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ABSTRACT

This study explored possible predictors of College Education Achievement Project students' success in college. Based on standardized test scores and teacher recommendations a multiple regression correlation was run with the grade point average of the first fifteen hours of regular college work. Correlations were run on male, female and combined sexes. This study suggests that standardized tests are not valid predictors of college success for disadvantaged students. Using any of the reported tests as a criterion for post-CEAP placement in the regular college program was not supported by the correlations in this study. (Author)

PROBLEMS OF PREDICTION WITH COLLEGE EDUCATION ACHIEVEMENT PROJECT STUDENTS AT ALLEN UNIVERSITY

by

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PROBLEMS OF PREDICTION WITH CEAP STUDENTS
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The College Education Achievement Project is an experimental, research program designed to help students whose academic backgrounds are deficient to the point that they have not been recommended to college. The purpose of the program is to help the students reach a level of competency in reading, communication skills and mathematics that will be acceptable to colleges and enable the student to succeed. It is important that valid measures be found that can be used as predictors of placement into the regular college.

This program has been using several standardized instruments for diagnosing student learning problems and growth during the CEAP experience. Instruments are the California Achievement Test Battery, Scholastic Aptitude Test, English Composition Test, Sequential Tests of Educational Progress, Cooperative English and Math Tests, and the Nelson-Denny Reading Test. Mentor recommendations, a non-standardized measure, are also used for student evaluation. This study purports to determine which of these instruments or combinations is the better predictor of college placement and success at Allen.

Any instrument to be used as a predictor of post-CEAP college placement must be able to accurately measure language skills rather than acquired facts and conceptual development rather than memorization. Cronbach (1969) suggests that innovations in teaching are needed more than modifications in the tests. In support, McKeipin (1965) suggests that Scholastic Aptitude Test scores are reliable measures of the ability developed by entering black college students.

Mentor evaluations play a significant part in CEAP at Allen. Each nine weeks the instructors evaluate the students' progress. At the end of the school year the mentors make a final evaluation of each students' progress for the year. Since letter grades are not given, the following terms have been generally used: 1-poor; 2-fair; 3-adequate; 4-good; 5-excellent. These evaluations are based on individual performance rather than comparison with a group performance.

The students in the CEAP project present several homogeneous characteristics. They have very low academic achievement; their standardized test scores are very low; and, in most cases, the students come from low economic backgrounds. Other characteristics of deprived groups predominate in the CEAP population also.

In order to investigate the success of CEAP and develop more useful information about the instruments and mentor recommendations used, this study was undertaken to test the predictive validity of these selected measures for CEAP students.

METHOD

Eight standardized tests and the final mentor evaluations were selected. These were chosen because they encompassed all of the available information consistent in the three years of CEAP.

The tests used were: Scholastic Aptitude Test-Verbal; Scholastic Aptitude Test-Math; English Composition Test; California Achievement Tests-Reading, Math, Language; Cooperative Tests-English, Math. The mentor evaluation was based on: 1-poor; 2-fair; 3-adequate; 4-good; 5-excellent.

The dependent variable was selected in an attempt to include as many students as possible in the study. For this reason the grade point ratio of only the first fifteen hours of post-CEAP college work was used. Actually,

most of the students were required to take basic freshman courses and the variety of courses was relatively small.

All students for whom complete information was available were included. Despite the limited number of credits used, only ninety-four out of a possible one hundred thirty-seven students qualified for the study. This number represents three years of CEAP operation.

The means and standard deviations were computed for each of the variables. Intercorrelations were also computed for all of the variables. Then multiple correlations were computed for each of the variables with the grade point ratio. These computations were done with all students combined as well as with males and females separately. The results can be found in Tables I, II, and III.

RESULTS

Of the three analyses, the mentor's evaluation emerges as the highest correlate with grade point ratio in the male-female combined and male alone groups. Female alone indicates that SAT-Math and Cooperative [illegible] are the highest correlates with grade point ratio.

For male-female combined, the lowest correlation with grade point ratio is Cooperative Math. The same holds true with females alone. For males alone the Cooperative English has a r=-.02 correlation with grade point ratio.

Significant at the .05 level for male-female combined were the three tests of the California Battery-Reading, Language, Math. For the same group the correlation between mentor evaluation and grade point ratio was r=.26, significant at the .01 level.

When .05 was used as the level of significance for a variable to enter the multiple regression equation, several variables qualified. However, for all possible equations the lowest standard error of estimate was .493 which was the eighty-seven (87) percent of the standard deviation of the dependent

variable. The intercorrelations of the various tests were computed but not as a necessary part of the study.

DISCUSSION

Although the predictive efficiency of the multiple regression equations is low, the results of the study do have several important implications for evaluation and placement of former CEAP students. The low variability of the data does support the earlier contention of homogeneity of the group of students enrolled in the program. This low variability hampers statistical analyses but it is a fact that must be accepted with programs of this nature. The students are selected because of certain academic and social similarities.

A close study of the data indicates several points concerning the correlation between mentor evaluations and grade point ratio. Although mentor evaluations are not necessarily good predictions of success, they do emerge as the strongest criteria correlation for the combined sex groups. In fact, this was the only correlation found to be significant at the .01 level for the total group combined. The consistency of this correlation is strengthened by the identical correlations of r=.27 for the separate male and female groups. The data suggests the not very surprising idea that mentor evaluations are stronger predictors of students success than most standardized test scores.

The relatively high correlations of the California Achievement Test Battery provides for some interesting speculation. This test differs in its structure from the other tests in the study. It is generally a series of short, timed tests that provide frequent breaks in concentration. The other tests require more extended periods of concentration and attention to the work involved. It is suggested that this might be a factor worthy of exploration.

Generally the females show higher correlations with the criteria than do the males. One phenomena in particular emerged that confused the results. The high (r=.52) correlation for females with the SAT-Math and grade point ratio cannot be explained. In contrast, the males correlated r=-.01 on the same test.

SUMMARY

Eight standardized achievement tests and the final evaluation by mentors were correlated with grade point ratios for high risk students in the College Education Achievement Project at Allen University. A group of ninety-four post-CEAP students that had attempted at least 15 semester hours of regular college work were used in this study.

An exploration of the predictive efficiency of the standardized tests and mentor evaluations was conducted. Using grade point ratios for the first fifteen hours of regular college work multiple regression correlations were computed for the ten variables.

Although the predictive efficiency of the variables proved very low, several considerations were concluded. It seems apparent that the tests included in this study are not geared to effective measurement of CEAP students. This study suggests that standardized tests of the type used for this study should not be used to predict or place CEAP students in a regular program. It is strongly recommended that a test be developed that accurately measures the potential success for high risk students in college.

TABLE 1

INTERCORRELATIONS, MEANS AND STANDARD DEVIATIONS OF THE DEPENDENT VARIABLE AND THE NINE INDEPENDENT VARIABLES--MALES AND FEMALES (N = 94)

		2	3	4	5	6	7	8	9	10	Mean	Std. Dev.
1.	SAT-Verbal	25	46	64	23	31	54	28	16	17	263.94	47.40
2.	SAT-Math		16	30	40	18	21	17	01	17	291.34	47.15
3.	English Composition			47	18	27	39	07	18	17	286.86	48.16
4.	CAT-Reading				35	51	67	28	29	23*	89.43	14.18
5.	CAT-Math					40	16	39	20	22*	82.41	15.79
6.	CAT-Language						43	09	22	26*	96.27	17.05
7.	Cooperative English							22	27	14	143.13	6.71
8.	Cooperative Math								29	06	6.62	6.01
9.	Teacher Recommendation									28**	3.26	.72
10.	Grade Point Ratio										2.14	.54

*Criterion correlations significant at .05

**Criterion correlations significant at .01

TABLE 2
INTERCORRELATIONS, MEANS AND STANDARD DEVIATIONS OF THE DEPENDENT VARIABLE AND THE NINE INDEPENDENT VARIABLES--FEMALES (N = 41)

		2	3	4	5	6	7	8	9	10	Mean	Std. Dev.
1.	SAT-Verbal	28	42	54	27	26	61	09	19	20	269.78	50.15
2.	SAT-Math		29	40	32	27	38	12	11	52**	279.00	40.32
3.	English Composition			55	23	35	59	-15	27	28	296.51	52.28
4.	CAT-Reading				37	49	70	09	23	28	90.15	15.03
5.	CAT-Math					48	13	29	15	28	80.49	14.95
6.	CAT-Language						43	00	23	26	103.51	15.03
7.	Cooperative English							06	35	34*	144.15	5.78
8.	Cooperative Math								32	09	5.63	5.96
9.	Teacher Recommendation									27	3.37	.70
10.	Grade Point Ratio										2.20	.57

*Criterion correlations significant at .05
**Criterion correlations significant at .01

TABLE 3
INTERCORRELATIONS, MEANS AND STANDARD DEVIATIONS OF THE DEPENDENT VARIABLE AND THE NONE INDEPENDENT VARIABLES--MALES (N = 53)*

		2	3	4	5	6	7	8	9	10	Mean	Std. Dev.
1.	SAT-Verbal	20	47	73	22	33	50	48	11	12	259.42	45.11
2.	SAT-Math		16	27	43	32	18	16	01	-01	300.89	50.13
3.	English Composition			39	19	11	23	33	08	02	279.40	43.76
4.	CAT-Reading				36	57	67	47	33	17	88.87	13.60
5.	CAT-Math					47	20	45	27	20	83.91	16.41
6.	CAT-Language						41	26	16	22	90.66	16.52
7.	Cooperative English							36	21	-02	142.34	7.31
8.	Cooperative Math								32	07	7.38	6.00
9.	Teacher Recommendation									27	3.17	.73
10.	Grade Point Ratio										2.09	.51

*None of the criterion correlations is significant at the .05 level.

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