1941

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Recommended Citation

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Introduction:

The prediction of college success has been studied from a number of different angles. The rank in high school graduating class is generally considered to have the highest single predictive value. Intelligence was considered important when combined with other factors. Tests of various kinds have been used extensively. The general situation is suggested by Adams (1). He says that the relative quality of achievement during the freshman year in college is best predicted from relative high school achievement, than from the college freshman aptitude test standing, and the I. Q. in the later elementary grades. Thus various factors have been used to determine college success according to past researches.

Before considering recent research on predicting college success the causes of college mortality as another aspect of the process should not be overlooked. A study by Snyder (39) of the Los Angeles city college reveals the following:

46% withdrew to accept employment.
14% withdrew because of illness.
7% withdrew because of change in residence.
12% withdrew because of failure.
19% withdrew due to lack of interest, unsuitable choice of course or preference for other schools.

Stuit (42) reports an analysis of 94 freshmen (out of 222) who did not return for the sophomore year at the University of Nebraska. He indicates a need for better pre-school guidance, aid in financial problems, and aid in making satisfactory social adjustments. The academic aptitude of students who withdrew from college is lower than that of the others, but the difference is slight, and there is much over-lapping.

1. *High School Performance*

Wagner (45) found that prediction based on high school performance as measured by the New York State Regents average was the best single criterion of college success at the University of Buffalo. According to Dressel (12) the correlation between high school grades and college grades is .52. However, the difference in high school grading systems was very noticeable and makes ac-

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curacy in prediction much more difficult. Strang (41) found that rank in a high school graduating class has a closer relationship to future success than the average of high school marks. Butsch (9) found correlations between rank in high school graduating class and the criterion of the first semester grades in college ranging between .47 and .60. Schmitz (38) discovered that high school scholastic achievement is the most efficient single instrument for predicting success. Eurich (17) states that a simple measure having the highest predictive value for success in college is rank in the high school graduating class in scholarship over a four year period. Dwyer (16) found that sub-correlations are applicable to the problem of predicting college success from the high school record. It is better for A and B students than those with C and below. According to Darley (11) patterns of high school subjects are shown to be less valid as indices of college achievement than high school achievement and basic measured ability. Dwyer (15) reports in a study made of 1,222 students in the University of Michigan that pupils of smaller high schools are less likely to survive in college. A study made by Mercer (30) of the predictive value of college admissions showed consistent differences in high school grades and principal's ratings in favor of the group now ranking highest in college, but not in high school activities or in ratings on personal interviews.

The above evidence gives the conclusion that high school performance or rank is the best single criterion for prediction of college success.

2. Intelligence Is Another Important Factor in Prediction

A correlation of .46 was found between college grades and intelligence scores (3). Other studies give a higher significance. However, Nemzek (32) found that the I. Q. has more value for direct prediction than for differential prediction. Beery (5) found that the reliability of prediction of probable college attendance on the basis of intelligence scores alone increases as one approaches either extreme of the intelligence. Despite this fact, Keys (25) found correlations between I. Q.'s and college grades to be as low as .35 ± .04. College standing and intelligence give a correlation of .706 according to Hartson (22). Livesay (27) throws new light from a different angle. He found that students tested at the beginning and again at the end of their college careers were found to increase their intelligence scores. Ross (36) states that telling I. Q. scores even to lower groups makes for better work on their part and also a greater chance for success. An experimental

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group which was aware of a low I. Q. maintained a higher average and failed fewer courses than a control group. The differences were more marked with students in commerce than with those in arts and science. Thus intelligence proves to be an important factor in predicting college success, but its significance is not consistently high. This raises a question about the complete confidence placed in an intelligence test by some.

3. College Grades Have Some Place in the Process of Predicting Success in College.

According to Gilkey (19) the correlation of the general average of grades is higher than the correlations of grades in related fields. Du Bois (13) reports that the achievement ratio may have practical value for administrative offices in identifying students who are not achieving what they should. Read (34) says that studies of the prediction of college success have usually dealt with the relation of pre-college measures with first semester grades alone. He reports correlations between pairs of semesters in college to range from .516 to .749. The fourth semester shows closest average agreement with all others and the first agrees as well with it as does any. Boardman (8) says "Scholastic performance during the first three years is the best single means so far tested for selecting students for admission to the senior year." Hepner (20) gives added factors which may explain the factors underlying the unpredicted scholastic achievement of college freshmen are:

1. To view the individual as a distinct person.
2. To work with him with all available knowledge.
3. To avoid the feeling of contentment with dependence upon the general conclusion of statistical analysis.

Thus college grades seem to have considerable significance.

4. There Are Several Tests Which Fit Quite Readily into the the Prediction of College Success

Those most generally used are the Ohio State Achievement Test, American Psychological Examination, the Army Alpha and Reading tests, various achievement and other tests. In addition to these, others will be discussed. Bishop (7) found the Terman group test of mental ability correlated .524 with scholarship for the first year in college while the scores on the Kentucky Classification test correlated .574 with scholarship for the first year in college. Rigg (35) found correlations between intelligence and first semester scholarship to be .52; intelligence and four years' scholarship .43; intelligence and achievement scores .53; and achievement

scores and four years' scholarship .47 for seven different graduating classes. Wolf (47) attempted to predict the scholastic success from the scores of aptitude tests given at the time of entrance to college. Three-fourths of the students showed no difference in their freshman year, but for one-fourth of them, the differential predictions developed in this study correctly forecasted criterion differences approximately two out of three times. Practically no differential prediction was found to be possible for upperclass performance. Paul (33) found that students with high scores in placement tests tend to remain in school longer, earn more hours of credit and fail fewer courses. Hildreth (24) says that if a student is high originally he is apt to remain in a high status, but if he is low, the prediction of ultimate status is less certain. The correlation between the psychological examination and the grade point average ranges from .33 to .60 with a medium of .44. Tests in special subjects also have predictive value. In testing engineering freshmen, Bernreuter (6) found that a significant relationship existed between primary abilities and success in other specific courses. Templeman (43) states that a vocabulary test score is a good index of the point average at the end of the first rhetoric grade. Hanna (21) found that scores on Cooperative English tests and grades in high school English can be used equally well in predicting success in college English. However, scores of Cooperative tests in mathematics and French are better for prediction than grades in high school. Vernon (44) found the better students to be more tense, more dependable, better at concentrating and less liable to depressions and emotional stability.

The position has been taken by several that the Ohio State Entrance test is a very valid test for prediction of success in college. However, Williamson and Darley (46) show that tests will only predict perfectly if and when the necessary conditions are present in the student. It is conceded then, that the test has greater significance when combined with other personal factors.

5. Another Factor Influencing Grades Is Interest and Enjoyment

Gregory (20) states that interest and ease reported by a student for his high school courses furnished valuable clues for vocational counseling. Garrison (18) found that in testing student interest a difference was found in the choices of the students from different home backgrounds. Corey (10) says that liking a school subject is rather closely related to liking the teacher. Between value, enjoyment and interest in the class period and interest in

the subject matter Mallory (28) found the intercorrelations to range from .65 to .75. The amount of work in relation to interest and to enjoyment from .35 to .41. Grades correlated with enjoyment .33 and with interest and value .19 to .25.

6. Personal Factors Have Significant Bearing on Prediction of College Success

Durea and Love (14) found that scores from a personal traits inventory showed little correlation with academic standing, intelligence or admission blank scores in the number and intensity of problems section of the tests. St. Clair (40) states that the conclusions of previous investigation that there is no linear relationship between personality traits and scholastic aptitude were substantiated. However, other research does not seem to agree with this. Asher and Gray (4) found that personal history inventory when combined with test scores makes prediction more accurate. Manning (29) states that the results of tests may be affected by *illness, indifference* or other *personal factors*. Russell (37) states that success depends more on factors of *motivation, physical* and *mental health,* personal and social relationships of the student with parents, fellow students and faculty, on the degree to which home and school have prepared students for independent living and self-direction than on grades and tests. Alexander (2) contends that a normal *social life* usually accompanies good scholastic accomplishment. Although the research is somewhat conflicting the predominance of evidence points in this direction.

7. All of the Previous Material Has Been on a Single Criterion

Some contend that the most satisfactory means of prediction is by a prediction formula. Manning (29) found a combination of an intelligence test with an English test to be most successful. However, he also says that any prediction formula is defective in individual cases where illness, indifference or other factors interfere. Leaf (26) discovered that two regression equations predict the average college mark of approximately 68% of the students within .44 and .40 of a letter mark. This method is probably the best of all those discussed.

<div align="center">SUMMARY</div>

Seven criteria for the prediction of college success have been discussed and the foregoing data reveal that rank in a high school graduating class seems to be the best single criterion for predicting college success. However, other factors which cannot be for-

gotten are intelligence, college grades, tests of all kinds, interest and enjoyment, personal traits and characteristics, and the prediction formula. This last is considered the best method of all since it embraces several factors.

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