree. The higher scores among those completing between three and fifteen USF hours for all admission selection source variable investigated in detail, (Figure 1, Figure 3, and Figure 4) and, when viewed together, suggest that this phenomenon may be influenced by transfers in good standing from USF to other higher education institutions. However, even after considering this possible confound, one must ask the question: "Is it possible to say that this chart in any way suggests that these tests convey useful information regarding a prospective student's probable success at USF?"

Figure 2



[3] Note that 3.5% of students in the sample having a test were admitted with a SATACT below 800.

Figure 3 depicts high school GPA by academic progress with a truncated y-axis and indicates that, unlike test scores, high school GPA does show a relatively consistent increase as academic progress improves consistently for all race/ethnic groups, with one exception. The exception is that students completing only 3-15 credit hours with a USF GPA above 2.0 exhibited higher entry GPAs than those completing 15-30 and 30-60. This is a rather interesting curve, and suggests that the 3-15 hours group may contain a disproportionally large number of students who transfer from USF in good standing, as might the dip in class rank at upper-level/AA (Figure 4).

Figure 3

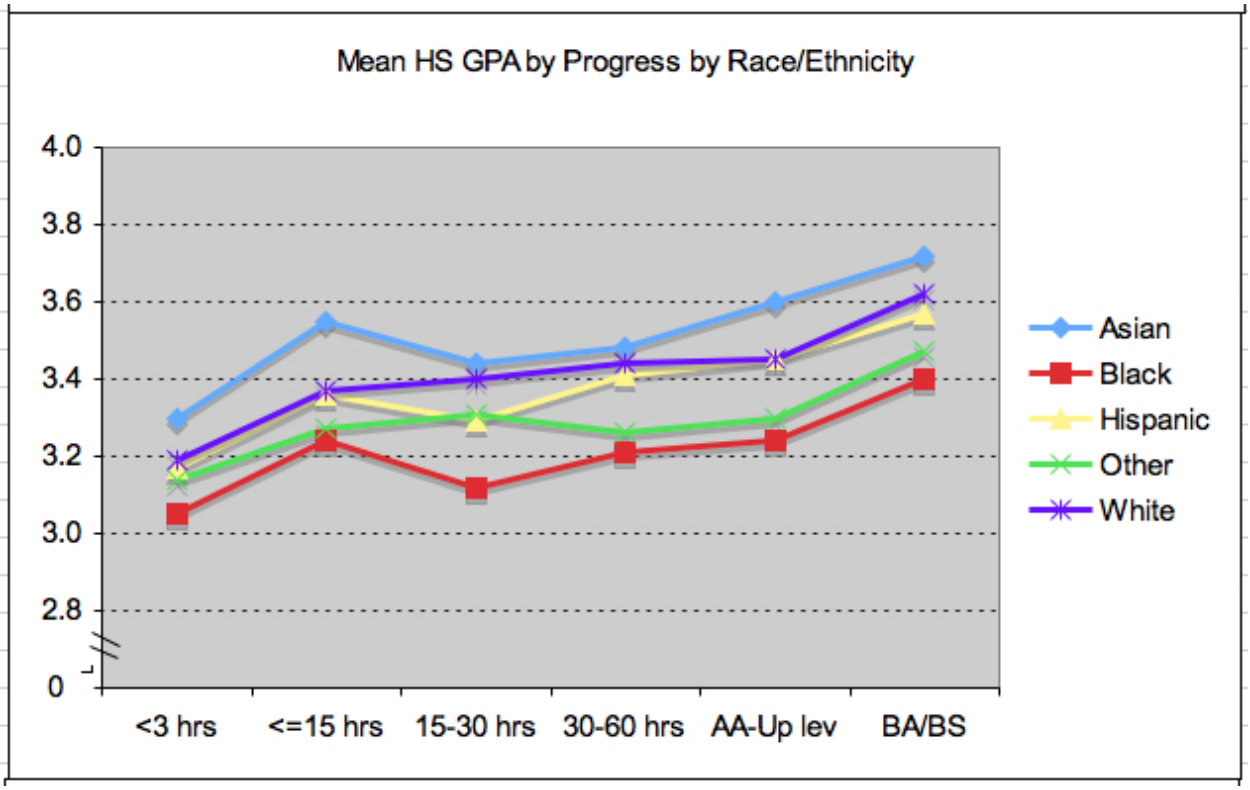


Figure 4 indicates that High School Class Rank exhibits somewhat erratic trends relative to progress for both Asian and Other students, and particularly among Other students. Again note, as was related above, that the high values for 3-15 hours completed may relate to transfers. Despite having a comparatively large dip for both Asians and Others beyond the 3-15 hours level, both groups exhibit a fairly substantial increase between having less than three hours or a < 2.0 USF GPA (lowest progress level), and attaining a bachelors degree. Interestingly, for Asians, those attaining either Upper Level status, or an AA degree have the same mean class rank as those attaining a baccalaureate degree. Unlike the Asian and Other groups, the African American/Black, Hispanic and White groups all exhibit a comparatively steady increase in mean class rank as progress levels increase with the exception that upper-level/AA attainment is usually lower than 30-60 hours. Further, these three groups don't show the higher values at 3-15 hours exhibited by both Asian and Other students. Note that a relatively high percentage of Other students are either aliens or multi/mixed race/ethnicity.

Figure 4

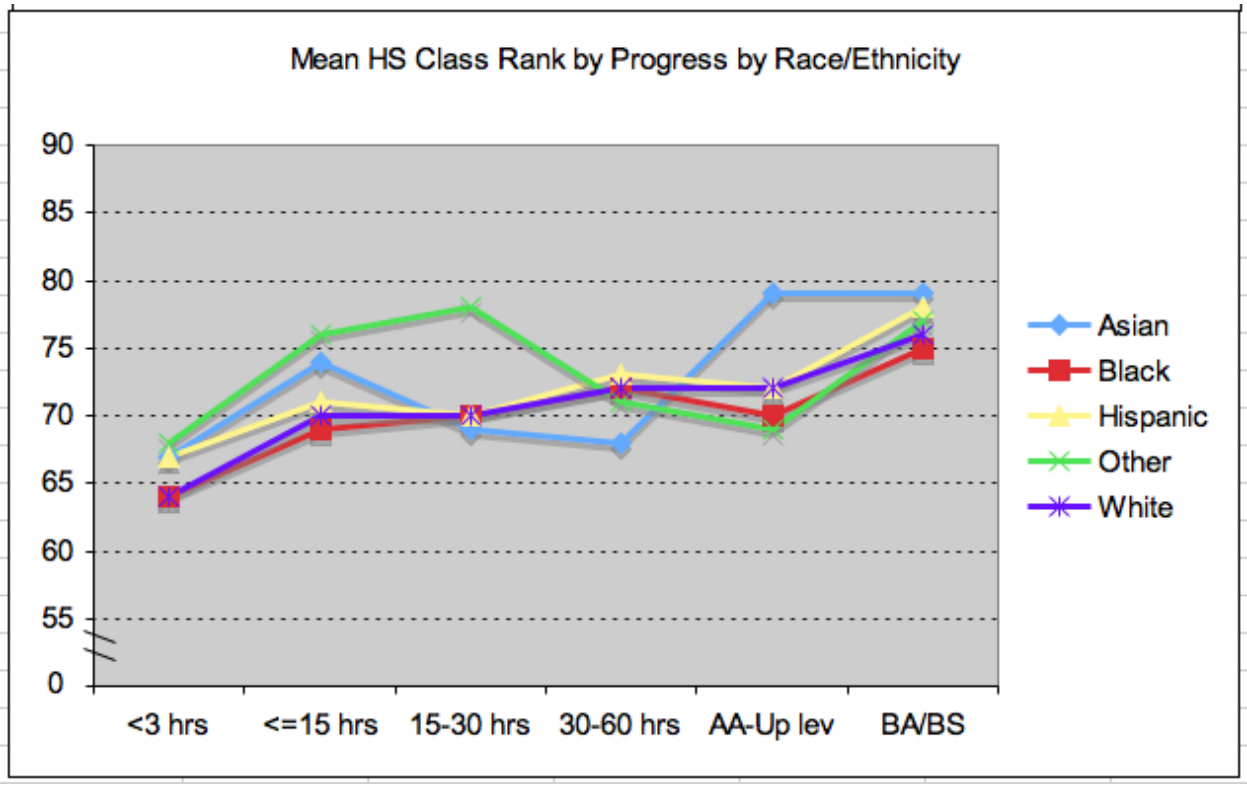


Figure 5 exhibits academic progress separately by sex for all students and clearly exhibits standardized tests' bias against females (Micceri, 2009), as males score higher than females at every level of progress on the SAT/ACT, while females score higher than males at every level of progress on both high school GPA and class rank. It is also well documented that females outperform males at the ultimate college success criterion, graduation, even in Engineering (Micceri, 2009). Thus, higher grades and class ranks make sense, but the tests appear to discriminate against women. As in all other cases, the trend lines for tests are comparatively flat for both sexes, with a slight increase at the BA/BS level, while both high school GPA and class rank show a comparatively steady increase from the lowest academic progress level to the highest for both sexes.

Figure 5

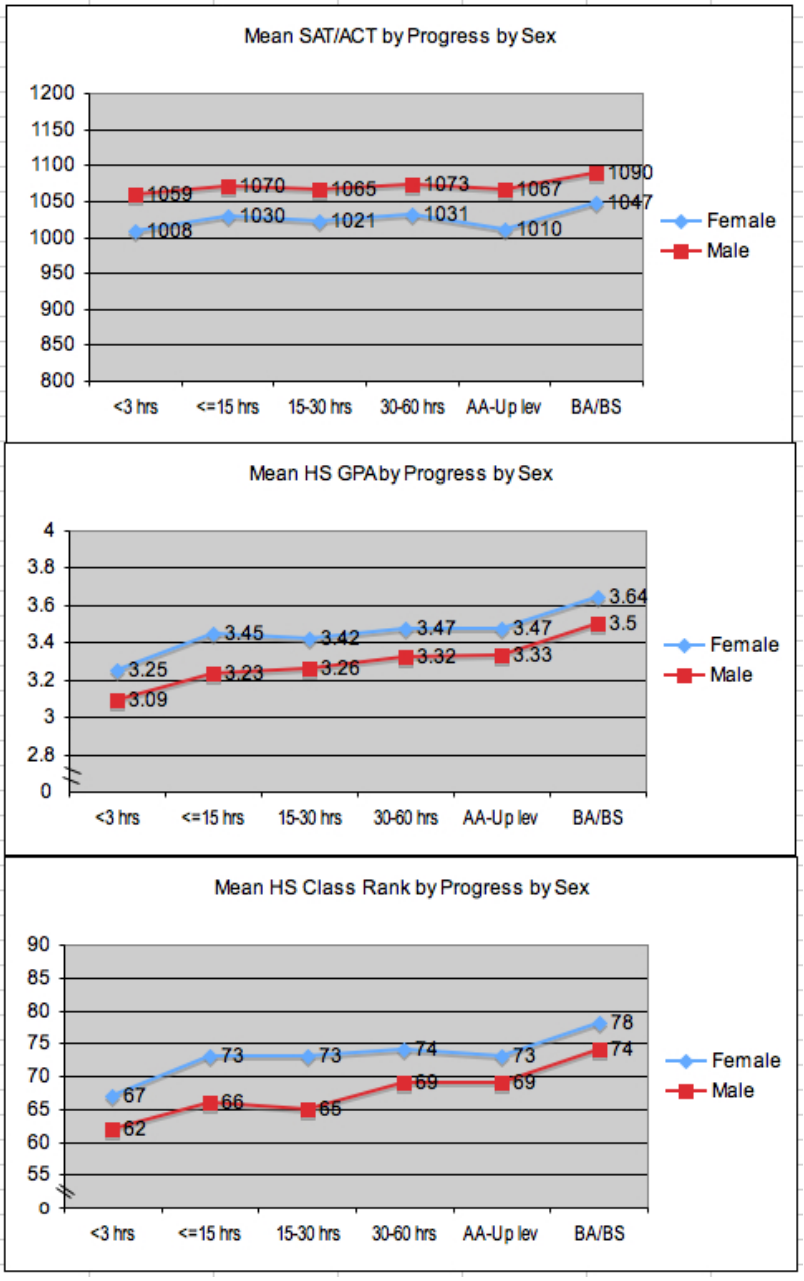


Figure 6 and Figure 7 depict respectively levels of academic progress separately by sex for African American and Hispanic groups. Consistent with all other figures, males score higher on the flat test trend lines while females score higher on the upward trends for class ranks and GPA. Note, however, that for both of these groups, the trend lines appear somewhat flatter for all admissions measures than for the total group.

Figure 6

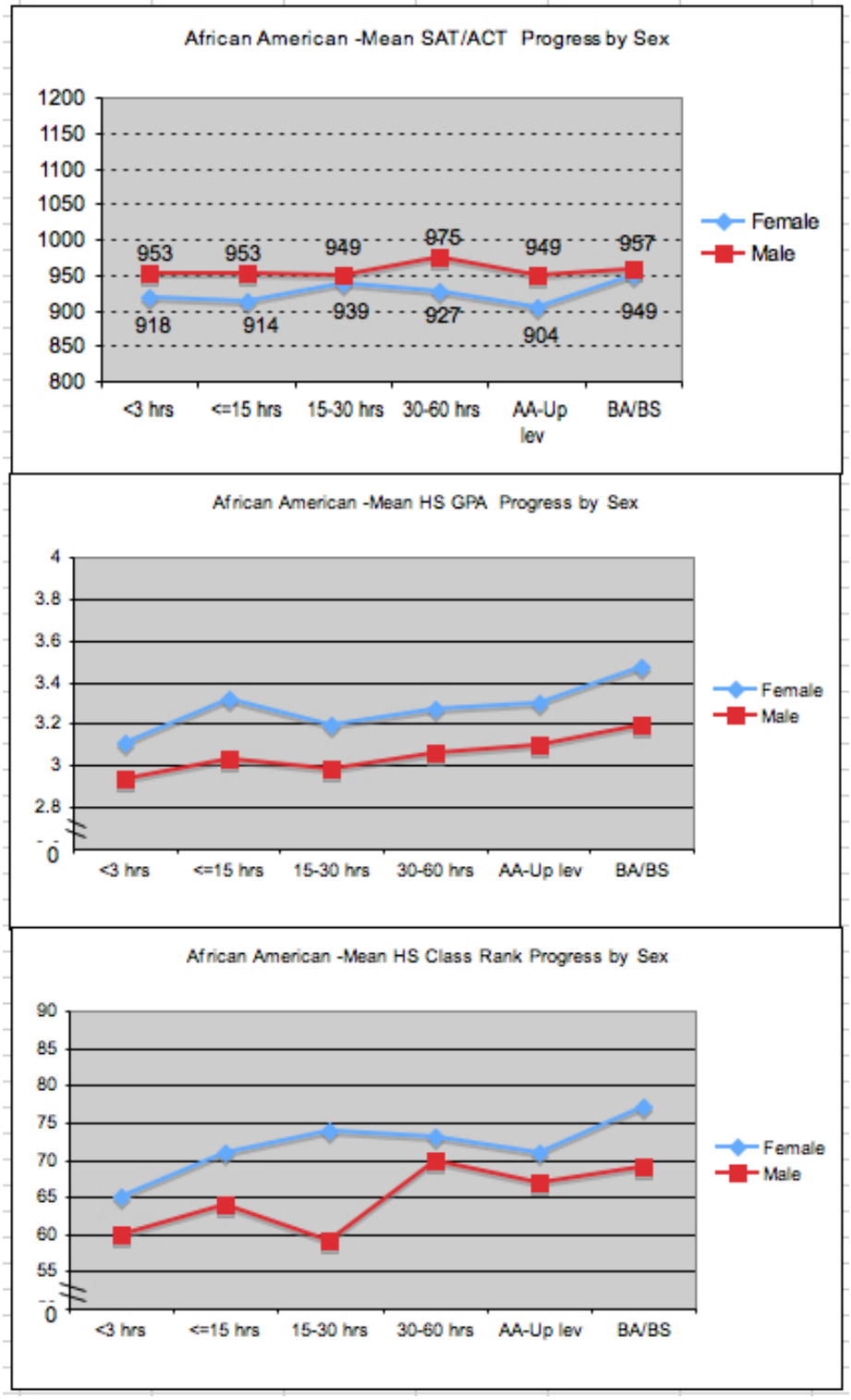
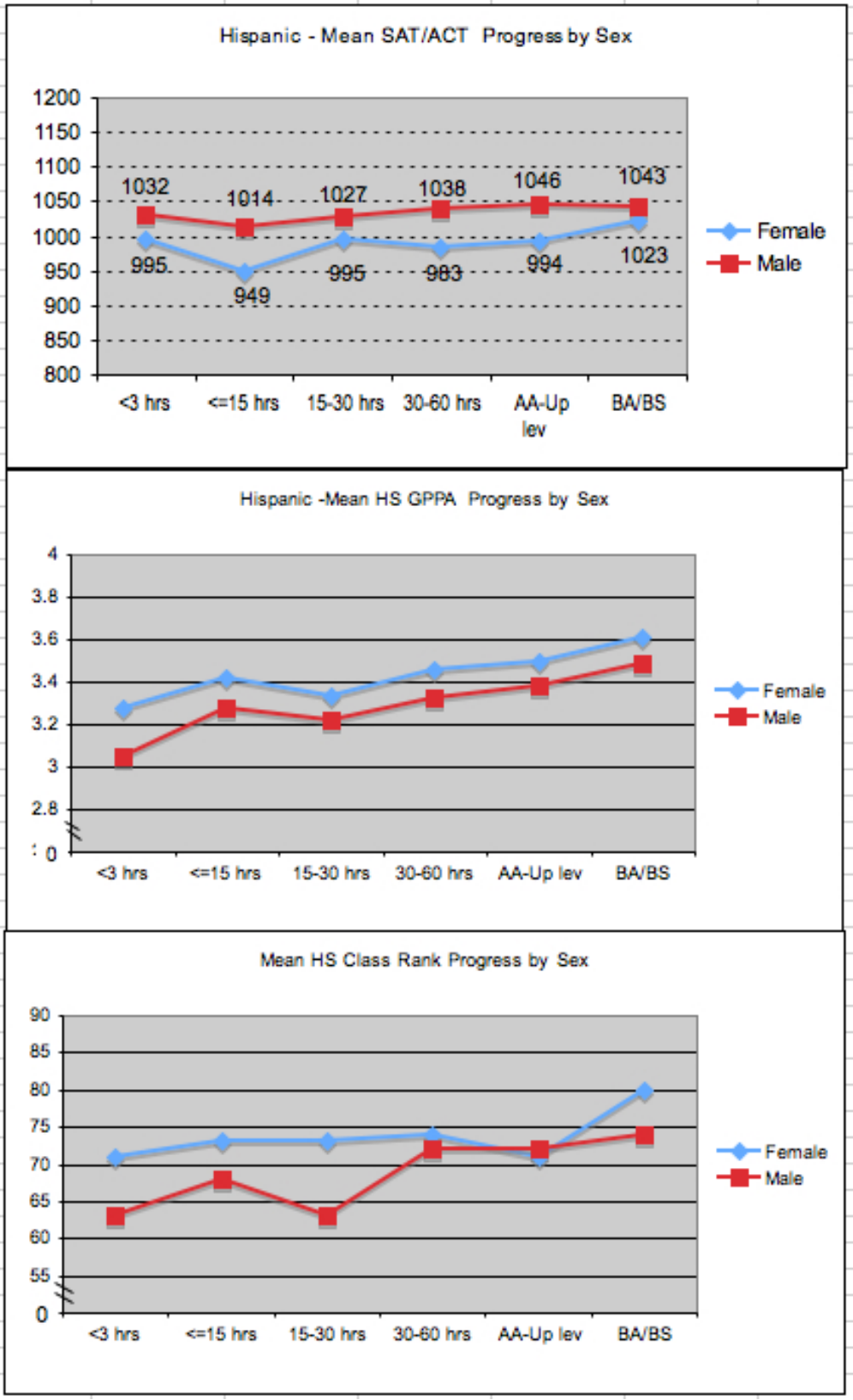


Figure 7


Hispanic - Mean SAT/ACT Progress by Sex
1200
1150
1100
1050
1000
950
900
850
800
1032
1014
1027
1038
1046
1043
995
949
995
983
994
1023
<3 hrs
<=15 hrs
15-30 hrs
30-60 hrs
AA-Up lev
BA/BS
Female
Male
Hispanic -Mean HS GPPA Progress by Sex
4
3.8
3.6
3.4
3.2
3
2.8
0
<3 hrs
<=15 hrs
15-30 hrs
30-60 hrs
AA-Up lev
BA/BS
Female
Male
Mean HS Class Rank Progress by Sex
90
85
80
75
70
65
60
55
0
<3 hrs
<=15 hrs
15-30 hrs
30-60 hrs
AA-Up lev
BA/BS
Female
Male

Regression Analyses

Table 1 displays a Backward Elimination[4] Regression model run using a numeric form of Academic Progress (HRSLEV, see Figure 2) as the dependent variable. Because high school class rank was missing for so many of these early cases, this reduced the total degrees of freedom (df) from 16,847 (Table 2) to 8,433 (Table 1). Therefore, a second analysis was run excluding class rank, which resulted in 16,847 df. These analyses were conducted using SPSS 18. Predictors were high school gpa (hsgpa), high school class rank (hsclassrank), highest of either SAT Total or ACT Composite scores (SATACT), hours transferred to USF (HRSTran); and a set of dummy coded (0,1) categorical variables that have historically shown to relate to academic progress, with the typically higher scoring group assigned a 1 and the lower group a 0. This coding should cause positive beta coefficients in the regression model: (1) sex, female=1, male=0 (regsex); (2) race/ethnicity, white or Asian=1, underrepresented minority=0 (regrace); and (3) geographical regional source, USF region=1, non-USF region=0 (grpcty).

The multiple R values obtained from these analyses are quite similar to those from historic research on the academic progress issue and indcate a basic lack of ability to predict success in college very well using varaibles available at FTIC admissions. For all predictors (Table 1), the multiple R was 0.36 (R^2 = 0.13), while the model excluding class rank (Table 2) was nearly identical with a multiple R of 0.36 (R^2 = 0.13). [5]

Using a removal tolerance of alpha < .10, the all predictor model excluded only geographical region in the first analysis, while the model without class rank excluded all three dummy coded variables, geographical region, sex and race. When evauating the power of predictors in a regression model, a variable's Beta weight is usually considered the most important indicator, with the ***t***/F test statistic also of some interest. Note that only beta and test statistics in the last box (final model) are discussed below.

For all predictors (Table 1), box 2 shows that hsgpa is the most powerful predictor with a beta weight of .836, although the limited variance[6] in the transfer hours (hrstran) variable caused this to have a greater ***t*** value with a very small beta weight (.042). SATACT has a tiny, but negative and significant beta, with race/ethnicity having a positive, ***p*** < .05 weight, but sex having a nonsignificant value.

Table 2 tells that, in a model lacking class rank, and with 16,854 rather than 8,441 cases, all three categorical variables fail to meet the tolerance limits, while, for the three remaining predictor variables, similar beta weights occur to those in the first model, however, the influence of GPA becomes somewhat greater, likely due to eliminating it's shared variance with class rank. In this analysis, even the with it's small variance, transfer hours fails to produce a greater ***t*** value than GPA. Again, SATACT's contribution is tiny and negative.

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[4] Backward elimination regression assures that the predictor variable have the greatest unique predictive variance are retained in the model, whereas, Stepwise regression may associate a variable with considerable shared variance capacity, but only limited unique to be assessed as the major predictor variable.

[5] Due to this similarity with other studies, detailed analysis of residuals was not conducted.

[6] Two thirds of students transferred in six (6) or fewer hours.

Table 1

Backward Elimination Multiple Regression Model All Available Predictors (N=8,441)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.357[a]	.128	.127	1.865
2	.357[b]	.127	.127	1.865

a. Predictors: (Constant), regcty, HSClassRank, regrace, regsex, HRSTran, SATACT, Hsgpa

b. Predictors: (Constant), HSClassRank, regrace, regsex, HRSTran, SATACT, Hsgpa

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4286.297	7	612.328	176.082	.000[a]
	Residual	29301.562	8426	3.478		
	Total	33587.859	8433			
2	Regression	4281.498	6	713.583	205.190	.000[b]
	Residual	29306.361	8427	3.478		
	Total	33587.859	8433			

a. Predictors: (Constant), regcty, HSClassRank, regrace, regsex, HRSTran, SATACT, Hsgpa

b. Predictors: (Constant), HSClassRank, regrace, regsex, HRSTran, SATACT, Hsgpa

c. Dependent Variable: HRSLEV

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics: Tolerance
2	regcty	.012[a]	1.175	.240	.013	.950

a. Predictors in the Model: (Constant), HSClassRank, regrace, regsex, HRSTran, SATACT, Hsgpa

b. Dependent Variable: HRSLEV

Table 1 Continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.739	.185		9.424	.000
	HRSTran	.042	.002	.210	19.084	.000
	Hsgpa	.835	.063	.222	13.297	.000
	HSClassRank	.004	.002	.038	2.537	.011
	SATACT	-.001	.000	-.072	-5.849	.000
	regrace	.093	.048	.021	1.944	.052
	regsex	.075	.043	.018	1.723	.085
	regcty	.051	.043	.012	1.175	.240
2	(Constant)	1.741	.185		9.432	.000
	HRSTran	.042	.002	.209	19.052	.000
	Hsgpa	.836	.063	.222	13.319	.000
	HSClassRank	.004	.002	.038	2.556	.011
	SATACT	-.001	.000	-.071	-5.759	.000
	regrace	.099	.048	.022	2.089	.037
	regsex	.072	.043	.018	1.667	.096

a. Dependent Variable: HRSLEV

Table 2

Backward Elimination Multiple Regression Model Class Rank Excluded (N=66,854)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.355[a]	.126	.126	1.882
2	.355[b]	.126	.126	1.882
3	.355[c]	.126	.126	1.882
4	.355[d]	.126	.126	1.883

a. Predictors: (Constant), regcty, HRSTran, regsex, regrace, Hsgpa, SATACT

b. Predictors: (Constant), regcty, HRSTran, regsex, Hsgpa, SATACT

c. Predictors: (Constant), HRSTran, regsex, Hsgpa, SATACT

d. Predictors: (Constant), HRSTran, Hsgpa, SATACT

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8621.107	6	1436.851	405.463	.000[a]
	Residual	59679.983	16841	3.544		
	Total	68301.090	16847			
2	Regression	8621.100	5	1724.220	486.584	.000[b]
	Residual	59679.991	16842	3.544		
	Total	68301.090	16847			
3	Regression	8617.516	4	2154.379	607.976	.000[c]
	Residual	59683.574	16843	3.544		
	Total	68301.090	16847			
4	Regression	8608.905	3	2869.635	809.757	.000[d]
	Residual	59692.185	16844	3.544		
	Total	68301.090	16847			

a. Predictors: (Constant), regcty, HRSTran, regsex, regrace, Hsgpa, SATACT

b. Predictors: (Constant), regcty, HRSTran, regsex, Hsgpa, SATACT

c. Predictors: (Constant), HRSTran, regsex, Hsgpa, SATACT

d. Predictors: (Constant), HRSTran, Hsgpa, SATACT

Excluded Variables[d]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
2	regrace	.000[a]	.047	.963	.000	.893
3	regrace	.001[b]	.133	.894	.001	.900
	regcty	.007[b]	1.006	.315	.008	.970
4	regrace	.001[c]	.122	.903	.001	.900
	regcty	.007[c]	.935	.350	.007	.972
	regsex	.012[c]	1.559	.119	.012	.910

a. Predictors in the Model: (Constant), regcty, HRSTran, regsex, Hsgpa, SATACT

b. Predictors in the Model: (Constant), HRSTran, regsex, Hsgpa, SATACT

c. Predictors in the Model: (Constant), HRSTran, Hsgpa, SATACT

d. Dependent Variable: HRSLEV

Table 2 continued

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.000	.124		16.063	.000
	HRSTran	.046	.002	.224	29.229	.000
	Hsgpa	.864	.030	.239	28.404	.000
	SATACT	-.001	.000	-.070	-8.118	.000
	regrace	.002	.034	.000	.047	.963
	regsex	.050	.031	.012	1.602	.109
	regcty	.030	.030	.007	.998	.318
2	(Constant)	1.999	.124		16.130	.000
	HRSTran	.046	.002	.224	29.308	.000
	Hsgpa	.864	.030	.239	28.405	.000
	SATACT	-.001	.000	-.070	-8.424	.000
	regsex	.050	.031	.012	1.602	.109
	regcty	.030	.030	.007	1.006	.315
3	(Constant)	1.998	.124		16.123	.000
	HRSTran	.046	.002	.223	29.298	.000
	Hsgpa	.866	.030	.239	28.510	.000
	SATACT	-.001	.000	-.069	-8.364	.000
	regsex	.048	.031	.012	1.559	.119
4	(Constant)	2.037	.121		16.777	.000
	HRSTran	.046	.002	.224	29.558	.000
	Hsgpa	.876	.030	.242	29.576	.000
	SATACT	-.001	.000	-.072	-9.040	.000

a. Dependent Variable: HRSLFV

Discussion, Conclusions and Recommendations

Consistent with all historic research on the topic, standardized tests do not relate with academic progress at USF. The SAT/ACT regression beta weights were slightly negative (Table 1, Table 2), and, as Figure 2 indicates, the very lowest SATACT values occur among those earning a bachelor's degree. Further, as Figure 1, Figure 6 and Figure 7 show, use of these tests as criteria perpetuates discrimination against both women and all underrepresented minorities when viewed from the perspective of USF academic progress. Perhaps the only group for whom tests may possibly be of some value is Asians, although the upward slope to the bachelors level in Figure 1 may only reflect idiosyncratic effects among this specific group of students. However, among Asians, the bachelors earned group having SAT or ACT scores included 594 individuals, so it is not a small sample result, and all of the lesser progress levels exhibit somewhat lower mean values. However, even for Asians only the difference between bachelors and > 2.0, > 3 hours is a technically meaningful differences (60 points of more, ETS, 2001).

Conclusion

These findings indicate that the use of test scores as admissions criterion for either females (from any group), or underrepresented minorities (from any such race/ethnic group), appears to negatively discriminate when compared with performance at USF.

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Appendix A – Detailed Tables

Table 3

Mean Highest of SAT or ACT Mean by Academic Progress, Sex and Race/Ethnicity

	<3 hrs		<=15 hrs		15-30 hrs		30-60 hrs		AA-Up lev		BA/BS	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Total	3,384	1033	1,164	1047	799	1039	1,535	1049	1,972	1033	8,180	1063
Asian	162	1001	47	1028	34	1013	91	1034	145	1035	594	1077
Black	528	930	110	926	92	942	165	941	421	917	1,072	951
Hispanic	435	1014	104	978	77	1007	176	1003	241	1016	914	1030
Other	100	1039	35	1022	28	1050	41	1035	57	1048	298	1041
White	2,159	1064	868	1072	568	1060	1,062	1075	1,108	1080	5,302	1091
	Race/Ethnicity by Sex											
Total	3,377	1033	1,162	1046	799	1039	1,534	1049	1,967	1033	8,134	1063
	Asian											
Female	76	994	27	1025	20	1002	42	1058	74	1019	352	1059
Male	86	1007	20	1031	14	1029	49	1013	71	1052	241	1102
	African American/Black											
Female	343	918	77	914	62	939	116	927	293	904	795	949
Male	185	953	33	953	30	949	49	975	128	949	277	957
	Hispanic											
Female	215	995	59	949	49	995	111	983	141	994	586	1023
Male	219	1032	45	1014	28	1027	65	1038	100	1046	326	1043
	Other											
Female	35	984	21	993	13	1020	19	1027	29	1028	150	1022
Male	65	1068	14	1066	15	1075	22	1042	25	1057	109	1064
	White											
Female	1,037	1042	509	1059	322	1041	612	1058	621	1061	3,226	1075
Male	1,116	1085	357	1090	246	1085	449	1097	485	1105	2,072	1115

Table 4
Mean ACT Scores by Academic Progress, Sex and Race/Ethnicity

	<3 hrs		<=15 hrs		15-30 hrs		30-60 hrs		AA-Up lev		BA/BS	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Total	1,778	21.0	602	21.4	443	21.3	864	21.5	1,175	21.0	4,880	21.9
	Asian											
Female	50	20.1	23	20.7	10	20.8	32	21.3	46	21.1	235	21.4
Male	46	20.1	8	19.1	5	19.8	24	19.8	41	21.2	121	22.0
	African American/Black											
Female	251	18.8	60	18.8	48	19.2	86	18.9	234	18.4	623	19.4
Male	104	19.0	24	18.9	17	18.6	32	19.9	82	18.5	179	18.6
	Hispanic											
Female	131	20.5	35	19.9	31	20.8	69	20.4	84	20.3	363	21.4
Male	89	21.3	13	21.2	12	21.5	33	20.5	54	21.3	169	21.0
	Other											
Female	23	20.1	7	20.4	5	21.6	7	21.4	14	19.5	55	22.0
Male	21	22.2	6	20.3	2	21.5	9	21.1	10	21.4	36	21.2
	White											
Female	613	21.6	277	21.9	199	21.8	370	22.0	394	22.1	2,079	22.5
Male	450	22.3	149	22.8	114	21.9	202	22.7	216	22.9	1,020	23.0

Table 5
Mean High School GPA by Academic Progress, Sex and Race/Ethnicity

	<3 hrs		<=15 hrs		15-30 hrs		30-60 hrs		AA-Up lev		BA/BS	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
	All Students, Total Sample by Race/Ethnicity											
Total	3,380	3.17	1,167	3.36	796	3.36	1,525	3.41	1,966	3.41	8,160	3.59
Asian	163	3.30	46	3.55	34	3.44	93	3.48	143	3.60	589	3.72
Black	528	3.05	110	3.24	91	3.12	164	3.21	422	3.24	1,067	3.40

	<3 hrs		<=15 hrs		15-30 hrs		30-60 hrs		AA-Up lev		BA/BS	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
Hispanic	436	3.17	104	3.36	77	3.29	175	3.41	240	3.45	917	3.57
Other	98	3.14	38	3.27	28	3.31	40	3.26	56	3.30	292	3.47
White	2,155	3.19	869	3.37	566	3.40	1,053	3.44	1,105	3.45	5,295	3.62
	All Students, by Race/Ethnicity by Sex											
Total	3,374	3.17	1,165	3.36	796	3.35	1,524	3.41	1,961	3.41	8,114	3.58
Asian	163	3.30	46	3.55	34	3.44	93	3.48	143	3.60	588	3.72
Black	528	3.05	110	3.23	91	3.12	164	3.21	422	3.24	1,067	3.40
Hispanic	435	3.16	104	3.36	77	3.29	175	3.41	240	3.45	915	3.57
Other	98	3.14	38	3.27	28	3.31	40	3.26	53	3.25	253	3.47
White	2,150	3.19	867	3.37	566	3.40	1,052	3.44	1,103	3.45	5,291	3.62
	Female											
Total	1,704	3.25	697	3.45	465	3.42	896	3.47	1,153	3.47	5,088	3.64
Asian	75	3.33	27	3.60	20	3.56	43	3.64	72	3.69	350	3.76
Black	344	3.11	77	3.32	61	3.19	116	3.27	294	3.30	794	3.47
Hispanic	216	3.28	59	3.42	49	3.33	111	3.46	139	3.50	587	3.61
Other	35	3.20	22	3.25	12	3.61	20	3.40	27	3.43	140	3.57
White	1,034	3.28	512	3.47	323	3.46	606	3.50	621	3.52	3,217	3.67
	Male											
Total	1,670	3.09	468	3.23	331	3.26	628	3.32	808	3.32	3,026	3.50
Asian	88	3.27	19	3.47	14	3.27	50	3.34	71	3.50	238	3.67
Black	184	2.94	33	3.03	30	2.98	48	3.06	128	3.10	273	3.19
Hispanic	219	3.05	45	3.28	28	3.22	64	3.32	101	3.38	328	3.49
Other	63	3.10	16	3.29	16	3.09	20	3.11	26	3.07	113	3.34
White	1,116	3.11	355	3.23	243	3.31	446	3.36	482	3.36	2,074	3.53

Table 6
Mean High School Class Rank by Academic Progress, Sex and Race/Ethnicity

	<3 hrs		<=15 hrs		15-30 hrs		30-60 hrs		AA-Up lev		BA/BS	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
	All Students											
Total	1,650	65	570	70	434	70	823	72	998	72	4,021	76
Asian	73	67	27	74	22	69	40	68	67	79	299	79
Black	287	64	57	69	50	70	94	72	205	70	559	75
Hispanic	228	67	54	71	38	70	93	73	127	72	427	78
Other	40	68	14	76	9	78	17	71	20	69	103	77
White	1,022	64	418	70	315	70	579	72	579	72	2,633	76
	Female Students											
Total	843	67	338	74	269	73	489	73	587	73	2,566	78
Asian	34	71	14	77	16	68	19	75	37	81	171	79
Black	189	65	39	71	36	74	68	73	134	71	436	77
Hispanic	119	71	32	73	26	73	60	74	69	71	268	80
Other	15	67	8	75	6	84	6	77	10	67	42	78
White	486	67	245	74	185	73	336	73	337	74	1,649	78
	Male Students											
Total	803	62	231	67	165	65	333	70	408	70	1,425	73
Asian	39	64	13	70	6	72	21	62	30	77	128	79
Black	98	60	18	64	14	59	26	70	71	67	123	69
Hispanic	108	63	22	68	12	63	33	72	58	72	157	74
Other	25	69	6	78	3	65	11	67	7	63	37	76
White	533	62	172	66	130	65	242	70	242	69	980	73

Table 7
Academic Progress by Sex, All Variables across all Racial/Ethnic Groups

	<3 hrs		<=15 hrs		15-30 hrs		30-60 hrs		AA-Up lev		BA/BS	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
	All Students											
	SAT/ACT											
Female	1,706	1008	693	1030	466	1021	900	1031	1,158	1010	5,109	1047
Male	1,671	1059	469	1070	333	1065	634	1073	809	1067	3,025	1090
	High School GPA											
Female	1,704	3.25	697	3.45	465	3.42	896	3.47	1,153	3.47	5,088	3.64
Male	1,670	3.09	468	3.23	331	3.26	628	3.32	808	3.33	3,026	3.5
	High School Class Rank											
Female	843	67	338	73	269	73	489	74	587	73	2,566	78
Male	803	62	231	66	165	65	333	69	408	69	1,425	74
	African American/Black											
	SAT/ACT											
Female	343	918	77	914	62	939	116	927	293	904	795	949
Male	185	953	33	953	30	949	49	975	128	949	277	957
	High School GPA											
Female	344	3.11	77	3.32	61	3.19	116	3.27	294	3.3	794	3.47
Male	184	2.94	33	3.03	30	2.98	48	3.06	128	3.1	273	3.19
	High School Class Rank											
Female	189	65	39	71	36	74	68	73	134	71	436	77
Male	98	60	18	64	14	59	26	70	71	67	123	69
	Hispanic											
	SAT/ACT											
Female	215	995	59	949	49	995	111	983	141	994	586	1023
Male	219	1032	45	1014	28	1027	65	1038	100	1046	326	1043
	High School GPA											
Female	216	3.28	59	3.42	49	3.33	111	3.46	139	3.5	587	3.61
Male	219	3.05	45	3.28	28	3.22	64	3.32	101	3.38	328	3.49
	High School Class Rank											
Female	119	71	32	73	26	73	60	74	69	71	268	80
Male	108	63	22	68	12	63	33	72	58	72	157	74