The 1991-92 Individual Applicant Review (IAR) Validity Study

by

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Background.

In winter/spring of 1991, a protocol was developed by the General College admissions staff to use in screening applicants for the 1991-92 freshman class. The Individual Applicant Review (IAR) form is a one-page sheet that summarizes information available from students' application folders (e.g., high school grades, recommendations, extracurricular activities). To see whether these data would be useful for predicting students' academic success and retention, a validity study was designed by ORE. While some of the variables captured by the IAR have been studied in the past (i.e., ACT composite score, high school percentile rank), some of the variables were new (i.e., number of college preparation courses missing on the transcript). An additional reason for testing the IAR is that even the so-called traditional performance variables have not been recently studied for their ability to predict outcomes for different ethnic groups in separate regression or discriminant analyses.

To conduct the study, three student workers were trained to examine application folders and complete the protocol. Not all variables recorded on the IAR were used in the analyses, due to redundancy within the form and overlap with other studies. Because the protocol was not used to determine a students' admissions status or candidacy, the fields designated at the bottom of the form indicating admissions decisions were not recorded or entered into the data base. Neither were LRC recommendations sought. After all data were entered, "old" ACT composite scores (of which there were only six) were converted to "new" ACT composite scores.

Subjects.

The admissions application folders of 130 Caucasian students and 130 students of color that had been received during spring of 1991 were pulled, and IAR forms for these students were completed by early summer. In fall of 1991, the actual registration of these 260 students was checked and only about 2/3 of them were found to be enrolled. At about the same time, results of the GCSI Validity Study (which analyzed the data for Caucasian, Asian, and African American students separately) convinced the author that these same three groups should be identified for the IAR study. Thus, the sample was modified. Additional student folders of registered students were pulled and additional IARs were completed to establish

three groups: Caucasian (N = 108), Asian American (N = 87), and African American students (N = 87). This subset represents a random sample of all Caucasian freshman, and all the Asian and African American freshmen who were registered in GC as of the second week of fall quarter, 1991, for whom data were available.

Study Questions.

The two basic questions asked in this study were: (1) Which combination of IAR variables (if any) best distinguishes between students who stay in college, vs. those who drop out? and (2) Which combination of variables (if any) best distinguishes between students who are academically successful vs. those who are not?

Dependent Variables.

Originally, the study intended to use as dependent variables retention after one year (i.e., percent of students returning to the University in fall, 1992), and cumulative GPA after one year (i.e., percent in good academic standing). One benefit of defining retention and achievement in these terms is that they would have matched the definitions used in the 1990 GCSI Validity Study (see **Research Notes** 5/7/92). Because using these measures would have delayed running the analyses until next fall, however, and the Admissions & Advancement Committee was requesting information as soon as it became available, more short-term measures of retention and achievement were used. Specifically, number of quarters registered during the 1991-92 academic year was used to designate retention, and cumulative college GPA after two quarters was used to designate achievement. Both of these indices became available to ORE after the second week of spring quarter, 1992.

Predictor Variables.

Continuous variables used in the analyses were: high school rank (HSR), ACT composite score (ACT), cumulative high school grade point average (HSGPA), percentage of days in attendance during high school (ATTEND), highest grades in high school courses in reading or writing (READ), math (MATH), science (SCI), language (LANG), and Social Studies (SOCST); student's age as of September 1, 1991 (AGE); time lapse since high school graduation (in months, as of September 1, 1991) (TIME); and number of courses missing in English (MISSENG), math (MISSMAT), science (MISSSCI), foreign language (MISSLAN), and social studies (MISSSS). A

final continuous variable was computed (MISSING) as the sum of all missing preparation requirements, across subject areas, for each student. Categorical variables used in the analyses were: increase in high school grade point average from freshmen to senior year (FSINC); cumulative grade point average of 2.0 or higher during student's junior year in high school (JRGPA); extra curricular participation (EXTCUR); participation in community or cultural activities (COMCUL); employment or volunteer experience (WORKVOL); and high school recommendation (HSREC).

Statistical Analyses.

The analytic approach used in this study replicates that used by ORE in the 1990 GCSI Validity Study (see **Research Notes**, 5/7/92). First, descriptive statistics on all variables were run for the total group (N = 282) and for each ethnic group separately in order to examine frequency distributions, the amount of missing data, and the degree of variation present. Crosstabulations and single-order correlations between predictor and dependent variables were then run for each group separately. The variables which were found to be statistically significant at this stage were then entered into the discriminant analyses.

For the discriminant analyses, retention was dichotomously recoded as either registered for all three quarters of the academic year, or registered for less than three quarters. Cumulative college GPA was dichotomously recoded as either 2.0 or above, or less than 2.0. For Caucasian students, attendance rate, freshman to senior increase in high school GPA, number of missing social studies courses, and total number of missing preparation requirements were used to predict achievement. High school grade in foreign language, reading, attendance rate, and number of missing science requirements were used to predict retention.

For African American students, more predictor variables were associated with outcomes at the intermediate stage than was the case for Caucasians. Reading and math grades, freshmen to senior increase in GPA, number of missing requirements in English, science, math, and total number of missing requirements were used to predict Black students' achievement. (ACT scores, a significant correlate with GPA, was eliminated because of the amount of missing data.) Math grade, freshman to senior increase in GPA, number of missing science and language requirements, and total number of missing requirements were used to predict retention.

For Asian American students, ACT score, grades in math and science, time out of school, and number of missing English requirements were used to predict achievement, based on their relatively meaningful single-order correlations. Age, time out of school, number of missing requirements in math, English, and total number of missing requirements were used were used to predict retention.

Results.

Data were available for most of the variables used in the analyses, with the exception of ACT scores (missing for 29% of the cases), high school attendance rates (missing for 20%), and high school grades in social studies and language (see Tables 1-4). Some of the variables were poor predictors simply because of skewed distributions or lack of variability. High school recommendations, for example, were not useful because only 6% of the students were favorably recommended. Similarly, nearly 90% of the student applicants reported some work or volunteer experience in high school, and very few (9%) reported any cultural or community involvement. Thus, these variables could not be expected to distinguish between successful and unsuccessful students, at least for this cohort. Variability in retention was somewhat restricted across all three groups (see Table 5); 70% or more of each group registered for all three quarters. In contrast, considerable variation was seen in cumulative GPA, both between and within the three groups.

The single-order correlations were uniformly low and nonsignificant for Caucasian students (see Table 6). While they were generally low for African American students as well (see Table 7), nine of the 28 correlations were significant, and they tended to reflect low grades in reading and math and missing preparation requirements. The two highest single-order correlates were between number of missing science requirements and GPA (r = -.30, p = .00), and total number of missing requirements and GPA (r = -.29, p = .00).

Highest of all single-order correlates across all groups were those found for Asian students (see Table 8). Eight correlations were significant, and most of these concerned missing preparation requirements: retention and total number of missing requirements (r = -.37, p = .00), missing English requirements (r = -.33, p = .00), and missing math requirements (r = -.40, p = .00). High school grades in math and science were also related to college GPA, as was the number of missing English requirements. (Curiously, the number of missing English requirements was positively associated with GPA.) Only for the Asian population were retention and cumulative GPA correlated with each other (r = .31, p = .00) after two quarters.

Only two categorical variables were significantly associated with dependent measures for any group (see Tables 9-10): they were high school attendance rate and freshmen to senior increase in GPA. For Caucasian students, high school attendance was positively related both to retention and college GPA, and freshman to senior increase was positively related to college GPA. Surprisingly, freshman to senior increase was negatively associated with African American academic achievement. More students who did not show this increase in high school were in good academic standing in GC, and more who did show this increase in high school were on probation. While the margins are not hugh, the pattern is disturbing.

In an attempt to understand this pattern, the average number of missing course requirements was first compared across the ethnic groups (see Tables 2-4). Compared to the other two groups, Black students came to the University having taken fewer college preparation courses. The average Black student was missing 2.21 college preparation courses, the average Caucasian was missing 1.29 courses, and the average Asian was missing 1.37 courses. To see whether Black students' increase in high school GPA was related to taking fewer college preparation courses, both crosstabulations and bi-serial correlations were run. Neither the chi-square test nor the correlation were significant, so the author currently has no idea why the freshman to senior increase in GPA is negatively related to African American achievement in General College.

Results from the six discriminant analyses were disappointing (see Tables 11-12. Although five of the six models were statistically significant, and hit rates ranged from 67% to 81%, only one of the hit rates was appreciably higher than the prior probabilities. In terms of achievement, most Caucasian (70%) and Asian students (80%) were in good academic standing after two quarters in GC; achievement for African American students was more tenuous (51%). The seven variables entered for predicting African American achievement resulted in a canonical correlation of .42 (p = .04), for a hit-rate of 67%. While this hit rate represented an improvement of 16% points over the prior probability that Black students would have at least a 2.0 cumulative GPA, the variables still predicted membership incorrectly for just over 30% of the group. None of the other variables identified in the other discriminant analyses for either achievement or retention improved upon groups' rates of prior probabilities, which essentially boils down to knowledge of the student's race as a predictor of achievement or retention.

Interpretation.

Although results from the discriminant analyses did not yield a precise set of indicators on which to screen students formulaically, this study does extend our knowledge in a couple of very important ways. It also raises some difficult questions about admissions and curriculum, and the match between students coming in to the College and the ability of the College to attend to student needs. One confirmation we've gained is that the ability to predict success clearly varies (as was found in the GCSI Validity Study) according to the ethnic group being studied and the operational definitions used for retention and achievement. Not only does the ability to predict success vary, the actual factors associated with success vary by race and by operational definition.

What's interesting is that in this study, as with the GCSI Validity Study, the variables being tested were more successful in forecasting outcomes for students of color (and especially for African Americans)--not Caucasian students. ACT score, for example, was significantly related to Asian and African American GPA (albeit to a marginal extent), but it was not even marginally or statistically significant for Caucasian students. This runs contrary to the previously held notion that it's difficult to predict success at GC because we have so many nontraditional students of color enrolled. As it turns out, both the traditional performance indicators (high school grades and preparation requirements from the IAR) and noncognitive indicators (reasons for attending college and employment from the GCSI) were both more useful for predicting student of color outcomes than for predicting Caucasian outcomes. That this finding should emerge perhaps is not so surprising, when one realizes that previous prediction studies (which did not separate their analyses by ethnic groups, and which generally found no significant results) would have been logically influenced most by the largest subgroup in the population (i.e., Caucasian students, who represent about 70% of the student body), not by the smallest (i.e., students of color, who represent about 30%).

The IAR findings for African American students, combined with what we've learned from the GCSI Validity Study, start to fill in a profile of what it means to be high-risk and Black at this University: employed, working a higher number of hours, enrolled in college for extracurricular and social reasons, low grades in high school math and English, and missing preparation requirements in English, science, and math would appear to make a student extremely vulnerable. For Asian students, none of the discriminant analyses in the IAR improved upon the already high probabilities of their academic success (80%) and continuous retention (80%)

after two quarters. Nonetheless, the highest single-order correlations found in this study occurred with the Asian group. Total number of missing preparation requirements, along with missing requirements in English and math, do contribute something to the prediction of success (however small). The most promising variable we have for Caucasians at this point is probably attendance rate in high school, although this is by no means conclusive.

It's the author's feeling that the variables which were statistically significant in this study may prove to be more meaningful still if more time were allowed to accrue and the study were updated next fall. This is because students do not sort themselves out into clear groups (success vs. nonsuccess) after only two quarters--at least in terms of retention. Also, we have become somewhat overconfident in claiming the second-quarter college GPA as a predictor of future success at the University. Although cumulative GC GPA after two quarters was a better predictor of transfer (compared to selected entry characteristics) in a study of the 1986 freshman cohort (1989, Schmitz & delMas, "Everything You Always Wanted to Know About Transfer Rates . . .", p. 33), it classified correctly only 69% of the cases. Thus, there was a 30% margin for error in that indicator. The best predictor of transfer in the 1986 cohort study was the student's last-quarter cumulative GPA in GC: together with last-quarter cumulative credits, this indicator correctly classified 76% of the cases (see Table 8). "Last-quarter" GPA could mean GPA as of third, fourth, or tenth quarter in GC.

Second, any prediction problem is affected by the distribution in the dependent variable(s). It's no accident that the one meaningful discriminant analysis occurred with Black achievement; that was the single analysis where the dependent variable had sufficient variability (i.e., a nearly 50/50 split in prior probabilities, rather than a 70/30 split or 80/20 split). We know from studying retention data over time that the split between returning and exiting students shifts over time, from mostly "here" to mostly "gone" (see Matross & Des Jardines, "1991 Student Retention Summary"). Thus, there is a strong likelihood that the IAR variables will prove more useful when retention and achievement are measured after one or two years. They may also prove more useful if the definition of academic success is raised to 2.4 or 2.5, rather than 2.0, because the distribution of cases will become more even.

For these reasons, it is important to pursue the lines of research begun with the GCSI Validity Study and the IAR Validity Study. (These studies address the same categories of students, but the cohorts are from different years.) What's common in

both studies is that race continues to be the best predictor of success. Although some of the other background variables were promising, no combination of variables from the IAR (in five of the six discriminant) improved our ability to predict success beyond what could already be predicted on the basis of a student's race. If you were a Black freshman starting college in the fall of 1991, your chances of being on academic probation by spring quarter were 49%, compared to 30% for Caucasian and 20% for Asian students. The mean GPAs for Black students after two quarters was 1.99, compared to 2.71 for Caucasian and 2.72 for Asian students.

As stated in the report on the GCSI Validity Study, the fairly consistent rank order of ethnic groups on various measures of success has been a general finding across studies and documents for years. Although no attempt has been made by this author to study all the factors influencing group discrepencies (e.g., lack of multiculturalism in the classroom, lack of role models, small number of students in the minority populations, group differences in readiness and cultural value placed on education, positive mediating effect of Commanding English, etc.), group differences at entry are significant. Tables 2-4 show significant differences in these three groups' high school percentile ranks, high school GPAs, missing preparation requirements, and ACT scores. Asian students had significantly higher high school percentile ranks and GPAs at entrance; Caucasian students had higher ACT scores and fewest missing requirements. Caucasian students' mean AAR score (mean = 88. 5, *sd* = 20.7) was just above that of Asian students' (mean = 86.1, *sd* = 17.9), but clearly above that of African American students' (mean = 76.7, *sd* = 17.5).

Although there's no evidence at this point that the environment at GC creates or augments group discrepencies in college performance, current figures make the College vulnerable to the charge that the environment does not appear to sufficiently accommodate for group differences that occur for African American students entering through the open admissions system. Politics, and philosophical orientation will determine whether these study findings indicate problems with the curriculum or institutional environment that need to be changed, or problems with students' background and readiness to be here (or both). What seems unlikely to change are the differential rates of success for our students, until one (or both) of these avenues are addressed to their fullest extent.

Table 1

Descriptive Statistics

Individual Applicant Review (IAR) Validity Study

Total Group N = 282

Continuous Variables	Mean	SD	Min	Max	Missing Data f (%)
HSR	44.4	20.4	2	91	8 (2.8)
Age	19.1	2.2	17	39	0 --
ACT Comp.	18.2	3.4	10	28	81 (29.0)
HS GPA	2.5	0.50	1.15	3.80	8 (2.8)
% Attend	90.5	8.3	30	98	60 (21.0)
Read Grade	8.4	2.2	2	11	5 (2.0)
Math Grade	7.8	2.3	1	12	5 (2.0)
Science Grade	7.5	2.4	0	12	5 (2.0)
Language Grade	7.4	2.7	0	11	73 (21.0)
Soc St Grade	8.2	2.3	0	11	95 (34.0)
Time (months)	11.2	22.2	3	264	1 (0.4)
Missing English	0.31	0.70	0	4	0 --
Missing Math	0.37	0.60	0	3	0 --
Missing Science	0.46	0.60	0	3	0 --
Missing Lang.	0.41	0.60	0	2	0 --
Missing Soc St	0.10	0.30	0	2	0 --
Total Missing	1.66	1.80	0	11	0 --

Categorical Variables	Yes		No		Missing Data	
	f	%	f	%	f	%
Jr. GPA	127	(45)	149	(53)	5	(1.8)
ExtCur	196	(70)	85	(30)	1	(0.4)
Comcul	26	(9)	253	(90)	3	(1.1)
Work Vol	245	(87)	36	(13)	1	(0.4)
HS Rec	16	(6)	244	(87)	22	(8.0)

Table 2

Descriptive Statistics

Individual Applicant Review (IAR) Validity Study

Caucasian N = 108

Continuous Variables	Mean	SD	Min	Max	Missing Data f (%)
HSR	45.2	20.0	2	84	1 (0.9)
Age	19.4	3.3	54	39	0 --
ACT Comp.	19.6	3.1	13	28	26 (24.0)
HS GPA	2.56	0.49	1.26	3.25	2 (2.0)
% Attend	89.5	10.5	30	98	26 (24.0)
Read Grade	8.6	2.3	2	11	1 (0.9)
Math Grade	7.9	2.1	4	11	1 (0.9)
Science Grade	7.8	2.4	0	11	1 (0.9)
Language Grade	7.3	2.7	1	11	19 (18.0)
Soc St Grade	7.8	2.6	0	11	44 (41.0)
Time (months)	17.7	40.9	3	264	0 (0.0)
Missing English	0.17	0.40	0	1	0 --
Missing Math	0.31	0.50	0	2	0 --
Missing Science	0.38	0.50	0	2	0 --
Missing Lang.	0.38	0.50	0	2	0 --
Missing Soc St	0.06	0.20	0	1	0 --
Total Missing	1.29	1.37	0	5	0 --

Categorical Variables	Yes		No		Missing Data	
	f	%	f	%	f	%
Jr. GPA	93	(86)	14	(13)	1	(0.9)
F-S Inc	56	(52)	50	(46)	1	(0.9)
ExtCur	82	(76)	26	(24)	0	(0.0)
Comcul	14	(13)	94	(87)	0	(0.0)
Work Vol	103	(95)	5	(5)	0	(0.0)
HS Rec	5	(5)	88	(872)	15	(14.0)

Table 3

Descriptive Statistics

Individual Applicant Review (IAR) Validity Study

African American N = 87

Continuous Variables	Mean	SD	Min	Max	Missing Data f (%)
HSR	36.7	18.3	2	79	2 (2.3)
Age	19.0	1.2	18	25	0 --
ACT Comp.	17.5	3.5	10	27	33 (38.0)
HS GPA	2.17	0.43	1.24	3.08	2 (2.3)
% Attend	89.5	7.2	67	98	11 (12.6)
Read Grade	8.0	2.4	2	11	1 (1.1)
Math Grade	7.0	2.3	1	11	2 (2.3)
Science Grade	7.1	2.5	1	11	1 (1.1)
Language Grade	6.9	2.8	0	11	25 (28.7)
Soc St Grade	8.3	2.1	2	11	23 (26.4)
Time	8.8	13.7	3	63	2 (2.3)
Missing English	0.28	0.52	0	2	0 --
Missing Math	0.60	0.71	0	3	0 --
Missing Science	0.59	0.69	0	3	0 --
Missing Language	0.68	0.76	0	2	0 --
Missing Soc St	0.07	0.26	0	1	0 --
Total Missing	2.21	1.98	0	8	0 --

Categorical Variables	Yes	No	Missing Data
	f %	f %	f %
Jr. GPA	58(66.7)	27 (31.0)	2 (2.3)
F-S Inc	30(34.5)	55 (63.2)	2 (2.3)
ExtCur	61(70.1)	26 (29.9)	0 (0.0)
Comcul	7 (8.0)	80 (92.0)	0 (0.0)
Work Vol	70(80.5)	17 (19.5)	0 (0.0)
Hs Rec	6 (6.9)	79 (90.8)	2 (2.3)

Table 4

Descriptive Statistics

Individual Applicant Review (IAR) Validity Study

Asian N = 87

Continuous Variables	Mean	SD	Min	Max	Missing Data f (%)
HSR	51.2	20.5	6	91	5 (5.7)
Age	19.0	1.06	17	23	0 --
ACT Comp.	17.0	3.00	12	24	22 (25.0)
HS GPA	2.62	0.47	1.15	3.80	4 (4.6)
% Attend	93.0	5.5	70	98	23 (26.4)
Read Grade	8.6	2.0	5	11	3 (3.4)
Math Grade	8.4	2.4	2	12	2 (2.3)
Science Grade	7.6	2.3	1	12	3 (3.4)
Language Grade	8.1	2.3	2	11	29 (33.3)
Soc St Grade	8.6	2.0	2	11	28 (32.2)
Time (months)	5.5	7.5	3	51	1 (1.1)
Missing English	0.51	1.01	0	4	0 --
Missing Math	0.20	0.50	0	3	0 --
Missing Science	0.43	0.66	0	3	0 --
Missing Lang.	0.18	0.47	0	2	0 --
Missing Soc St	0.06	0.28	0	2	0 --
Total Missing	1.37	1.89	0	11	0 --

Categorical Variables	Yes		No		Missing Data	
	f	%	f	%	f	%
Jr. GPA	79	(90.8)	5	(5.7)	3	(3.4)
F-S Inc	41	(47.1)	44	(50.6)	2	(2.3)
ExtCur	53	(60.9)	33	(37.9)	1	(1.1)
Comcul	5	(5.7)	79	(90.8)	3	(3.4)
Work Vol	72	(82.8)	14	(16.1)	1	(1.1)
HS Rec	5	(5.7)	77	(88.5)	5	(5.7)

Table 5

College Retention and Cumulative GPA Across Three Ethnic Groups

(Total N = 282)

Retention	Caucasian (N = 108)		Black (N = 87)		Asian (N = 87)		Total (N = 282)	
	f	(%)	f	(%)	f	(%)	f	(%)
Registered Zero Qrts.	1	(0.9)	1	(1.1)	2	(2.3)	4	(1.4)
Registered 1 Qrt	10	(9.3)	8	(9.1)	7	(8.0)	25	(8.9)
Registered 2 Qrts	11	(10.2)	11	(12.6)	8	(9.2)	30	(10.6)
Registered 3 Qrts	76	(70.4)	64	(73.6)	69	(79.3)	209	(74.0)
Missing data	10	(9.3)	3	(3.4)	1	(1.1)	14	(5.0)

GPA	Mean	SD	Min	Max	Missing Data f	(%)
Caucasian	2.71	1.42	.00	4.00	10	(9.3)
African American	1.99	1.33	.00	3.60	3	(3.4)
Asian American	2.72	1.63	.00	4.00	1	(1.1)
Total	2.49	1.50	.00	4.00	15	(5.0)

Table 6

Individual Applicant Review Validity Study

Single-Order Correlations of Predictor and Outcome Variables

Caucasian N = 108

Variables		HSR	ACT	HS GPA	Read	Math
Retention	r =	-.10	.09	.03	**-.18***	.04
	p =	.16	.23	.39	**.04**	.35
GPA	r =	.05	-.14	.05	-.08	-.01
	p =	.31	.12	.33	.22	.45

		Sci	Lang	Soc St	Missing	Ret
Retention	r =	-.04	**-.21***	-.02	-.11	
	p =	.34	**.03**	.43	.15	
GPA	r =	.09	.02	.01	-.12	.03
	p =	.20	.41	.46	.12	.38

		Miss Eng	Miss Mat	Miss Sci	Miss Lan	Miss SS
Retention	r =	.01	-.02	**-.21***	-.05	-.02
	p =	.47	.44	**.02**	.31	.43
GPA	r =	.06	-.01	-.09	-.12	-.14
	p =	.27	.47	.19	.13	.09

Table 7

Individual Applicant Review Validity Study

Single-Order Correlations of Predictor and Outcome Variables

African American N = 87

Variables		HSR	ACT	HS GPA	Read	Math
Retention	r =	.09	-.00	.13	.09	**.22***
	p =	.20	.49	.12	.20	**.02**
GPA	r =	.12	**.26***	.11	**.21***	**.21***
	p =	.14	**.03**	.17	**.03**	**.03**

		Sci	Lang	Soc St	Missing	Ret
Retention	r =	.08	.20	.15	-.15	
	p =	.24	.06	.12	.09	
GPA	r =	.06	-.07	**.21***	**-.29***	.10
	p =	.29	.29	**.05**	**.00****	.19

		Miss Eng	Miss Mat	Miss Sci	Miss Lan	Miss SS
Retention	r =	-.11	.01	**-.18***	-.16	.01
	p =	.16	.45	**.05**	.08	.47
GPA	r =	**-.23***	**-.21***	**-.30***	-.10	-.13
	p =	**.02**	**.03**	**.00**	.19	.11

Table 8

Individual Applicant Review Validity Study

Single-Order Correlations of Predictor and Outcome Variables

Asian N = 87

Variables		HSR	ACT	HS GPA	Read	Math
Retention	r =	.17	.03	.00	-.01	.04
	p =	.07	.40	.50	.46	.36
GPA	r =	.10	**-.22***	.15	.12	**.27****
	p =	.18	**.04**	.10	.14	**.01**

		Sci	Lang	Soc St	Missing	Ret
Retention	r =	.07	.11	.16	**-.37*****	
	p =	.26	.20	.12	**.00**	
GPA	r =	**.22***	.24	-.10	.02	**-.31****
	p =	**.02**	.03	.23	.43	**.00**

		Miss Eng	Miss Mat	Miss Sci	Miss Lan	Miss SS
Retention	r =	**-.33****	**-.40*****	-.17	-.06	-.08
	p =	**.00**	**.00**	.06	.29	.24
GPA	r =	**.20***	-.11	-.12	-.10	.06
	p =	**.03**	.15	.15	.17	.29

Table 9

Individual Applicant Review (IAR) Validity Study

Caucasian Crosstabulations of Significance

	Retention (1991-92)	
	0, 1, or 2 Qrts	3 Qrts
High School Attendance		
< 90% days	**11**	**19**
row %	(37)	(63)
column %	(50)	(25)
> or = to 90% days	**11**	**57**
row %	(16)	(84)
column %	(50)	(75)

Number of missing cases = 10 $[X^2(1) = 5.02010, p = .025]$

	GC Cum GPA (1991-92)	
	≤ 2.00	> or = 2.00
High School Attendance		
< 90% days	**14**	**17**
row %	(45)	(55)
column %	(42)	(23)
> or = to 90% days	**19**	**58**
row %	(25)	(75)
column %	(58)	(77)

Number of missing cases = 0 $[X^2(1) = 4.37133, p = .037]$

(Table 9, cont.)

	GC Cum. GPA (1991-92)	
	≤ 2.00	> or = 2.00
Increase in HS GPA from Freshman to Senior Year		
Yes	**10**	**46**
row %	(18)	(82)
column %	(32)	(61)
No	**21**	**29**
row %	(42)	(58)
column %	(68)	(39)

Number of missing cases = 1 $[X^2_{(2)} = 9.71076, p = .008]$

Table 10

Individual Applicant Review (IAR) Validity Study
African American Crosstabulations of Significance

	GC Cum GPA (1991-92)	
	< 2.00	> or = 2.00
Increase in HSGPA from Freshman to Senior Year		
Yes	**20**	**10**
row %	(68)	(33)
column %	(48)	(23)
No	**22**	**33**
row %	(40)	(60)
column %	(52)	(77)

Number of missing cases = 2 $[X^2(1) = 5.52233, p = .019]$

Table 11

Individual Applicant Review (IAR) Validity Study

Three Discrimenate Analyses: Predicting Cumulative GC GPA

Caucasian (N = 107)

Prior Probabilities: 30% < 2.00 cum GPA
70% > or equal to 2.00 cum GPA

Variable	Canonical Correlation	P-Value	Hit-Rate
Attendance Rate (+)	.33*	.02	70%
Freshman to Senior Increase (+)			
Missing Social Studies (-)			
Missing (-)			

African American (N = 84)

Prior Probabilities: 49% < 2.00 cum GPA
51% > or equal to 2.00 cum GPA

Variable	Canonical Correlation	P-Value	Hit-Rate
Reading Grade (+)	.42*	.04	67%
Math Grade (+)			
Missing English (-)			
Freshman to Senior Increase (-)			
Missing Science (-)			
Missing Math (-)			
Missing (-)			

Asian (N = 64)

Prior Probabilities: 20% < 2.00 cum GPA
80% > or equal to 2.00 cum GPA

Variable	Canonical Correlation	P-Value	Hit-Rate
ACT Score (-)	.36	.16	81%
Math Grade (+)			
Science Grade (+)			
Time Out of School (-)			
Missing English (+)			

Table 12

Individual Applicant Review (IAR) Validity Study

Three Discriminant Analyses: Predicting Retention

Caucasian (N = 79)

Prior Probabilities: 23% < 3 Quarters of Registration
77% = Registered all 3 quarters

Variable	Canonical Correlation	P-Value	Hit-Rate
Language Grade (-) Reading Grade (-) Attend (+) Missing Science (-)	.35*	.05	81%

African American (N = 81)

Prior Probabilities: 25% < 3 Quarters of Registration
75% = Registered all 3 quarters

Variable	Canonical Correlation	P-Value	Hit-Rate
Math (+) HSGPA Increase (-) Freshman to Senior Increase (-) Missing Science (-) Missing Language (-) Missing (-)	.38*	.03	78%

Asian (N = 86)

Prior Probabilities: 20% < 3 Quarters of Registration
80% = Registered all 3 quarters

Variable	Canonical Correlation	P-Value	Hit-Rate
Age (-) Time (-) Missing math (-) Missing English (-) Missing (-)	.43*	.01	80%

GC INDIVIDUAL APPLICANT REVIEW FOR REMAINDER OF FALL QUARTER, 1991

NAME: _____ ID # _____

ADDRESS: _____ PHONE # _____

_____ HIGH SCHOOL _____

Guidelines For Individual Review

1. HSR > 20 Yes _____ No _____ Score ✓ Ethnic ✓

2. ACT > 13 (Enhan.) Yes _____ No _____ Score ✓ Tier One _____

" > 10 (Regular) Yes _____ No _____ Score ✓ Tier Two _____

3. HS cum. GPA >2.0 Yes _____ No _____ GPA ✓ Tier __ _____

4. Attendance > 80% Yes _____ No _____ % Attend ✓ Applicant's Age ✓

5. Has applicant earned at least two "B" grades in high school? Yes _____ No _____

Read./Writing	Highest Grade	✓	INT/SM Course? _____
Math	Highest Grade	✓	INT/SM Course? _____
Science	Highest Grade	✓	INT/SM Course? _____
Language	Highest Grade	✓	INT/SM Course? _____
Other Courses	Highest Grade	_____	Describe _____

6. Were applicant's highest grades earned in the later terms? Yes _____ No _____ No change _____.

✓ 7. Has freshman to senior GPA Increased? Yes _____ No _____ No change _____.

✓ 8. Did applicant have a 2.0 GPA for junior year? Yes _____ No _____

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9. Education Goal? (14) Yes _____ No _____ Describe _____

10. Advanced placement and/or academic magnet registration? Yes _____ No _____

11. Time lapse since high school graduation? Yes _____ No _____ No. months ✓

✓ 12. Extra curricular participation (24) Yes _____ No _____ Describe _____

✓ 13. Community/cultural activity? (24) Yes _____ No _____ Describe _____

✓ 14. Work /volunteer experience? (23) Yes _____ No _____ Describe _____

✓ 15. HS recommend? (31) Yes _____ No _____ Describe _____

16. LRC recommend? Yes _____ No _____ Describe _____

17. Other recommend? Yes _____ No _____ Describe _____

On questions 1 to 8, applicant scored "Yes" _____ times.

A. _____ Admit

B. _____ Admit Conditionally

C. _____ Deny/Refer

If applicant is admitted conditionally, the following terms will apply:

3/4/91

_____
ADMISSIONS OFFICER