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THE RELATIONSHIP OF SELECTED FACTORS TO ACADEMIC

SUCCESS FOR BEGINNING FRESHMEN

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THE RELATIONSHIP OF SELECTED FACTORS TO ACADEMIC

SUCCESS FOR BEGINNING FRESHMEN

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CHAPTER I

THE PROBLEM

Background and Need

During the early days of higher education in the
United States, admission to college was a great problem
for prospective students. This was due to the lack of
college facilities and the lack of demand for college
trained people. Applicants were given rigid tests of
character through oral questioning and rigorous tests of
academic achievement. These academic tests usually
consisted to a great extent of reading in Greek or Latin
from specified pieces of classical literature.[1]

The law of supply and demand later changed the
pattern of college entrance. Society began to place
demands for more training and education for many different
occupations. State institutions were established to give

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[1]Benjamin Fine, Admission to American Colleges
(New York: Harpers and Bros., 1946), p. 14.

higher education to those members of society who were capable. Soon, entrance to a college of some sort was available to anyone who could meet low minimum standards. The idea that each person in society should have the opportunity for full realization of his potential soon became widely accepted. Admission to state institutions of higher education was practically guaranteed to anyone who attended the secondary schools of the state.

There are several trends currently in evidence which are affecting the pattern of admissions.[2] The American population is rapidly increasing. Society is placing an ever increasing value upon a college education.[3] A larger percentage of the population are entering college each year.[4] Higher education is again becoming more selective in the admission of students. This is especially evident at the larger universities or smaller prestige colleges. However, some of these institutions are state operated colleges.

In Oklahoma reaction is beginning to develop to this pressure. The State Board of Regents have recently launched a program of research in relation to finance,

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[2]Educational Policies Commission, _Higher Education in a Decade of Decision_ (Washington: National Education Association, 1957), pp. 28-36.

[3]R. Clyde White, _These Will Go to College_ (Cleveland: Western Reserve University Press, 1952).

[4]Byron S. Hollinshead, _Who Should Go to College_ (New York: Columbia University Press, 1952).

space, enrollment, admission and retention at the colleges
and universities of the state.[5]  One result of this research
has been in the establishment of new admission policies.
The University of Oklahoma will consequently have the
policy of requiring either a score in the upper seventy-
fifth percentile on the American College Test or a rank
in the upper three-fourths of the high school class for
entrance of students from within the state.

Therefore, there is need for thorough research to
test the value of these criteria and other factors which
may be related to success of students at the University of
Oklahoma.  Research has shown that there are varied factors
which affect success in college.[6]

A study is needed which has two characteristics
that would distinguish it from the usual studies in the
area.  First, research in the area has tended to use the
criteria of graduation as the measure of success.  This
is a good measure of the ability of colleges to retain and
fulfill the ultimate needs of the student.  However, there
is a belief that for purposes of preliminary counseling and
admission, it is more appropriate to identify the

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[5]Dan S. Hobbs, A Study of the Admission and
Retention of Students, A Report to the Oklahoma State
Regents for Higher Education (Oklahoma City:  January, 1962).

[6]American Council on Education, On Getting Into
College, A Study Made for the Committee on Discriminations
in College Admissions (Washington:  American Council on
Education, 1949).

characteristics of the students who do or do not succeed
at an earlier point in their collegiate study. Second, the
study of relationship of criteria is usually applied to a
population or sample which represents the total range of
the success scale. The value of admission policy relies
upon how well it discriminates against the undesirable
group of students. There is also value in counseling to
be able to identify different levels of success. Therefore,
a study is needed which utilizes the grades at the end of
the students' first semester, and these grades should be
divided into ranked groups for the study of relationships
to selected factors. Such a study would show to what extent
specific factors would be of value for prediction of
different degrees of success.

## Statement of Purpose

It was the purpose of this study to discover the
relationships that exist between information available on
prospective students and their academic success during
their first semester at the University of Oklahoma. Such a
study should give indications for the establishment of
proper as well as improper criteria upon which to base
predictions of academic success for prospective students.

## Statement of the Problem

It was the problem of this study to identify the
relationships that exist between selected student

characteristics and the degree of success experienced in
the first semester of their freshman year in the University
of Oklahoma. It was further the problem of the study to
identify those characteristics which will be valuable
for use as a basis for the establishment of a selective
admission policy and for student counseling. More
specifically, it was the problem to point out the value of
American College Test scores and high school grades as
predictors of success, and to test the relationship of the
factors of sex, occupation of parent, size of high school
from which graduated, and the type of courses selected in
high school to degrees of success in college.

## Delimitation of the Study

The study was limited to beginning freshman
students from Oklahoma high schools at the University of
Oklahoma in the fall semester of 1961 who had been enrolled
in and completed a minimum of twelve hours during the
semester. The study was further limited to those students
whose high school record was available and complete.

The study was limited to those characteristics
which are stated in the hypotheses. There was no effort
made in the study to establish evidence of continuous norms
of the findings which would apply to any other groups of
students.

## Definitions of Terms

For the purposes of the study the following terms are defined as indicated.

"The different degrees of success" was defined as the different success levels represented by the four samples in the study. "Group I" was a sample composed of relatively highly successful students with a grade point average in the first semester of college of at least 3.0. "Group II" was a sample of relatively successful students with a grade point average range of 2.0 through 2.9. "Group III" was a sample of students whose success was relatively low with a range of 1.0 through 1.9. "Group IV" was a sample of students who were relatively unsuccessful with a grade point average of less than 1.0.

"Grade point average" was used to represent the quotient received from dividing the equivalent sums of credit into the sum of the values of grades received for that credit. The values of grades per hour of credit were 4.0 for an A, 3.0 for a B, 2.0 for a C, 1.0 for a D, and 0.0 for an F.

"Students who selected a more academic course" was used to designate those students who received at least seventy-five per cent of their high school credit in science, math, English, social studies, speech, and foreign language. "Students who selected a less academic course" was used to identify those students who received

twenty-five or more per cent of their credit in courses other than science, math, English, social studies, speech and foreign language.

"The occupational area of the parent" was defined as the appropriate area of classification outlined in the Dictionary of Occupational Titles.[7]  The seven general areas are numbered and titled as follows:

(0) Professional and managerical occupations

(1) Clerical and sales occupations

(2) Service occupations

(3) Agricultural, fishery, forestry, and kindred occupations

(4) Skilled occupations

(5) Semi-skilled occupations

(6) Unskilled occupations

"Size of high school" was defined as any one of the four groups of high schools which were grouped by the number of teachers as follows:

Size 1 - ten or less teachers

Size 2 - eleven to twenty-four teachers

Size 3 - twenty-five to forty-nine teachers

Size 4 - fifty or more teachers

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[7]U. S. Department of Labor, Dictionary of Occupational Titles, Volume I, Definition of Titles (2nd ed.; Washington: U. S. Government Printing Office, 1949).

## Hypotheses of the Study

Group I, Group II, Group III, and Group IV were individually tested in relationship to the selected factors by the following null hypotheses.

$HO_1$ There is no statistically significant relationship between the English area standard scores of the American College Test and the grade point averages in college.

$HO_2$ There is no statistically significant relationship between the math area standard scores of the American College Test and the grade point averages in college.

$HO_3$ There is no statistically significant relationship between the social studies area standard scores of the American College Test and the grade point averages in college.

$HO_4$ There is no statistically significant relationship between the science area standard scores of the American College Test and the grade point averages in college.

$HO_5$ There is no statistically significant relationship between the composite standard scores of the American College Test and the grade point averages in college.

$HO_6$ There is no statistically significant relationship between the high school English grade point

averages and the grade point averages in college.

$HO_7$ There is no statistically significant relationship between the high school math grade point averages and the grade point averages in college.

$HO_8$ There is no statistically significant relationship between the high school social studies grade point averages and the grade point averages in college.

$HO_9$ There is no statistically significant relationship between the high school science grade point averages and the grade point averages in college.

$HO_{10}$ There is no statistically significant relationship between the composite of high school English, math, social studies, and science grade point averages and the grade point averages in college.

$HO_{11}$ There is no statistically significant relationship between the total high school grade point averages and grade point averages in college.

$HO_{12}$ There is no statistically significant difference in the proportion of students found in the different degrees of success in college according to sex.

$HO_{13}$ There is no statistically significant difference in the proportion of students found in the different degrees of success in college according to occupation of parent.

$HO_{14}$ There is no statistically significant difference in the proportion of students found in the

different degrees of success in college according to the
type of course taken in high school.

$HO_{15}$  There is no statistically significant
difference in the proportion of students found in the
different degrees of success in college according to size
of high school from which graduated.

## Population and Samples

The fall of 1961 enrollment records were used to
secure a list of all freshmen.  From this list all names
were deleted of students who had previous study in any
institution of higher education, graduated from any high
school outside of Oklahoma, enrolled in less than twelve
hours, did not complete all their enrollment for the
semester, or whose high school record was not available or
complete.  The remaining students were sorted into the
four groups representing the four degrees of success.  A
random sample chart was used to take a sample of one
hundred names of students in each group.  These made up
the four samples in the study.

## Treatment of the Data

All the hypotheses were tested individually upon
each of the four groups.  The first eleven hypotheses were
treated by using the Pearson product-moment coefficient of
correlation.  The last four hypotheses were initially tested
by the Chi-square technique for significant differences.

Where there were significant differences, the Pearson product-moment coefficient of correlation was used to check the relationship of high school grades to success in college with the students divided according to the significant variable within each of the original four sample groups. The results were used to show the amount of accuracy that could have been obtained from the selected factors in prediction of the degree of success of each group.

## Organization of the Study

The first chapter included the introduction, the problem and its scope, and a description of the procedure. Chapter II was devoted to related research. Chapter III was composed of a presentation of the data. Chapter IV was a report of the treatment of the data. Chapter V concluded the study with a summary, recommendations, and conclusions.

# CHAPTER II

## RELATED RESEARCH

There has been a great number of studies in the areas of prediction of college success, college admission standards, and factors related to and which affect success in college. Although there is a certain amount of consistency of findings in such research, there is evidence that variables which are peculiar to a specific college can significantly affect results of research in a given area. Consequently, a review of the literature shows a great difference in the findings related to like factors. At the same time, periodic studies at the same colleges show a definite consistency of the findings in the type of pupil personnel research. The great difference noted earlier is probably due to the different purposes and consequent make-up of pupil personnel at different colleges. The consistency noted over periods of time at the same college is probably due to these same factors and the fact that a college changes its purpose and type of students in a very few instances.

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In 1940 Nemzek[1] conducted a study of the relation-
ship of selected non-intellectual factors to success. The
data included nine variables for two hundred twenty-four
students. Variables were intelligence quotients, chrono-
logical age at entrance, amount of education of father in
years, amount of education of mother in years, occupational
status of father on the Minnesota Scale, honor point
averages in math, English, art, languages, and vocational
studies. The measure of success was grade point average.
He found that none of the non-intellectual factors had a
significant amount of value for purposes of direct or
differential prediction of academic success.

Alexander and Woodruff[2] made a study of collegiate
success at the University of New Hampshire in 1940. The
members of the freshman class were divided into five groups
on the basis of academic record, freshman test score,
expectancy performance, and social development. There was
a high correlation between a high academic record in
college and social development. There was also a high
correlation between a high test score and high academic
rank, but there was a substantial number who had a high

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[1]Claude L. Nemzek, "The Value of Certain Non-
Intellectual Factors for Direct and Differential Prediction
of Academic Success," The Journal of Social Psychology, XII
(August, 1940), pp. 21-34.

[2]Norman Alexander and Ruth J. Woodruff, "Deter-
minants of College Success," Journal of Higher Education, XI
(December, 1940), pp. 477-485.

academic record and lower test scores. Also, there was a

number of those who achieved a high test score but made

grades below the higher group. Both sex and age appeared to

be of significance in the distribution of test scores. No

relation between percentile rank on tests and size of high

school from which the student graduated was found. Other

factors considered which had no correlation with the

student's performance were extent of participation in high

school extra-curricular activities, time spent on student

organizations or employment, and vocational plans.

In 1941, Read[3] conducted research to find if

students who enter college directly from high school

differed significantly in scholastic achievement to those

who graduated one or more years before entering college.

The study was conducted on four classes entering the

University of Wichita. There was a total of 1,320 subjects

in the study. Both first and second semester grades were

considered. In neither case was there a significant

difference between the average grades of the groups. The

students were then paired as to scores on the Ohio University

Psychological Examination, high school grade averages, and

courses enrolled in at college. Again, there was no

significant difference in mean scholastic averages. The only

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[3]Cecil B. Read, "Effect of Time between High School
and College," Journal of Higher Education, XII (October,
1941), pp. 388-90.

difference noted was that the group with time intervening

between high school and college seemed to show quite

definitely a greater dispersion of grades for the first

semester. This difference had vanished by the second

semester.

In 1944 Goodman[4] made a survey of research related

to prediction of college achievement through scores on the

Thurstone Primary Abilities Test. The survey resulted in

the following conclusions. The test correlated as well on

the whole as other such tests. The test correlates with

some college courses to some extent and can be used for

prediction of success in these courses. Verbal ability

scores are the best single predictor of total college

success. The verbal ability correlated highly with the Otis

and Pressey tests. The single tests of the whole test

in some instances correlated with each other. A single

test of ability will in some cases correlate higher with

college grade point averages than a composite score of

several tests of that specific ability.

In 1947, McCurdy[5] reported finding a definite

relationship between basal metabolism rate and scholastic

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[4]Charles H. Goodman, "Prediction of College Success
by Means of Thurstones Primary Abilities Tests," Educational
and Psychological Measurement, IV, (1944), pp. 125-139.

[5]Harold Grier McCurdy, "Basal Metabolism and
Academic Performance in a Sample of College Women," The
Journal of Educational Psychology, XXXVIII (October, 1947),
pp. 363-371.

achievement among thirty college women at Meridith College.
He found a coefficient of correlation between basal
metabolism and grade point average which was significant
at better than the .02 level. A study of multiple
correlations and interrelations with other factors showed
an insignificant relationship with scores on intelligence
tests and a slight relationship to age of the subjects.
The combination of the intelligence factor with basal
metabolism accounted for fifty per cent of the variance
in grades.

Pierson[6] made a study of the relationship of age to
academic success at Michigan State University in 1948. The
subjects of the study were divided into four groups of one
hundred fifty students according to age at entrance. The
ages represented by each group were eighteen years and
below, nineteen through twenty-one years, twenty-two
through twenty-four years, and twenty-five years and above.
These groups were then further divided by sex. Grades were
averaged by group. The youngest group had slightly the
highest grades. However, the oldest group had the second
highest grades. The assumption that a slight period for
adjustment was needed by older students was accepted.
However, the general conclusion of the study was that the
age of the student upon entering Michigan State University

[6]Rowland R. Pierson, "Age Versus Academic Success
in College Students," School and Society, LXVIII (August,
1948), pp. 94-95.

is of little significance as far as his academic record is concerned.

Freeman[7] made a study in 1948 of the relationship between two test scores and the grade point averages of 1,000 first year students at Christian College, Columbia, Missouri. The two tests were the Otis Self Administering Tests of Mental Ability and the Iowa Placement Test in English Training. A correlation of .5585 was found for the Otis test and a correlation of .6590 for the Iowa test to grade point averages. A multiple regression equation was subsequently set up for grade point average prediction. Then the actual marks made by the students were compared with predictions made from their test results. In seventy-five per cent of the cases the predictions were within .5 grade point of the actual average. The next twenty-three per cent were within 1.0 grade point of the actual grade, and only two per cent of the cases was the prediction more than 1.0 grade point from the actual average.

Shuey[8] made a study in 1950 of the relation of choice of major subject, American College Examination score and college grades. The study covered 2012 freshmen tested

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[7]Kenneth H. Freeman, "Predicting Academic Success in Admissions Work," Junior College Journal, XIX (September, 1948), pp. 33-35.

[8]Audrey M. Shuey, "Choice of Major Subject as Related to American Council Examination Score and College Grades," The Journal of Educational Psychology, XLI (May, 1950), pp. 292-300.

over a period of nine years. This included all the students
in a southern Liberal Arts college who enrolled during the
period. The students were divided into groups as to chosen
major field of study and correlations were computed within
these groups between American College Examination Test
scores and college grades. The seven higher scoring
groups, determined by their mean scores on the American
College Examination, were French, mathematics, chemistry,
Spanish, art, psychology, and Latin. None of these groups
differed from each other significantly. The five lower
scoring groups were history, English, economics and
sociology, political science, and biology. The music
majors, the most variable of the groups, did not differ
significantly from any of the other groups. Five of the
higher scoring groups scored significantly higher on the
test than the five lower scoring groups. Grades in eight
of the groups were on the average significantly higher than
those of the other five. In all the groups except art, music,
and Latin, there was an inverse relation between American
College Examination scores and grades earned. The
explanation of this factor proved to be due to the degree
of difficulty within the specific departments.

Lauro and Perry[9] studied the success in college of

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[9]Louis Lauro and James D. Perry, "Academic
Achievements of Veterans and Non-Veterans at the City
College of New York," The Journal of Educational Psychology,
XLII (January, 1951), pp. 31-41.

veterans at City College of New York in 1951. The study

consisted of a sample of four hundred fourteen male

students. In general the academic achievements of veterans

was slightly superior to the non-veterans. Statistical tests

showed that the age of the veterans had little to do with

the difference. The difference was explained upon the

grounds of a wider range of experiences, traveling, and

constantly making adjustments by the veteran students. In

all instances the mean post-service grade point average was

higher than their mean pre-service grade point average.

The veterans taking courses in technology exceeded their

non-veteran classmates despite a lower mean high school

grade point average and a lower mean score on the American

Council on Education Psychological Examination.

A predictive study of freshman grade averages was

conducted at Fort Hays Kansas State College by Anderson and

Stegman[10] in 1954. The study was conducted in order to

establish the validity of a battery of seven tests for

predicting achievement during the freshman year. These

tests were the American Council on Education Psychological

Examination, Cooperative Biology Tests, Form P, Cooperative

General Achievement Tests, III (Mathematics), Schrammel-Gray

Reading Test, Barrett Ryan English Test, a one hundred item

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[10]Mary R. Anderson and Erwin J. Stegman, "Predictors
of Freshman Achievement at Fort Hays Kansas State College,"
Educational and Psychological Measurement, XIV (1954), pp.
722-723.

test in physical science and a forty item test in modern civilization. The last two tests were constructed at Fort Hays Kansas State College. The test battery was administered to all 227 entering freshmen in the fall of 1949. The criterion of achievement was the freshman grade averages with the grades in physical education omitted from the total. The multiple correlation coefficient value was .667 for the use of the battery of tests as a combined criterion for prediction.

A study was made by Bledsoe[11] during 1954 of the relationship of the size of high school from which graduated to success in college by students in the state of Georgia. The study was prompted through changes evident in Georgia of a decrease of eighteen per cent in the total number of high schools and an increase of thirty per cent in college enrollment during the period from 1944 to 1952. The subjects were divided into three groups according to large, medium, and small high schools from which they had graduated. There was a significant difference in the grades of students coming from large high schools, but the other two groups were not significantly different. The mean grade averages of large, medium, and small high school students were 2.017, 1.925, and 1.921 respectively.

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[11]Joseph C. Bledsoe, "An Analysis of Size of High School to Marks Received by Graduates in First Year of College," Journal of Educational Sociology, XXVIII (May, 1954), pp. 414-418.

However, the grades in high school correlated with the
college grades showed no sginificant difference in corre-
lation as to the size of high school from which graduated.

Boyer and Koken[12] studied the validity of using the
American Council on Education Test, the Ohio Psychological
Test and high school rank for admissions criteria at State
Teachers College, Millersville, Pennsylvania in 1956.
Correlations of .53, .60, and .49 respectively were found
between these variables and the college quality grade
point average.  The correlations were then used to establish
a multiple regression equation for prediction.  Experimental
evaluation of this equation showed surprisingly close
correspondance between predicted and achieved quality grade
point averages for the big mass of average students.
However, no information was given as to the accuracy of
prediction of lower grades.

In 1956 Chahbazi[13] made a study of the value of
certain variables for prediction of freshman grade averages
at Cornell University.  The study was done in two parts.
In the first part the criteria of prediction which were
tested were secondary school averages and scores on the

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[12] Lee E. Boyer, and James E. Koken, "Admissions Test
as Criteria for Success in College," Journal of Educational
Research, L (December, 1956), pp. 313-315.

[13] Parviz Chahbazi, ".Use of Projective Tests in
Predicting College Achievement," Educational and Psycholo-
gical Measurement, XVI (1956), pp. 538-542.

<u>Cooperative Reading Test</u>, <u>Cooperative Science Test</u>, <u>Cornell</u>
<u>Mathematics Test</u>, and the <u>Ohio State University Psychological</u>
<u>Test</u>. The second part of the study consisted of two
projective tests which were the <u>Picture Stimuli Test</u> and
<u>Sound Stimuli Test</u>. The first part of the study used the
freshman classes of 1951, 1952, and 1953. The second part
of the study utilized subjects from the freshman class of
1955. Multiple correlations were computed, and a multiple
regression equation was made from the data in the first
part of the study. The further addition of the projective
tests criteria to the equation raised the predictive value
of the equation from a multiple correlation value of .512
to a value of .633.

In 1957 Swenson[14] made a study of high school
students admitted to the University of Pittsburgh. There
was a total of 300 students divided into three equal groups.
The first group consisted of students who had been graduated
from high school in the upper two-fifths of their cl'ss.
The second group contained students from the middle fifth,
and the third group contained students from the lower two-
fifths of their class. The subjects selected had to meet
the criterion that between the groups there was no
significant difference according to the variables of sex,

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[14]Clifford H. Swenson, Jr., "College Performance of
Students with High and Low High School Grades when Academic
Aptitude is Controlled," <u>Journal of Educational Research</u>,
L (April, 1957), pp. 597-603.

academic aptitude on the American Council on Education
Psychological Examination, size of high school from which
graduated, year of high school graduation, and courses taken
in college. A significant difference in the correlations for
the first group in comparison to the other groups was found.
There was no significant difference in the correlations or
mean grade point averages of the second and third groups.

Henderson,[15] in 1957, studied the combined validities
of aptitude and achievement tests and other variables for
predicting first year grades for the 1954 Hofstra College
freshman class. Variables used in the research were first
and second semester grades, New York State Regents
Examination scores, American Council on Education Psycholo-
gical Examination for College Freshmen scores, and the
American Council on Education Cooperative Reading Test
scores. The entire population was studied as a group.
Significant correlations were found between each of the
independent variables and the college grade averages. The
multiple correlation statistical technique was used to
establish predictors of the college grade averages.

In 1958, Ahmann, Smith, and Glock[16] conducted a

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[15]Harold L. Henderson, "Predictors of Freshman
Grades in a Long Island College," Educational and Psycho-
logical Measurement, XVII (1957), pp. 623-627.

[16]J. Stanley Ahmann, Wilham L. Smith, and Marvin D.
Glock, "Predicting Academic Success in College by Means of
Study Habits and Attitude Inventory," Educational and
Psychological Measurement, XVIII (1958), pp. 853-857.

study of the relationship of the <u>Survey of Study Habits and</u>
<u>Attitudes</u> test to first semester college grades. The raw
scores of the instrument failed to correlate significantly
with first semester grades of the subject. The instrument
was then included in a multiple regression equation with
four other predictive instruments of proven value. The
intercorrelations between the <u>Survey of Study Habits and</u>
<u>Attitudes</u> instrument failed to add significantly to the
predictive efficiency of the equation.

A study was conducted by Frantz, Davis, and Garcia[17]
of all entering freshmen in 1957 at the sixteen state
supported colleges in Georgia. The purpose of the study
was to determine whether or not grades in the sixteen
colleges could be accurately predicted in advance of
admission. Each college was treated separately and was
divided into groups by sex. Three criteria were used in
the test of predictive accuracy. They were high school
grades and scores on the verbal and mathematical sections
of the <u>College Entrance Examination Board Scholastic</u>
<u>Aptitude</u> test. The relationships between the predictors
and the criterion of first quarter grade average were
found to be quite substantial in most instances. The high
school grade average was found to be the most significant

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[17]Gretchen Frantz, Jumius Davis, and Delores
Garcia, "Prediction of Grades from Pre-Admissions Indices in
Georgia Tax-Supported Colleges," <u>Educational and Psycholo-</u>
<u>gical Measurement</u>, XVIII (1958), pp. 841-844.

predictor.

In 1958 Harder[18] compared the achievement of three groups with respect to the variables of scholastic aptitude, reading ability, number of units attempted, and grade point averages for the first semester in college. The groups were made of a sample of sixty-two students with superior high school achievement, a sample of seventy-five students who scored in the top decile on the American Council on Education Psychological Examination, and a sample of sixty-three students representative of the total student population as to sex, average total score on the American Council on Education Psychological Examination, and variability on the same test. The three groups were compared after one semester. Those students with superior grades in high school continued high level achievement in college. Those students selected from the top decile of the test did noticeably poorer academic work. The other sample made only slightly above a 2.0 or average work. The groups differed significantly on each of the variables under consideration except the number of units attempted. It was postulated that the differences in achievement could be attributed to difference in motivation and study skills.

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[18]Donald F. Harder, "A Comparison of the Achievement of Three Academic Groups," The California Journal of Educational Research, IX (November, 1958), pp. 208-213.

An extensive study[19] of the 1952 freshman class
was conducted at the University of Oklahoma and was
completed in 1958. The study considered many phases of
pupil personnel study with research and descriptions
related to drop-out, retention, failure, probation, high
achievement, relation of test scores to grades, relation of
high school size to grades, grade prediction within colleges,
and persistence to graduation. At that time selective
admission was not a specific problem at the University, but
some of the information in the study was related.

More specifically, it supplied a picture of the
student population at that time. Further research showed
areas in which data seemed to be consistent and areas of
trends in student population changes. The study gives
information as to from where the students came, what type
of high schools, proportions of students as to sex and
occupation of parent, and the relationships of the student
population to national norms on specific tests.

In 1959 Rhoades and Edminston[20] made a predictive
study of the comparison of high school grades to achievement
levels in college. The study was made on a basis of

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[19]A Longitudinal Descriptive and Predictive Study of
the Freshman Class of 1952. Norman: University of Oklahoma
Guidance Service, 1958.

[20]R. W. Edminston and Betty Jane Rhoades "Predicting
Achievement," Journal of Educational Research, LII
(January, 1959), pp. 177-180.

frequency that possible predictions would have worked on
a group of students at Grambling College. The only
significant conclusions were a generalization that poor
high school students rarely were better students in
college, and that average students were apt to deviate
quite frequently to either extreme.

O'Neill,[21] in 1959, made a study to check the
predictive powers of the Iowa Tests of Educational
Development. He also used the high school grades of the
subjects to compute multiple correlation coefficients
with the college grades. The subjects came from fifty-
seven California high schools and attended four different
colleges in California. An interesting phase of this
study was the correlations found between the grades of
the freshman and sophomore years at the four colleges.
The Pearson product moment correlations were .93, .86,
.88, and .90. This is consistent with other studies of
college grade correlations, and showed again that there is
no better basis for further prediction then an actual
experience in college. There were three other general
conclusions to the study. High school grades were the
best single predictor of college success, test scores were
also valuable, and a combination of the two raised the power

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[21]Ralph C. O'Neill, "Predicting College Success
with the ITED," California Journal of Educational Research,
X (March, 1959), pp. 86-89.

of estimation of student success.

Hansmeier[22] conducted a study to validate the Iowa
Tests of Educational Development as predictors of college
achievement. A second phase of the study was to derive
a multiple regression equation which could be used in
predicting freshman grade point average at Iowa State
Teachers College. The high school percentile rank was also
used as a criterion for prediction. The composite test
scores yielded a correlation of .711, and the high school
percentile rank yielded a correlation of .768 against the
college grade point average. These two factors were then
included in a multiple regression equation for estimation
of freshman grades.

Bloom and Peters[23] made an extensive study of
prediction practices and devised a refinement of the
outstanding methods in 1961. The preliminary study of
related research led to the conclusion that the most
consistent and outstanding predictors of college grades
were high school grades, aptitude tests and achievement
tests. There was a part of the research devoted to each
of these three criteria.

The research related to the high school grades

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[22]Thomas W. Hansmeier, "The Iowa Test of Educational
Development as Predictors of College Achievement,"
Educational and Psychological Measurement, XX (1960).

[23]Benjamin S. Bloom and Frank R. Peters, The Use of
Academic Prediction Scales for Counseling and Selecting
College Entrants (Glencoe, New York: The Free Press of
Glencoe, 1961).

utilized the student records of over 18,000 students in
one hundred twenty-five schools and three hundred colleges.
The colleges were divided into three groups according to
the level of grading standards. These standards were
based upon the difference in the college grades as compared
to high school grades, since some colleges have tendencies
to grade higher than others in relation to like samples
of high school grades. The correlation between the high
school and college grades was used to establish a regression
equation to predict the college grade. The grades which
were predicted by the equation were then used to modify the
college grades to make the proper consideration for the
three different levels of grading standards represented by
the three groups of colleges. The same procedure was then
used to modify the high school grades. The correlation for
the sample group between adjusted high school and adjusted
college grades was .77. A further sample was then tested
which consisted of 4,519 subjects. The original data to
adjust both college and high school grades was used. The
correlation between adjusted college and adjusted high
school grades was .72. The value of the method is evident
when note was taken that the correlation between the actual
college and actual high school grades was only .50.

Further research was then done in much the same
manner with aptitude and achievement test scores in relation
to college grade averages. However, the achievement test

scores did not show nearly as high a relationship as the aptitude test scores. The high school and college grades were adjusted or scaled by using the aptitude scores as a standard. Then the multiple correlation of the adjusted high school scores and the Scholastic Aptitude Test scores to the adjusted college test scores was .80. There was the conclusion that this was the best possible prediction of the data and method.

The actual application of such procedures for counseling and admission of students was discussed. The feasibility of national scales was questioned due to the apparent reluctance of some colleges to release pertinent information to their grading systems. However, it was felt that modern computers could easily and inexpensively treat the data on a national scale. It was further felt that the application of such a method would be very feasible on the state level, since the data would be easier to gather, and the student population to a great degree comes from within the state.

The University of Oklahoma distributed the first report from another study[24] in September, 1961. This study is to be a four year study of the 1960 freshman class. This preliminary report shows evidence of trends which are

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[24]A Four Year Study of the 1960 Freshman Class. Norman: University of Oklahoma Guidance Service, September, 1961.

taking place in the make-up of the student personnel.
The percentage of female students has risen from twenty-
seven to forty since 1952. The age group of from seventeen
through nineteen years made up ninety-four per cent of the
population in contrast to eighty-two per cent in 1952.
Students with prior military service dropped from seventeen
per cent to two per cent. Over twenty-six per cent of the
students were from out of state compared to seventeen per
cent in 1952. Eleven per cent of the students came from
Oklahoma high schools of fifteen or less teachers while
twenty-four per cent came from high schools with more than
seventy-five teachers. The high school grades, American
College Test scores, and the chosen college major of the
class was presented.

Hobbs[25] completed a study in 1962 for the Oklahoma
State Regents for Higher Education related to student
admission and retention. The general purpose of the study
was to gather information relevant to establishing admission
and retention policies in the Oklahoma State System of
Higher Education. Questionnaires were mailed to all
eighteen Oklahoma institutions of higher education, executive
officers of coordinating agencies in sixteen other states,
and seventy-two colleges and universities of similar type

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[25]Dan S. Hobbs, A Study of the Admission and
Retention of Students, A Report to the Oklahoma State Regents
for Higher Education (Oklahoma City: January, 1962).

and function to Oklahoma institutions. The Oklahoma High School-College Articulation Committee and the Council of Presidents of the Oklahoma State System of Higher Education were asked to contribute pertinent suggestions.

There was a discussion of the scope of the problem of admissions and retentions. Arguments for and against admission policies were presented. Ways of approaching admissions in a state were discussed. Specific types of student admission policies were explored. A survey of the policies in the different institutions covered by the study was presented.

Conclusions of the study included that there was a current trend toward more restrictive admission policies in state institutions, Oklahoma had no formal state-wide policy, and there was a fairly uniform practice of admitting all high school graduates. Implications of the study for Oklahoma were presented and included the ideas that each state should determine policies relevant to its own needs, types of policies should be carefully evaluated, policies should show evidence of desirable results, and policies should be formulated for the Oklahoma State System of Higher Education.

## Summary

The review of related research in the area of the prediction of academic success seemed to again point up the

same factors which other reviews have found. The corre-
lations and the major predictors which Segel[26] found in
1934 are still consistent. High school grades seem to be
the best single predictor, aptitude and achievement tests
are generally the next best predictors, and other factors
are helpful in specific situations. This type of evidence
has also been consistent for some years as may be seen in
reviews by Crawford and Burnham[27] in 1946, Travers[28] in
1949, and Bloom and Peters[29] in 1961.

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[26]David Segel, Prediction of Success in College,
Bulletin No. 15, U. S. Office of Education (Washington:
U. S. Government Printing Office, 1934).

[27]A. B. Crawford and P. S. Burnham, Forecasting
College Achievement (New Haven: Yale University Press,
1946).

[28]R. M. W. Travers, "Significant Research on the
Prediction of Academic Success," The Measurement of
Student Adjustment and Achievement (Ann Arbor: University
of Michigan Press, 1949).

[29]Bloom and Peters, op. cit.

# CHAPTER III

## PRESENTATION OF THE DATA

The population of the study consisted of beginning freshman students from Oklahoma high schools who came to the University of Oklahoma in the fall of 1961. The student must have been enrolled and completed a minimum of twelve hours during the semester. The student's high school record had to be available and complete for the student to be accepted as a subject for study.

The fall of 1961 enrollment records were used to secure a list of all freshmen. From this list all names were deleted of students who had previous study in any institution of higher education, graduated from any high school outside of Oklahoma, enrolled in less than twelve hours, or did not complete all their enrollment.

The remaining list of students contained 1,530 names. The first semester grade report from the Machine Accounting Section was used to secure the grade average of each individual student. (See Appendix C). The grade average was rounded off to one decimal place or to the nearest tenth of a grade point. The list was then divided

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into four groups by the grade point averages of 3.0 to
4.0 in one group, 2.0 to 2.9 in the second group, 1.0
to 1.9 in the third group, and 0.0 to 0.9 in the fourth
group. The first group totaled three hundred two, the
second totaled six hundred thirty one, the third totaled
four hundred fifty-seven and the fourth totaled one hundred
forty. The subjects for the study were then taken from
each group by use of a random sample chart. The samples
each totaled one hundred, and the sample taken from the
first group was called Group I, the sample from the second
group was called Group II, the sample from the third
group was called Group III, and the sample from the fourth
group was called Group IV.

It is worthwhile to note at this point that even
though the samples from each group might be considered
representative of that specific group, the total of four
hundred subjects is not representative of the total
population of 1,530. Any normal curve which might have been
present in the entire 1,530 would not be evident in the four
hundred subjects since the samples are not proportionately
equal to the groups they represent. The one hundred forty
students from which Group IV was taken is less than a third
the size of the group from which Group III was taken, less
than a fourth the size of the group from which Group II was
taken, and less than a half the size of the group from
which Group I was taken. Therefore any representation of

frequencies within a group cannot be compared to frequencies within another group without due consideration to the sample proportion of the original groups.

The subjects within each group were given a number of one through one hundred according to the alphabetical sequence of the name. This was called the student number, and was used in tables in each appendix to the study. Therefore, complete data on an individual student may be collected by use of the group and student numbers of the individual through each appendix of the data.

The American College Test scores of the subjects were taken from the Machine Accounting Section report. (See Appendix A). There are four area scores on the American College Test which are representative of English, math, social studies, and science academic areas. There is also a fifth score which is a composite of the previous four.

The scores were grouped by quartiles and placed in a table of frequency according to each Group in Table 1. The frequencies may be read as percentages of a given Group within the specific area of the test indicated. Single cells of the table may be compared in the first and fourth quartiles. However, readings in the second and third quartiles must have the total of frequencies either above or below added to them to be accurately compared to like cells in the table.

TABLE 1

FREQUENCIES IN QUARTILES OF SCORES ON AMERICAN
COLLEGE TEST OF EACH GROUP

| Quartile* | English Area | Math Area | Social Studies Area | Natural Science Area | Composite |
|---|---|---|---|---|---|
| Group I | | | | | |
| 1 | 79 | 68 | 76 | 60 | 79 |
| 2 | 16 | 22 | 21 | 29 | 13 |
| 3 | 4 | 4 | 1 | 8 | 7 |
| 4 | 1 | 5 | 2 | 3 | 1 |
| Group II | | | | | |
| 1 | 39 | 54 | 52 | 43 | 48 |
| 2 | 37 | 28 | 37 | 38 | 38 |
| 3 | 14 | 11 | 6 | 14 | 11 |
| 4 | 10 | 7 | 5 | 5 | 3 |
| Group III | | | | | |
| 1 | 10 | 30 | 28 | 30 | 21 |
| 2 | 29 | 31 | 32 | 32 | 36 |
| 3 | 40 | 22 | 22 | 17 | 22 |
| 4 | 21 | 17 | 18 | 21 | 21 |
| Group IV | | | | | |
| 1 | 8 | 24 | 12 | 17 | 11 |
| 2 | 22 | 38 | 33 | 36 | 35 |
| 3 | 37 | 14 | 26 | 22 | 25 |
| 4 | 33 | 24 | 29 | 25 | 29 |

Legend:  Quartiles*

1 = Above 75 percentile
2 = 51-75 percentile
3 = 26-50 percentile
4 = 25 or lower percentile

There was evidence of higher scores in Group I
and lower scores through the table to Group IV. This
was to be expected to a significant degree. As was pointed
out in Chapter II, tests of this type when correlated to
the entire range of grades yield correlations of approxi-
mately .50. However, there was one case of rather noticeable
lack of consistency in the table. This was between the
second and third quartiles of the math area in Groups III
and IV. There were actually more subjects in Group IV who
placed in the upper two and upper three quartiles than those
in Group III.

The mean scores of the Groups in each area were
presented in Table 2. The evidence of the tendency of the
more successful students to have made higher scores was
also found in a comparison of these scores. There was not
a single case of inconsistency of this trend in the table.
However, the difference in mean scores between Groups was
as small as one or two in several cases.

The high school grade point averages were taken
from the high school transcript in the Admissions Office
files. (See Appendix B). English, math, social studies,
and science grades were averaged separately. A composite of
these four grades was then taken by dividing the total hours
taken in the four areas into the total grade points received
in the courses. Since different amounts of credit were
usually taken in each area and a variety of grades were

TABLE 2

MEAN SCORES OF GROUPS ON AMERICAN COLLEGE TEST

| Group | English Area | Math Area | Social Studies Area | Natural Science Area | Composite |
|-------|--------------|-----------|---------------------|----------------------|-----------|
| I     | 24           | 25        | 25                  | 25                   | 25        |
| II    | 21           | 22        | 23                  | 23                   | 22        |
| III   | 17           | 19        | 19                  | 21                   | 19        |
| IV    | 16           | 18        | 17                  | 19                   | 18        |

usually received, the composite grade point average is not usually an average of the four area grade averages. All courses taken in high school for credit were then averaged for the total high school average.

The high school grade point averages were grouped in Table 3 by the same means used in making the college grade point averages groups. Therefore, ideal correlation would have placed all Group I high school averages in the top row of the table, all Group II averages in the second row opposite Group II, all Group III averages in the third row opposite Group III, and all Group IV averages in the last row of the table.

The frequencies of any specific area of grade averages may be read as percentages within the specified Group. The table was consistent throughout in a trend of

## TABLE 3

### FREQUENCIES OF HIGH SCHOOL GRADE POINT AVERAGES IN EACH GROUP

| | English | Math | Social Studies | Science | Composite | All Courses |
|---|---|---|---|---|---|---|
| **Group I** | | | | | | |
| 3.0 and above | 94 | 87 | 90 | 88 | 92 | 93 |
| 2.0 - 2.9 | 5 | 12 | 10 | 9 | 7 | 6 |
| 1.0 - 1.9 | 1 | 1 | 0 | 3 | 1 | 1 |
| below 1.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Group II** | | | | | | |
| 3.0 and above | 61 | 49 | 71 | 61 | 57 | 63 |
| 2.0 - 2.9 | 36 | 39 | 28 | 34 | 40 | 36 |
| 1.0 - 1.9 | 3 | 12 | 1 | 5 | 3 | 1 |
| below 1.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Group III** | | | | | | |
| 3.0 and above | 22 | 27 | 44 | 28 | 28 | 25 |
| 2.0 - 2.9 | 56 | 45 | 41 | 55 | 57 | 68 |
| 1.0 - 1.9 | 22 | 28 | 15 | 17 | 15 | 7 |
| below 1.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Group IV** | | | | | | |
| 3.0 and above | 11 | 13 | 20 | 18 | 11 | 10 |
| 2.0 - 2.9 | 49 | 47 | 46 | 47 | 54 | 60 |
| 1.0 - 1.9 | 40 | 40 | 34 | 35 | 35 | 30 |
| below 1.0 | 0 | 0 | 0 | 0 | 0 | 0 |

decrease in frequency of higher to lower grade averages in reading from Group I toward Group IV. This was evidence of some amount of correlation between high school grades and the total range of college grades. This correlation was found to be approximately .50 in most of the related

research. However, there seemed to be an increasing lack
of relationship from Group I to Group IV. The expected
row of ideal correlation decreased in percentage from
Group I toward Group IV.

The mean grade point averages were presented in
Table 4. The means were consistent as they decreased
from Group I to Group IV. However, they were higher than
the college grade point average of comparable groups in
most cases.

TABLE 4

MEAN HIGH SCHOOL GRADE POINT AVERAGES OF EACH GROUP

| Group | English | Math | Social Studies | Science | Composite | All Courses |
|-------|---------|------|----------------|---------|-----------|-------------|
| I | 3.7 | 3.5 | 3.6 | 3.6 | 3.6 | 3.6 |
| II | 3.1 | 2.9 | 3.2 | 3.0 | 3.1 | 3.1 |
| III | 2.5 | 2.4 | 2.8 | 2.5 | 2.6 | 2.6 |
| IV | 2.2 | 2.1 | 2.3 | 2.2 | 2.2 | 2.3 |

The sex of the student was taken from the permanent
record folder in the Office of Admissions. The frequency
of each sex in each Group may be seen in Table 5. Since
each Group consisted of one hundred subjects, the frequencies
may also be read as percentages of each Group. The
outstanding characteristic of this data was the near

inversion of proportion of the sexes between Group I and
Group II. Another item of interest was the increase in
frequency of males from the highly successful Group toward
the unsuccessful Group and the consequent reverse trend in
the females. Therefore, the conclusion may be drawn that
there was a tendency for a greater proportion of female
subjects to be more successful and the reverse conclusion
in relation to male subjects.

TABLE 5

PROPORTIONS OF GROUPS BY SEX OF SUBJECTS

| Group | Male | Female | Total |
|-------|------|--------|-------|
| I | 38 | 62 | 100 |
| II | 61 | 39 | 100 |
| III | 75 | 25 | 100 |
| IV | 78 | 22 | 100 |

The occupation of parent was taken from the
application for admission form of each student. The
frequency of the occupations of parents was presented in
Table 6. Again the frequencies may be read as per cents
since the Groups each total one hundred. There were
several interesting aspects of the frequencies in this
table. The frequencies of each occupation in each Group
were nearly the same. The greatest difference was between

TABLE 6

PROPORTIONS OF GROUPS BY OCCUPATIONAL AREA*
OF PARENT OF SUBJECTS

| Group | 0 | 1 | 2 | 3 | 4 | 5 | 6 | Total |
|-------|-----|-----|-----|-----|-----|-----|-----|-------|
| I | 55 | 20 | 4 | 6 | 6 | 6 | 3 | 100 |
| II | 49 | 26 | 3 | 4 | 8 | 9 | 1 | 100 |
| III | 52 | 18 | 4 | 7 | 8 | 7 | 4 | 100 |
| IV | 52 | 18 | 4 | 5 | 13 | 7 | 1 | 100 |

*Legend

0 - Business and Professional
1 - Sales and Clerical
2 - Service
3 - Agricultural, fishery, forestry
4 - Skilled
5 - Semi-skilled
6 - Unskilled

Group II and Group III in the sales and clerical occupations.
This difference amounts to only eight. Although the last
five areas had too few in number for accurate comparisons,
there was surprising consistency between Groups. The
business and professional group represented approximately
fifty per cent of the total Group in each of the four
Groups. Also, the sales and clerical occupations totaled
approximately twenty per cent in each Group. The smallest
or equal to the smallest representation of any Group was
found in the unskilled occupational area. These proportions
approximate the same per cents found in comparable studies

of pupil personnel at the University of Oklahoma.[1]

The type of course taken in high school was taken from the high school transcript of each student found in the Office of Admissions. The number of students in each Group who selected a more academic or less academic course was presented in Table 7. The more academic course consisted of students who took at least seventy-five per cent of their work in courses of English, math, social studies, science, speech, and foreign languages. The students who took a less academic course took twenty-five per cent or more of their high school studies in courses other than those just mentioned.

TABLE 7

PROPORTION OF GROUPS BY TYPE OF HIGH SCHOOL
COURSE OF SUBJECTS

| Group | More Academic | Less Academic | Total |
|-------|---------------|---------------|-------|
| I | 81 | 19 | 100 |
| II | 78 | 22 | 100 |
| III | 61 | 39 | 100 |
| IV | 59 | 41 | 100 |

[1]A Longitudinal Descriptive and Predictive Study of the Freshman Class of 1952. Norman: University of Oklahoma Guidance Service. A Four Year Study of the 1960 Freshman Class. Norman: University of Oklahoma Guidance Service.

There were two aspects of this table which seemed
noteworthy. First there was an increase in the proportion
of students who took a more academic course at each degree
of success from Group IV up to Group I, and a consequent
decrease in proportion in a like comparison of the students
who took a less academic course. Second, there was not a
total in any group where there was a greater proportion of
students who took less academic courses.

The high school from which graduated was also
taken from the high school transcript of each student in
the Office of Admissions. The size of high schools was
determined by the number of teachers employed in each school.
This was determined by using the data on high schools
reported in the <u>Oklahoma Educational Directory</u>.[2] The
percentage of students from each Group by four divisions of
sizes of high schools from which graduated may be seen in
Table 8.

The size of high school from which the greatest
proportion of students graduated was the same in each Group.
From sixty-three to seventy-five per cent of the students
in each Group came from schools of fifty or more teachers.
The least difference of proportion was between high schools
of eleven to twenty-four and twenty-five to forty-nine

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[2]<u>Oklahoma Educational Directory</u>, 1961-62, Bulletin
No. 109-K, issued by Oliver Hodge, State Superintendent,
Oklahoma City, Oklahoma.

teachers. Only three to seven per cent of each Group came
from high schools with ten or less teachers. There seemed
to be little difference of proportion in a Group as to the
size of high school.

TABLE 8

PROPORTIONS OF GROUPS BY SIZE OF HIGH SCHOOL
FROM WHICH SUBJECTS GRADUATED

| Group | 10 or less Teachers | 11-24 Teachers | 25-49 Teachers | 50 or more Teachers | Total |
|---|---|---|---|---|---|
| I | 7 | 15 | 15 | 63 | 100 |
| II | 4 | 11 | 13 | 72 | 100 |
| III | 4 | 11 | 20 | 65 | 100 |
| IV | 3 | 9 | 13 | 75 | 100 |

<u>Summary</u>

The data for the study was collected from the
various places of location of such information in the pupil
personnel files at the University of Oklahoma. The data
was compiled and grouped according to the variables of the
study. Areas in which the data seemed to agree to some
extent with other related studies were proportions of
subjects as to size of high school from which graduated
and occupation of parent, scores on aptitude tests, and
high school grade averages. Some lack of equal proportion
between Groups was noted in the variables of sex and type

of course selected in high school. There seemed to be
fairly equal proportions between Groups within the
different areas of the variables of occupation of parent
and size of high school from which graduated. However,
the great proportions of students came from the larger
high schools and from the business and professional
occupational groups.

## CHAPTER IV

## TREATMENT OF THE DATA

The data on each individual student was collected
and arranged in like order according to the variables.
The International Business Machines equipment located in
the Education Building at the University of Oklahoma was
used to punch a card for each student with all the related
variables. The cards were verified in the Machine
Accounting Section. The sorter in the Education Building
was used to arrange the cards according to the needed
variables. The computer was used to print the data
according to the different sorts. The sums of grade point
averages and scores on the American College Test for each
group were computed and printed by the computer. These
sums were used as checks when the products and cross-
products of data were calculated on the machines in the
Statistics Laboratory at the Education Building.

The first eleven hypotheses were tested by the
Pearson product-moment coefficient of correlation. The
last four hypotheses were initially tested by the Chi-
square statistical technique. Each of the first eleven

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hypotheses were individually tested with Groups I, II, III, and IV.

## American College Test

Hypothesis 1 through hypothesis 5 all had to do with scores on the American College Test. The results of testing these hypotheses were presented in Table 9. Each test yield was presented as the equivalent of r which is the amount of correlation found from a test of relationship using the Pearson product-moment coefficient of correlation.

TABLE 9

CORRELATIONS FOUND BETWEEN DEGREES OF SUCCESS
AND AMERICAN COLLEGE TEST SCORES

| Group | English Area | Math Area | Social Studies Area | Natural Science Area | Composite |
|-------|--------------|-----------|---------------------|----------------------|-----------|
| I | .181 | .309* | .359* | .637* | .348* |
| II | -.004 | -.087 | .121 | .110 | .037 |
| III | .112 | .071 | .140 | .187 | .153 |
| IV | -.060 | -.026 | .037 | -.011 | -.010 |

*Significant at the .05 level.

Hypothesis 1 was: There is no statistically significant relationship between the English area standard scores of the American College Test and the grade point

averages in college. Since there wasn't a significant correlation between the English area and college grade point averages of any Group, the hypothesis was accepted in relation to all Groups.

Hypothesis 2 was: There is no statistically significant relationship between the math area standard scores of the American College Test and the grade point averages in college. The correlation of .309 between the math area scores and college grade point averages of Group I was significant. Therefore, the hypothesis was rejected in relation to the college grade point averages of Group I. The correlations were not significant in Groups II, III, and IV and the hypothesis was accepted in relation to these groups.

Hypothesis 3 was: There is no statistically significant relationship between the social studies area standard scores of the American College Test and the grade point averages in college. The correlation of .359 between social studies area scores and college grade point averages of Group I was significant. Therefore, the hypothesis was rejected in relation to the college grade point averages of Group I. The correlations were not significant in Groups II, III, and IV and the hypothesis was accepted in relation to these groups.

Hypothesis 4 was: There is no statistically significant relationship between the science area standard

scores of the American College Test and the grade point
averages in college. The correlation of .637 between the
natural sciences area scores and college grade point
averages of Group I was significant. Therefore, the
hypothesis was rejected in relation to the college grade
point averages of Group I. The correlations were not
significant in Groups II, III, and IV and the hypothesis
was accepted in relation to these groups.

Hypothesis 5 was: There is no statistically
significant relationship between the composite standard
scores of the American College Test and the grade point
averages in college. The correlation of .348 between the
composite scores and college grade point averages of
Group I was significant. Therefore, the hypothesis was
rejected in relation to the college grade point averages of
Group I. The correlations were not significant in Groups
II, III, and IV and the hypothesis was accepted in relation
to these groups.

An analysis of these results was somewhat disap-
pointing in the light of establishing criteria for
prediction of the degrees of success. The English area of
the test showed no significant correlation to college grade
point averages of any of the four groups. This meant that
the English area scores were of no significant value as
predictors of the specific degrees of success.

The other three area scores and the composite scores

were significant only in relation to Group I.  Since this
was a group of highly successful students, this information
was interesting but of little value to the study, because
identification of these students is not a particular problem
of admission or counseling of students.

The American College Test scores, therefore, left
much to be desired as predictors below Group I.  It was
also evident that the correlations which are shown when
the whole grade point range is used as the dependent
variable are sometimes misleading.  If the most of the close
correlation lies at the top of the grade range, there could
at the same time be little correlation in the lower area of
the grade range which contains the group which is discrim-
inated against in admission policy.

Consequently, it was decided to use the subjects
of the study as a practical example to see just what effect
the application of a cut-off point at the lower quartile
of the composite scores would have on the Groups.  Infor-
mation in Table 1 was used to provide a basis for this
projection.  Subjects which would have been eliminated
totaled twenty-nine in Group IV, twenty-one in Group III,
three in Group II, and one in Group I.  Since the Groups
were not equal proportions of the total population of
students at each degree of success, the data had to be
revised accordingly.  Also, this further projection was
limited in accuracy to the degree of accuracy that the

samples represented the populations.

The population of the first group was three times as large as Group I, the second group six and one-third times as large as Group II, the third group was four and one-half times the number of Group III, and the fourth group was only two-fifths larger than Group IV. When this data was compared to the number of students which would have been eliminated in each Group, it was found that approximately three students would have been eliminated from the first group, twenty from the second group, ninety-four from the third group, and thirty-five from the fourth group. More specifically, three students with college grade point average of 3.0 or better, twenty students who made college grade point averages of 2.0 to 2.9, ninety-four with college grade point averages of 1.0 to 1.9, and only thirty-five with college grade point averages of .9 or less would have been eliminated.

On the basis of the preceding evidence the scores of the American College Test were not further tested. It was decided that the lack of correlation at the lower degrees of success made the scores of little value as predictors for admission or counseling purposes.

## High School Grade Point Averages

Hypothesis 6 through hypothesis 11 all dealt with relationships between high school grade point averages and

the degrees of success in college. The results of testing
these hypotheses are presented in Table 10. Again, each
test yield was presented as the equivalent of r which is
the amount of correlation found from a test of relationship
using the Pearson product-moment coefficient of correlation.

TABLE 10

CORRELATIONS FOUND BETWEEN DEGREES OF SUCCESS AND
HIGH SCHOOL GRADE POINT AVERAGES

| Group | English | Math | Social Studies | Science | Composite | All Courses |
|-------|---------|------|----------------|---------|-----------|-------------|
| I     | .345*   | .449* | .377*         | .352*   | .440*     | .444*       |
| II    | .206*   | .126 | .167           | .168    | .192      | .209*       |
| III   | .186    | .197* | .128          | .113    | .191      | .237*       |
| IV    | .053    | .058 | .050           | .080    | .051      | .036        |

*Significant at the .05 level.

Hypothesis 6 was: There is no statistically
significant relationship between the high school English
grade point averages and the grade point averages in
college. The correlations of .345 and .206 between
English grade point averages and Group I and Group II were
significant, and the hypothesis was rejected in relation
to these two Groups. Correlations between English grade
point averages and the college grade point averages of
Groups III and IV were not significant and the hypothesis

was accepted in relation to these two Groups.

Hypothesis 7 was: There is no statistically significant relationship between the high school math grade point averages and the grade point averages in college. The correlations of .449 and .197 between math grade point averages and Groups I and III were significant. The hypothesis was rejected in relation to these two Groups. Correlations between math grade point averages and the college grade point averages of Groups II and IV were not significant and the hypothesis was accepted in relation to these two Groups.

Hypothesis 8 was: There is no statistically significant relationship between the high school social studies grade point averages and the grade point averages in college. The correlation of .377 between social studies grade point averages and the college grade point averages was significant and the hypothesis was rejected in relation to Group I. The correlations were not significant in relation to Groups II, III, and IV and the hypothesis was accepted in relation to these Groups.

Hypothesis 9 was: There is no statistically significant relationship between the high school science grade point averages and the grade point averages in college. The correlation of .352 between science grade point averages and the college grade point averages was significant and the hypothesis was rejected in relation to Group I. The

correlations were not significant in relation to Groups
II, III, and IV and the hypothesis was accepted in relation
to these Groups.

Hypothesis 10 was:  There is no statistically
significant relationship between the composite of high
school English, math, social studies, and science grade
point averages and the grade point averages in college.
The correlation of .440 between the composite grade point
averages and the college grade point averages was signifi-
cant, and the hypothesis was rejected in relation to Group
I.  The correlations were not significant in relation to
Groups II, III, and IV and the hypothesis was accepted in
relation to these Groups.

Hypothesis 11 was:  There is no statistically
significant relationship between the total high school
grade point averages and grade point averages in college.
The correlations of .444, .209, and .237 between grade
point averages of all courses taken for credit in high
school and the college grade point averages of Groups I,
II, and III were all significant, and the hypothesis was
rejected in relation to these Groups.  The correlation
between all high school courses grade point averages and
the college grade point averages of Group IV was not
significant and the hypothesis was accepted in relation to
this Group.

An evaluation of these results shows some improvement

over the correlations of the <u>American College Test</u> scores
results. However, the same weakness was present in the
results of tests of the high school grade point averages.
There was not a significant correlation found between high
school grade point averages and college grade point averages
of the lowest success group.

Correlations were significant between each area of
high school grades and the college grade point averages of
Group I. Even though there were significant correlations
found in relation to some of the areas and Groups II and
III, they were in each case barely significant and would
not have enough stability for prediction purposes.

There is one outstanding feature of the high
school grade point averages. They are very consistent in
a frequency distribution as can be seen in Table 3. The
means are consistent in relationship to each other as can
be seen in Table 6. The correlations presented in Table 10
are also consistent in their decrease down through the
Groups. This suggests an appropriate scaling of the high
school grades such as suggested by Bloom and Peters[1] might
greatly increase the value of these grade point averages
as predictors.

It was decided to use the same procedure which was

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[1]Benjamin S. Bloom and Frank R. Peters, <u>The Use of
Academic Prediction Scales for Counseling and Selecting
College Entrants</u> (Glencoe, New York: The Free Press of
Glencoe, 1961).

used with the American College Test scores to make a
practical test of using the high school grade averages as
predictors. The cut-off point was established of any grade
average in high school below 2.0 being eliminated. Table 3
was used to secure the data. Group I had one subject
eliminated, Group II had one, Group III had seven, and
Group IV had thirty. Using the same procedure for further
projection as was used before, this would have eliminated
three students from the 3.0 and above college grade point
average group of the total population. Six would have been
eliminated in the 2.0 through 2.9 college grade point average
group, thirty-one from the 1.0 through 1.9 college grade
point average group and thirty-six from the .9 and below
college grade point average group of the total population.

This projection is a definite improvement over the
first projection. However, this is still not very feasible
to identify less than four of every fourteen of the least
desirable students. At the same time, forty students from
the three more desirable groups would be eliminated while
a total of only thirty-six of the least desirable group
would be eliminated.

Even though the high school grade point averages
showed an improvement as predictors, the results of testing
the data showed that they too left much to be desired for
prediction of the degrees of success below Group I. However,
it was decided to use them as a basis for the further

testing of relationships to college grade point averages of
the Groups where significant differences were found in the
last four hypotheses.

## Sex of Subjects

The students of each of the Groups were divided by
sex. These proportions were presented in Table 5.

Hypothesis 12 was: There is no statistically
significant difference in the proportion of students found
in the different degrees of success in college according to
sex. A Chi-square test was used to test proportions by sex
found in each of the Groups. The test of the proportion of
males found in each of the Groups gave a value of 16.032.
The test of proportions of the females gave a value of
26.913. Since the required value at the .01 level of
confidence was 11.341, the hypothesis was rejected in both
cases. This finding is not to be confused with the ratio
of males to females found in each group or with the number
of males and females attending the University. This finding
is the difference in proportion of each individual sex
found in each Group.

The Groups were then divided by sex, and the Pearson
coefficient of correlation was used to test the correlations
between high school grade point averages and college grade
point averages. Table 11 was a presentation of the corre-
lations of the male students. Although the correlations

were only a part of the correlations in the original tests
of high school grade point averages, no information was
found which would make a significant further contribution
for prediction purposes.

TABLE 11

CORRELATIONS OF HIGH SCHOOL GRADE POINT AVERAGES TO
COLLEGE GRADE POINT AVERAGES OF MALE SUBJECTS

| Group | English | Math | Social Studies | Science | Composite | All Courses |
|-------|---------|------|----------------|---------|-----------|-------------|
| I | .488* | .594* | .511* | .488* | .458* | .569* |
| II | .223 | .103 | .110 | .181 | .164 | .200 |
| III | .214 | .142 | .078 | .107 | .172 | .217 |
| IV | .127 | .004 | .061 | .156 | .009 | .028 |

*Significant at the .05 level.

The correlations of female students high school
grade point averages to their college grade point averages
were presented in Table 12.  These correlations gave no
further outstanding contribution of information than the
previous tests.

Even though there were different proportions of the
different sexes which were significantly different between
the groups, the correlations of their high school grade
point averages to college grade point averages stayed
fairly consistent with earlier findings.  Therefore, it

was decided that the best explanation for the difference
in proportions was that a greater proportion of the females
which attend the University are better students than in the
case of males.

TABLE 12

CORRELATIONS OF HIGH SCHOOL GRADE POINT AVERAGES TO
COLLEGE GRADE POINT AVERAGES OF FEMALE SUBJECTS

| Group | English | Math | Social Studies | Science | Composite | All Courses |
|-------|---------|------|----------------|---------|-----------|-------------|
| I | .277* | .364* | .305* | .282* | .368* | .379* |
| II | .162 | .157 | .247 | .131 | .225 | .213 |
| III | .318 | .126 | .349 | .096 | .342 | .377 |
| IV | .005 | .028 | .258 | .196 | .162 | .226 |

*Significant at the .05 level.

### Occupations of Parents of Subjects

The occupational area of parents of subjects was
presented in Table 6. It was evident that the great
proportion of the parents came from the business-
professional and the sales-clerical areas in each Group.

Hypothesis 13 was: There is no statistically
significant difference in the proportion of students found
in the different degrees of success in college according to
occupation of parent. A Chi-square test was used with the
hypothesis for each occupational area. The required value

for significance at the .05 level of confidence was 7.815.
The highest value received was 2.376. The hypothesis was
accepted in respect to each occupational area. Therefore,
there was a different proportion of students parents
occupations within each group, but these proportions
remained consistent through the different Groups or
degrees of success.

### Type of High School Course Taken by Subjects

The divisions of the Groups by the type of course
taken in high school was presented in Table 7. The
tendency for more students in the higher degrees of
success to take a more academic course was noted.

Hypothesis 14 was: There is no statistically
significant difference in the proportion of students found
in the different degrees of success in college according
to the type of course taken in high school. A Chi-square
test was used to test the hypothesis in the two divisions
by type of course taken in high school. The test showed
that the proportion of students who took the more academic
course in college was significantly different between the
degrees of success. The Chi-square value received was
12.785 with a 11.391 value needed for significance at the
.01 level of confidence. The hypothesis was rejected in
relation to the group who took a more academic course.
The obtained Chi-square value of those who took a less
academic course was 5.545 with a value of 7.815 needed

for significance at the .05 level of confidence. Consequently, the hypothesis was accepted in relation to this group.

Correlations were obtained from dividing the Groups by type of course taken in high school. The correlations were again a test of the relationship of high school grade point averages to college grade point averages. The correlations of those who took a more academic course were presented in Table 13. An analysis of the correlations added no particular evidence which could be useful in prediction. This meant that taking a more academic course in high school did not significantly affect the correlation of high school grade point averages to college grade point averages.

TABLE 13

CORRELATIONS OF HIGH SCHOOL GRADE POINT AVERAGES TO COLLEGE
GRADE POINT AVERAGES OF SUBJECTS WHO TOOK A MORE ACADEMIC
COURSE IN HIGH SCHOOL

| Group | English | Math | Social Studies | Science | Composite | All Courses |
|-------|---------|------|----------------|---------|-----------|-------------|
| I | .386* | .445* | .412* | .356* | .457* | .459* |
| II | .217 | .111 | .196 | .150 | .224* | .237* |
| III | .100 | .152 | .006 | .073 | .083 | .146 |
| IV | .004 | .007 | .022 | .102 | .003 | .045 |

*Significant at the .05 level.

The correlations of high school grade point averages to college grade point averages of students who took a less academic course were presented in Table 14. The numbers were actually too small in Group I and Group II of this test for drawing conclusions unless consistent high or low correlation had been found. The two correlations found in Group III were barely significant. They were not strong enough to make any significant contribution for prediction purposes. However, there was no outstanding difference which could be found between these correlations and the previous tests of relationships between high school and college grade point averages. Further, it was decided that the explanation which best fitted the difference of proportion of students who took a more academic course in high school was that better students tended to select a more academic course.

## Size of High School of Subjects

The students were divided within each Group according to the size of high school from which they graduated. The actual proportions were presented in Table 8.

Hypothesis 15 was: There is no statistically significant difference in the proportion of students found in the different degrees of success in college according to size of high school from which graduated. A Chi-square test was used to test the proportion of students from each of the

TABLE 14

CORRELATIONS OF HIGH SCHOOL GRADE POINT AVERAGES TO COLLEGE
GRADE POINT AVERAGES OF THOSE STUDENTS WHO TOOK A LESS
ACADEMIC COURSE IN HIGH SCHOOL

| Group | English | Math | Social Studies | Science | Composite | All Courses |
|-------|---------|------|----------------|---------|-----------|-------------|
| I | .729* | .463* | .216 | .352 | .334 | .360 |
| II | .103 | .085 | .048 | .213 | .068 | .077 |
| III | .306 | .236 | .289 | .283 | .319* | .343* |
| IV | .078 | .012 | .064 | .088 | .081 | .071 |

*Significant at the .05 level.

sizes of high schools in the Groups. The greatest value

obtained was 2.184 with a value of 7.815 needed for

significance at the .05 level of confidence. Therefore,

the hypothesis was accepted in relation to all the groups

of sizes of high schools. Even though the larger high

schools tended to provide most of the students in all the

Groups, there was not a significant difference in the

proportions of any size of high school between the four

Groups.

## Summary

On the basis of the treatment of the data and an

analysis of the results, the more significant phases of the

null hypotheses were accepted. Practically all the

correlations were significant in relationship to Group I.
Since this group consisted of highly successful students,
this was of but little value for purposes of counseling
and admission of students. As a rule, there was little
correlation found between the variables in relation to
Groups II, III, and IV. There were no significant
correlations found in relation to Group IV. This group of
relatively unsuccessful students are the crux of problems
related to prediction of academic success.

A study of the sex, occupation of parent, type of
course taken in high school, and size of high school from
which graduated in respect to the subjects produced some
interesting facts about the pupil population in the study.
However, it failed to add to the prospect of prediction of
academic success to any significant extent.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

## Summary

The study was designed to discover the relationships
that exist between information available on propsective
students and their academic success during their first
semester at the University of Oklahoma.  The study dealt
with only new freshmen students from Oklahoma high schools.
Variables selected for study were the college and high
school grade point averages, American College Test scores,
sex, occupation of parent, type of course taken in high
school, and size of high school from which graduated.
Fifteen general hypotheses were developed for testing
the relationships and differences between and within the
variables.

The review of related research revealed that
findings in related studies are generally consistent.
However, the findings at any particular university seem to
vary to some degree to the findings of a similar study at
another university.  Scores on aptitude tests tend to show
approximately a .50 correlation to college grade point

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averages. High school grade point averages usually show approximately a .50 correlation to college grade point averages, but at the same time these correlations were usually a little higher than the correlations of aptitude tests.

There were 1,530 subjects in the total population of students which were relavent to the study. Four groups of one hundred were chosen from the population according to four ranked levels of college grade point averages. The American College Test scores for each area of the test and a composite score of each subject was compiled and presented. The high school grades were grouped and averaged in six different ways to use as different variables. Tables of the data according to sex, occupation of parent, type of course taken in high school, and size of high school from which graduated provided interesting pupil personnel information in relation to the subjects.

The Pearson product-moment coefficient of correlation was used to test the amount of relationship that existed between variables. A Chi-square test was used to test differences of proportions within selected variables. The first five hypotheses dealt with relationships between the American College Test scores and college grade averages. The results of testing this data showed that significant relationships existed only with those students who were highly successful in college. A further examination of the

students who scored in the lowest quartile on the test
revealed that even though there was a tendency for fewer
of the better students to make a low score on the test,
the efficiency of the test as a predictive device was
questionable. Like research of the high school grade
point averages showed that they were a slightly better
predictor of degrees of success in college. However, the
high school grade point averages proved to be only a
slightly better predictor when applied to the subjects of
the study by using a specific grade point average as a
cut-off point. There were significant differences of
proportion of students found within the different degrees
of success according to the variables of sex and type of
course taken in high school. Further study of the students
divided according to these variables showed no significant
difference in the correlation of their high school and
college grade point averages. No significant difference
was found in the proportions of the students within the
different degrees of success according to the occupations
of parents and size of high school attended.

## Findings

A review of the analysis of the data revealed the
following findings:

1. That the American College Test scores and high
school grade point averages usually showed significant

relationship to college grade point averages in Group I.

2.   That the <u>American College Test</u> scores showed
no significant relationship to college grade point averages
in Groups II, III, and IV.

3.   That the high school grade point averages
showed little significant relationship to college grade
point averages in Groups II and III and no significant
relationship in Group IV.

4.   That the high school grade point averages
were more consistent and more closely related to college
grade point averages to a slight degree than were the
<u>American College Test</u> scores.

5.   That there was a significant difference in the
proportion of students found in the different degrees of
success according to the sex of the subjects and the type
of course taken in high school.

6.   That the high school and college grade point
averages of students did not show an improvement in
correlation when grouped according to sex and type of
course taken in high school.

7.   That the subjects did not differ in the
proportion of subjects found within the degrees of success
according to the variables of occupation of parent and size
of high school from which graduated.

8.   That the proportion of females was greater in
the highly successful group even though there was a much

greater proportion of males in the study.

9. That a greater proportion of the more successful
students in college had selected a more academic course
in high school.

10. That approximately seventy-five per cent of
the parents of students were occupied in the business and
managerial area and the sales and clerical area.

11. That approximately seventy per cent of the
subjects graduated from high schools of fifty or more
teachers.

## Conclusions

The following conclusions were drawn from the
analysis of the findings of the study in relation to the
subjects of the study:

1. That the American College Test scores were not
adequate predictors of academic success for purposes of
prediction of the different degrees of success.

2. That high school grade point averages were not
adequate predictors of academic success for purposes of
prediction of the different degrees of success.

3. That even though there were more male students,
a greater proportion of highly successful students were
females.

4. That better students tended to choose a more
academic course in high school.

5. That more students went to college who had

parents who were in occupations requiring more education
and training.

6. That large high schools were main source of
students.

7. That the size of high school from which graduated
did not affect success in college.

8. That the occupation of parent did not affect
success in college.

9. That students do not show more consistency in
the relationship of college grades to high school grades
in regard to sex or the type of course taken in high school.

10. That insufficient evidence was found for the
establishment of criteria for prediction of different
degrees of success.

## Recommendations

The following recommendations were made on the
basis of the findings of this study and the inferences
of the related research.

1. That the Oklahoma State Board of Regents for
Higher Education instigate research to test the efficiency
of using scaled high school grades for prediction of
academic success in Oklahoma.

2. That the Oklahoma State Board of Regents for
Higher Education instigate a study of various aptitude
tests in relation to their efficiency as predictors of

academic success in Oklahoma.

3. That the Oklahoma State Board of Regents for Higher Education consider the feasibility of allowing questionable students to enroll in summer school as a trial period before refusing to admit these students.

4. That the Oklahoma State Board of Regents for Higher Education reconsider their late ruling for selective admission of in-state students.

5. That further research be conducted at the University of Oklahoma to determine what information could add value to prediction of academic success which might be peculiar to the pupil population that enter the University.

6. That continuous study and needed revision of selective admission policies be made in Oklahoma.

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APPENDIX A

TABLE 15

AMERICAN COLLEGE TEST STANDARD SCORES OF GROUP I

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 1 | 21 | 24 | 25 | 24 | 24 |
| 2 | 24 | 24 | 26 | 29 | 26 |
| 3 | 28 | 30 | 28 | 28 | 29 |
| 4 | 22 | 22 | 25 | 27 | 24 |
| 5 | 26 | 28 | 24 | 24 | 26 |
| 6 | 25 | 22 | 22 | 23 | 23 |
| 7 | 25 | 19 | 24 | 23 | 23 |
| 8 | 26 | 21 | 27 | 25 | 25 |
| 9 | 23 | 26 | 29 | 25 | 26 |
| 10 | 27 | 30 | 26 | 28 | 28 |
| 11 | 16 | 21 | 24 | 24 | 21 |
| 12 | 24 | 29 | 28 | 28 | 27 |
| 13 | 24 | 35 | 28 | 25 | 28 |
| 14 | 23 | 28 | 26 | 23 | 25 |
| 15 | 26 | 36 | 30 | 32 | 31 |
| 16 | 25 | 29 | 29 | 31 | 29 |
| 17 | 24 | 29 | 26 | 30 | 27 |
| 18 | 25 | 18 | 28 | 27 | 25 |
| 19 | 29 | 35 | 29 | 33 | 32 |
| 20 | 25 | 24 | 27 | 28 | 26 |
| 21 | 22 | 20 | 18 | 21 | 20 |
| 22 | 26 | 30 | 29 | 28 | 28 |
| 23 | 20 | 5 | 25 | 21 | 18 |
| 24 | 24 | 31 | 27 | 25 | 27 |
| 25 | 32 | 28 | 33 | 28 | 30 |
| 26 | 26 | 33 | 33 | 34 | 30 |
| 27 | 27 | 28 | 24 | 18 | 24 |
| 28 | 19 | 13 | 19 | 16 | 17 |
| 29 | 30 | 31 | 27 | 32 | 30 |
| 30 | 25 | 30 | 26 | 29 | 28 |
| 31 | 25 | 29 | 20 | 23 | 24 |
| 32 | 26 | 25 | 22 | 24 | 24 |
| 33 | 28 | 34 | 29 | 30 | 30 |
| 34 | 28 | 31 | 30 | 31 | 30 |
| 35 | 20 | 21 | 29 | 24 | 24 |
| 36 | 28 | 28 | 29 | 30 | 29 |
| 37 | 24 | 19 | 21 | 23 | 22 |
| 38 | 26 | 35 | 29 | 30 | 30 |
| 39 | 24 | 25 | 24 | 24 | 24 |
| 40 | 26 | 34 | 27 | 29 | 29 |

TABLE 15--<u>Continued</u>

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 41 | 26 | 26 | 27 | 28 | 27 |
| 42 | 23 | 25 | 23 | 27 | 25 |
| 43 | 27 | 26 | 19 | 24 | 24 |
| 44 | 25 | 32 | 27 | 30 | 29 |
| 45 | 19 | 18 | 25 | 22 | 21 |
| 46 | 25 | 29 | 26 | 26 | 27 |
| 47 | 26 | 26 | 30 | 31 | 28 |
| 48 | 15 | 14 | 25 | 20 | 20 |
| 49 | 23 | 26 | 26 | 27 | 26 |
| 50 | 28 | 23 | 26 | 25 | 26 |
| 51 | 26 | 30 | 23 | 26 | 26 |
| 52 | 26 | 26 | 27 | 31 | 28 |
| 53 | 25 | 30 | 27 | 32 | 29 |
| 54 | 16 | 18 | 22 | 21 | 19 |
| 55 | 25 | 27 | 26 | 28 | 27 |
| 56 | 19 | 19 | 19 | 16 | 18 |
| 57 | 28 | 28 | 28 | 28 | 28 |
| 58 | 15 | 18 | 18 | 12 | 16 |
| 59 | 28 | 21 | 29 | 29 | 27 |
| 60 | 24 | 26 | 26 | 23 | 25 |
| 61 | 25 | 19 | 24 | 23 | 23 |
| 62 | 26 | 35 | 28 | 28 | 29 |
| 63 | 25 | 28 | 24 | 24 | 25 |
| 64 | 28 | 19 | 20 | 20 | 22 |
| 65 | 26 | 29 | 26 | 26 | 27 |
| 66 | 25 | 28 | 25 | 27 | 26 |
| 67 | 25 | 27 | 28 | 30 | 28 |
| 68 | 28 | 28 | 18 | 21 | 24 |
| 69 | 21 | 16 | 12 | 13 | 16 |
| 70 | 20 | 16 | 28 | 23 | 22 |
| 71 | 26 | 25 | 26 | 26 | 26 |
| 72 | 26 | 35 | 30 | 30 | 30 |
| 73 | 20 | 12 | 19 | 18 | 17 |
| 74 | 31 | 32 | 28 | 30 | 30 |
| 75 | 21 | 26 | 22 | 24 | 23 |
| 76 | 21 | 18 | 27 | 26 | 23 |
| 77 | 21 | 13 | 18 | 19 | 18 |
| 78 | 25 | 31 | 28 | 27 | 28 |
| 79 | 22 | 28 | 28 | 32 | 28 |
| 80 | 25 | 21 | 26 | 29 | 25 |
| 81 | 25 | 21 | 26 | 26 | 25 |
| 82 | 25 | 21 | 26 | 26 | 25 |

TABLE 15--<u>Continued</u>

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 83 | 26 | 23 | 23 | 23 | 24 |
| 84 | 8 | 6 | 10 | 10 | 9 |
| 85 | 25 | 24 | 22 | 17 | 22 |
| 86 | 23 | 23 | 26 | 28 | 25 |
| 87 | 28 | 25 | 28 | 28 | 27 |
| 88 | 28 | 23 | 25 | 24 | 25 |
| 89 | 20 | 21 | 20 | 23 | 21 |
| 90 | 24 | 28 | 24 | 26 | 26 |
| 91 | 25 | 27 | 31 | 26 | 27 |
| 92 | 28 | 31 | 20 | 21 | 25 |
| 93 | 27 | 30 | 30 | 29 | 29 |
| 94 | 29 | 24 | 30 | 31 | 29 |
| 95 | 25 | 17 | 22 | 25 | 22 |
| 96 | 25 | 27 | 25 | 26 | 26 |
| 97 | 25 | 23 | 20 | 16 | 21 |
| 98 | 28 | 25 | 25 | 23 | 25 |
| 99 | 24 | 19 | 19 | 31 | 23 |
| 100 | 28 | 18 | 16 | 16 | 20 |

TABLE 16

AMERICAN COLLEGE TEST STANDARD SCORES OF GROUP II

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 1 | 24 | 32 | 24 | 29 | 27 |
| 2 | 14 | 21 | 28 | 26 | 22 |
| 3 | 21 | 18 | 20 | 16 | 19 |
| 4 | 23 | 22 | 17 | 20 | 21 |
| 5 | 16 | 17 | 25 | 19 | 19 |
| 6 | 26 | 32 | 29 | 32 | 11 |
| 7 | 20 | 24 | 22 | 23 | 22 |
| 8 | 15 | 16 | 19 | 25 | 19 |
| 9 | 26 | 31 | 30 | 29 | 29 |
| 10 | 16 | 19 | 17 | 16 | 17 |
| 11 | 16 | 19 | 18 | 14 | 17 |
| 12 | 22 | 22 | 19 | 18 | 20 |
| 13 | 24 | 23 | 25 | 20 | 23 |
| 14 | 23 | 15 | 18 | 23 | 20 |
| 15 | 5 | 22 | 11 | 13 | 13 |
| 16 | 22 | 30 | 29 | 28 | 27 |
| 17 | 27 | 22 | 22 | 26 | 24 |
| 18 | 26 | 26 | 26 | 23 | 25 |
| 19 | 18 | 18 | 15 | 26 | 19 |
| 20 | 20 | 26 | 24 | 24 | 24 |
| 21 | 18 | 25 | 22 | 22 | 22 |
| 22 | 13 | 16 | 27 | 28 | 21 |
| 23 | 18 | 15 | 20 | 20 | 18 |
| 24 | 23 | 18 | 22 | 22 | 21 |
| 25 | 21 | 20 | 23 | 25 | 22 |
| 26 | 17 | 20 | 15 | 17 | 17 |
| 27 | 23 | 23 | 19 | 21 | 22 |
| 28 | 20 | 23 | 22 | 25 | 23 |
| 29 | 25 | 29 | 28 | 29 | 28 |
| 30 | 13 | 16 | 22 | 21 | 18 |
| 31 | 12 | 14 | 15 | 21 | 16 |
| 32 | 22 | 19 | 20 | 26 | 22 |
| 33 | 22 | 31 | 22 | 17 | 23 |
| 34 | 14 | 18 | 23 | 27 | 21 |
| 35 | 22 | 26 | 25 | 28 | 25 |
| 36 | 19 | 20 | 20 | 20 | 20 |
| 37 | 19 | 30 | 25 | 28 | 26 |
| 38 | 28 | 33 | 29 | 29 | 30 |
| 39 | 11 | 25 | 22 | 14 | 18 |
| 40 | 24 | 28 | 29 | 27 | 27 |

TABLE 16--<u>Continued</u>

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 41 | 23 | 11 | 25 | 23 | 21 |
| 42 | 24 | 26 | 29 | 25 | 26 |
| 43 | 17 | 20 | 22 | 28 | 22 |
| 44 | 22 | 31 | 22 | 29 | 26 |
| 45 | 26 | 29 | 29 | 26 | 28 |
| 46 | 27 | 29 | 28 | 29 | 28 |
| 47 | 9 | 20 | 20 | 13 | 16 |
| 48 | 19 | 18 | 25 | 24 | 22 |
| 49 | 20 | 31 | 23 | 27 | 25 |
| 50 | 24 | 14 | 25 | 21 | 21 |
| 51 | 23 | 20 | 26 | 27 | 24 |
| 52 | 19 | 21 | 22 | 21 | 21 |
| 53 | 23 | 15 | 22 | 24 | 21 |
| 54 | 22 | 21 | 26 | 25 | 24 |
| 55 | 28 | 27 | 23 | 28 | 27 |
| 56 | 25 | 24 | 28 | 26 | 26 |
| 57 | 24 | 22 | 26 | 22 | 24 |
| 58 | 24 | 19 | 14 | 19 | 19 |
| 59 | 12 | 16 | 24 | 28 | 20 |
| 60 | 22 | 21 | 26 | 24 | 23 |
| 61 | 26 | 35 | 31 | 22 | 31 |
| 62 | 20 | 20 | 19 | 20 | 20 |
| 63 | 23 | 24 | 25 | 25 | 24 |
| 64 | 25 | 27 | 24 | 23 | 25 |
| 65 | 20 | 29 | 18 | 26 | 23 |
| 66 | 25 | 16 | 19 | 22 | 21 |
| 67 | 20 | 14 | 14 | 14 | 16 |
| 68 | 24 | 28 | 24 | 24 | 25 |
| 69 | 26 | 25 | 30 | 29 | 28 |
| 70 | 22 | 32 | 18 | 28 | 25 |
| 71 | 22 | 25 | 21 | 23 | 23 |
| 72 | 28 | 28 | 22 | 29 | 27 |
| 73 | 24 | 28 | 25 | 27 | 26 |
| 74 | 22 | 16 | 19 | 16 | 18 |
| 75 | 27 | 24 | 18 | 23 | 23 |
| 76 | 24 | 22 | 27 | 22 | 23 |
| 77 | 20 | 22 | 22 | 23 | 22 |
| 78 | 18 | 23 | 22 | 23 | 22 |
| 79 | 16 | 20 | 14 | 27 | 19 |
| 80 | 22 | 14 | 26 | 22 | 21 |
| 81 | 23 | 26 | 25 | 22 | 24 |
| 82 | 26 | 14 | 28 | 25 | 23 |

TABLE 16--<u>Continued</u>

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 83 | 19 | 24 | 15 | 19 | 19 |
| 84 | 20 | 19 | 26 | 26 | 23 |
| 85 | 26 | 24 | 20 | 18 | 22 |
| 86 | 17 | 23 | 22 | 19 | 20 |
| 87 | 15 | 19 | 14 | 16 | 16 |
| 88 | 18 | 25 | 26 | 25 | 24 |
| 89 | 22 | 19 | 18 | 18 | 19 |
| 90 | 21 | 14 | 24 | 23 | 21 |
| 91 | 15 | 23 | 25 | 29 | 23 |
| 92 | 23 | 28 | 26 | 28 | 26 |
| 93 | 20 | 19 | 21 | 21 | 20 |
| 94 | 21 | 27 | 22 | 26 | 24 |
| 95 | 20 | 23 | 24 | 23 | 23 |
| 96 | 27 | 19 | 29 | 26 | 25 |
| 97 | 21 | 19 | 20 | 20 | 20 |
| 98 | 22 | 17 | 24 | 17 | 20 |
| 99 | 14 | 21 | 25 | 22 | 21 |
| 100 | 19 | 23 | 24 | 24 | 23 |

TABLE 17

AMERICAN COLLEGE TEST STANDARD SCORES OF GROUP III

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 1 | 19 | 17 | 8 | 11 | 14 |
| 2 | 17 | 15 | 11 | 13 | 14 |
| 3 | 19 | 14 | 15 | 14 | 16 |
| 4 | 17 | 27 | 20 | 26 | 23 |
| 5 | 18 | 19 | 26 | 23 | 22 |
| 6 | 22 | 19 | 24 | 21 | 22 |
| 7 | 11 | 23 | 27 | 20 | 20 |
| 8 | 19 | 17 | 26 | 22 | 21 |
| 9 | 21 | 17 | 26 | 29 | 23 |
| 10 | 24 | 28 | 26 | 26 | 26 |
| 11 | 25 | 24 | 28 | 26 | 26 |
| 12 | 16 | 21 | 10 | 16 | 16 |
| 13 | 21 | 22 | 15 | 25 | 21 |
| 14 | 19 | 21 | 25 | 28 | 23 |
| 15 | 17 | 17 | 24 | 29 | 22 |
| 16 | 23 | 23 | 18 | 23 | 22 |
| 17 | 21 | 20 | 16 | 25 | 21 |
| 18 | 12 | 22 | 25 | 24 | 21 |
| 19 | 17 | 16 | 14 | 14 | 15 |
| 20 | 15 | 19 | 16 | 11 | 15 |
| 21 | 22 | 25 | 28 | 26 | 25 |
| 22 | 18 | 28 | 26 | 30 | 25 |
| 23 | 17 | 19 | 17 | 13 | 17 |
| 24 | 15 | 21 | 15 | 16 | 17 |
| 25 | 12 | 19 | 16 | 21 | 17 |
| 26 | 19 | 26 | 20 | 24 | 22 |
| 27 | 18 | 21 | 23 | 26 | 22 |
| 28 | 15 | 17 | 19 | 17 | 17 |
| 29 | 23 | 21 | 22 | 21 | 22 |
| 30 | 24 | 34 | 28 | 29 | 29 |
| 31 | 11 | 16 | 17 | 22 | 17 |
| 32 | 15 | 23 | 22 | 26 | 22 |
| 33 | 21 | 24 | 21 | 22 | 22 |
| 34 | 8 | 8 | 4 | 8 | 7 |
| 35 | 21 | 24 | 26 | 24 | 24 |
| 36 | 16 | 11 | 16 | 21 | 16 |
| 37 | 14 | 15 | 11 | 19 | 15 |
| 38 | 23 | 21 | 26 | 30 | 25 |
| 39 | 14 | 15 | 15 | 15 | 15 |
| 40 | 11 | 7 | 17 | 9 | 11 |

TABLE 17--Continued

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 41 | 17 | 22 | 22 | 23 | 21 |
| 42 | 17 | 12 | 17 | 14 | 15 |
| 43 | 24 | 20 | 24 | 19 | 22 |
| 44 | 18 | 15 | 14 | 18 | 16 |
| 45 | 17 | 23 | 20 | 24 | 21 |
| 46 | 19 | 11 | 17 | 17 | 16 |
| 47 | 13 | 21 | 26 | 27 | 22 |
| 48 | 15 | 15 | 16 | 13 | 15 |
| 49 | 14 | 20 | 16 | 16 | 17 |
| 50 | 17 | 16 | 21 | 23 | 19 |
| 51 | 18 | 16 | 15 | 16 | 16 |
| 52 | 22 | 26 | 20 | 29 | 24 |
| 53 | 21 | 24 | 27 | 28 | 25 |
| 54 | 19 | 15 | 22 | 17 | 18 |
| 55 | 18 | 14 | 13 | 13 | 15 |
| 56 | 20 | 19 | 19 | 24 | 21 |
| 57 | 18 | 17 | 11 | 12 | 15 |
| 58 | 17 | 12 | 23 | 22 | 19 |
| 59 | 20 | 18 | 18 | 25 | 20 |
| 60 | 17 | 29 | 18 | 26 | 23 |
| 61 | 18 | 28 | 27 | 24 | 24 |
| 62 | 18 | 16 | 18 | 15 | 17 |
| 63 | 11 | 21 | 19 | 19 | 18 |
| 64 | 19 | 22 | 17 | 28 | 22 |
| 65 | 19 | 22 | 19 | 20 | 20 |
| 66 | 18 | 20 | 23 | 18 | 20 |
| 67 | 18 | 16 | 18 | 25 | 19 |
| 68 | 21 | 23 | 21 | 26 | 23 |
| 69 | 19 | 21 | 19 | 28 | 22 |
| 70 | 17 | 2 | 19 | 11 | 12 |
| 71 | 9 | 20 | 10 | 9 | 12 |
| 72 | 16 | 19 | 18 | 21 | 19 |
| 73 | 13 | 21 | 14 | 22 | 18 |
| 74 | 20 | 19 | 20 | 25 | 21 |
| 75 | 22 | 25 | 27 | 23 | 24 |
| 76 | 18 | 28 | 25 | 24 | 24 |
| 77 | 17 | 20 | 13 | 25 | 19 |
| 78 | 18 | 9 | 27 | 27 | 20 |
| 79 | 22 | 16 | 20 | 20 | 20 |
| 80 | 16 | 12 | 14 | 16 | 15 |
| 81 | 23 | 13 | 24 | 23 | 21 |
| 82 | 17 | 19 | 20 | 23 | 20 |

TABLE 17--<u>Continued</u>

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 83 | 11 | 13 | 17 | 20 | 15 |
| 84 | 8 | 6 | 10 | 10 | 9 |
| 85 | 11 | 18 | 15 | 16 | 15 |
| 86 | 13 | 12 | 18 | 22 | 16 |
| 87 | 26 | 23 | 20 | 18 | 22 |
| 88 | 20 | 21 | 15 | 27 | 21 |
| 89 | 14 | 16 | 13 | 20 | 16 |
| 90 | 23 | 30 | 23 | 29 | 26 |
| 91 | 16 | 18 | 15 | 13 | 16 |
| 92 | 17 | 21 | 10 | 12 | 15 |
| 93 | 22 | 12 | 17 | 14 | 16 |
| 94 | 19 | 26 | 22 | 28 | 24 |
| 95 | 18 | 30 | 18 | 24 | 23 |
| 96 | 9 | 18 | 11 | 17 | 14 |
| 97 | 20 | 23 | 26 | 29 | 25 |
| 98 | 17 | 15 | 20 | 17 | 17 |
| 99 | 8 | 7 | 14 | 4 | 8 |
| 100 | 12 | 15 | 22 | 20 | 17 |

TABLE 18

AMERICAN COLLEGE TEST STANDARD SCORES OF GROUP IV

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 1 | 27 | 20 | 24 | 27 | 25 |
| 2 | 19 | 24 | 13 | 22 | 20 |
| 3 | 20 | 18 | 17 | 16 | 18 |
| 4 | 16 | 16 | 14 | 16 | 16 |
| 5 | 6 | 18 | 16 | 11 | 13 |
| 6 | 13 | 15 | 13 | 18 | 15 |
| 7 | 20 | 20 | 20 | 24 | 21 |
| 8 | 20 | 17 | 26 | 24 | 22 |
| 9 | 13 | 9 | 13 | 16 | 13 |
| 10 | 16 | 21 | 18 | 23 | 20 |
| 11 | 14 | 23 | 22 | 21 | 20 |
| 12 | 8 | 12 | 18 | 16 | 14 |
| 13 | 18 | 7 | 3 | 13 | 10 |
| 14 | 13 | 6 | 18 | 19 | 14 |
| 15 | 20 | 19 | 15 | 14 | 17 |
| 16 | 14 | 15 | 20 | 22 | 18 |
| 17 | 18 | 15 | 18 | 21 | 18 |
| 18 | 18 | 18 | 14 | 8 | 18 |
| 19 | 14 | 18 | 13 | 8 | 11 |
| 20 | 11 | 11 | 13 | 12 | 12 |
| 21 | 16 | 22 | 12 | 22 | 18 |
| 22 | 10 | 8 | 19 | 15 | 18 |
| 23 | 21 | 22 | 17 | 28 | 22 |
| 24 | 26 | 21 | 28 | 29 | 26 |
| 25 | 17 | 28 | 15 | 15 | 19 |
| 26 | 11 | 15 | 18 | 15 | 15 |
| 27 | 16 | 22 | 18 | 16 | 18 |
| 28 | 21 | 26 | 30 | 28 | 26 |
| 29 | 26 | 34 | 29 | 31 | 30 |
| 30 | 17 | 20 | 23 | 21 | 21 |
| 31 | 8 | 18 | 11 | 15 | 13 |
| 32 | 23 | 22 | 13 | 23 | 20 |
| 33 | 18 | 25 | 18 | 21 | 21 |
| 34 | 13 | 9 | 10 | 19 | 13 |
| 35 | 18 | 17 | 17 | 22 | 19 |
| 36 | 16 | 19 | 20 | 26 | 20 |
| 37 | 15 | 18 | 15 | 20 | 17 |
| 38 | 14 | 11 | 12 | 14 | 13 |
| 39 | 18 | 14 | 15 | 13 | 15 |
| 40 | 12 | 12 | 13 | 15 | 13 |

TABLE 18--Continued

| Student Number | English Area | Math Area | Social Studies Area | Science Area | Composite |
|---|---|---|---|---|---|
| 41 | 13 | 18 | 14 | 16 | 15 |
| 42 | 4 | 7 | 15 | 18 | 11 |
| 43 | 20 | 19 | 16 | 21 | 19 |
| 44 | 23 | 15 | 13 | 22 | 18 |
| 45 | 18 | 18 | 23 | 19 | 20 |
| 46 | 20 | 21 | 19 | 22 | 21 |
| 47 | 12 | 13 | 14 | 10 | 12 |
| 48 | 15 | 2 | 5 | 7 | 7 |
| 49 | 20 | 12 | 19 | 14 | 16 |
| 50 | 15 | 14 | 14 | 19 | 16 |
| 51 | 16 | 17 | 17 | 24 | 19 |
| 52 | 11 | 16 | 5 | 15 | 12 |
| 53 | 17 | 18 | 19 | 18 | 18 |
| 54 | 16 | 18 | 20 | 20 | 19 |
| 55 | 12 | 15 | 11 | 6 | 11 |
| 56 | 18 | 18 | 18 | 21 | 19 |
| 57 | 23 | 25 | 25 | 21 | 24 |
| 58 | 20 | 22 | 18 | 17 | 19 |
| 59 | 20 | 27 | 19 | 21 | 22 |
| 60 | 18 | 21 | 20 | 27 | 22 |
| 61 | 18 | 21 | 19 | 19 | 19 |
| 62 | 16 | 23 | 10 | 25 | 19 |
| 63 | 10 | 17 | 14 | 14 | 14 |
| 64 | 7 | 21 | 10 | 15 | 13 |
| 65 | 14 | 18 | 17 | 23 | 18 |
| 66 | 8 | 9 | 7 | 10 | 9 |
| 67 | 14 | 12 | 15 | 13 | 14 |
| 68 | 9 | 21 | 20 | 20 | 18 |
| 69 | 16 | 19 | 12 | 15 | 16 |
| 70 | 19 | 15 | 28 | 21 | 21 |
| 71 | 18 | 13 | 16 | 16 | 16 |
| 72 | 18 | 22 | 20 | 26 | 22 |
| 73 | 13 | 6 | 10 | 9 | 10 |
| 74 | 13 | 20 | 25 | 28 | 22 |
| 75 | 13 | 23 | 21 | 25 | 21 |
| 76 | 19 | 24 | 24 | 27 | 24 |
| 77 | 20 | 18 | 20 | 20 | 20 |
| 78 | 19 | 2 | 18 | 21 | 15 |
| 79 | 15 | 20 | 16 | 20 | 18 |
| 80 | 25 | 29 | 17 | 22 | 23 |
| 81 | 20 | 27 | 16 | 16 | 20 |
| 82 | 18 | 19 | 17 | 25 | 20 |

TABLE 18--<u>Continued</u>

| Student Number | English Area | Math Area | Social Studies Area | Science | Composite |
|---|---|---|---|---|---|
| 83 | 17 | 18 | 18 | 24 | 19 |
| 84 | 12 | 20 | 14 | 16 | 16 |
| 85 | 16 | 14 | 14 | 16 | 15 |
| 86 | 15 | 18 | 16 | 22 | 18 |
| 87 | 10 | 10 | 15 | 17 | 13 |
| 88 | 22 | 26 | 20 | 28 | 24 |
| 89 | 20 | 18 | 18 | 23 | 20 |
| 90 | 12 | 14 | 16 | 20 | 16 |
| 91 | 21 | 21 | 21 | 30 | 23 |
| 92 | 20 | 27 | 16 | 26 | 22 |
| 93 | 15 | 18 | 18 | 19 | 18 |
| 94 | 16 | 21 | 15 | 21 | 18 |
| 95 | 16 | 17 | 20 | 22 | 19 |
| 96 | 20 | 25 | 24 | 28 | 24 |
| 97 | 14 | 9 | 16 | 10 | 12 |
| 98 | 18 | 21 | 17 | 22 | 20 |
| 99 | 14 | 23 | 15 | 16 | 17 |
| 100 | 25 | 25 | 21 | 23 | 24 |

APPENDIX B

TABLE 19

HIGH SCHOOL GRADE POINT AVERAGES OF GROUP I

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 1 | 3.9 | 3.6 | 4.0 | 4.0 | 3.8 | 3.7 |
| 2 | 3.5 | 3.0 | 3.3 | 3.8 | 3.4 | 3.7 |
| 3 | 4.0 | 3.9 | 4.0 | 4.0 | 3.9 | 3.9 |
| 4 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.7 |
| 5 | 4.0 | 3.3 | 4.0 | 4.0 | 3.8 | 3.8 |
| 6 | 3.9 | 3.6 | 4.0 | 4.0 | 3.8 | 3.7 |
| 7 | 3.5 | 1.7 | 2.8 | 2.8 | 2.8 | 2.8 |
| 8 | 4.0 | 3.2 | 4.0 | 3.5 | 3.7 | 3.7 |
| 9 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 10 | 2.1 | 2.4 | 2.2 | 2.7 | 2.3 | 2.3 |
| 11 | 3.6 | 3.3 | 3.8 | 3.2 | 3.5 | 3.6 |
| 12 | 3.3 | 3.4 | 3.3 | 3.1 | 3.3 | 3.4 |
| 13 | 3.6 | 3.5 | 4.0 | 3.8 | 3.7 | 3.7 |
| 14 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 15 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 16 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 17 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.6 |
| 18 | 3.3 | 2.3 | 2.8 | 1.5 | 2.7 | 2.7 |
| 19 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 20 | 3.5 | 3.6 | 2.8 | 3.6 | 3.4 | 3.4 |
| 21 | 4.0 | 3.3 | 3.4 | 3.3 | 3.5 | 3.5 |
| 22 | 3.1 | 2.6 | 3.5 | 2.5 | 3.0 | 3.0 |
| 23 | 4.0 | 3.3 | 4.0 | 4.0 | 3.9 | 3.9 |
| 24 | 4.0 | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 |
| 25 | 4.0 | 3.9 | 4.0 | 3.9 | 3.9 | 3.9 |
| 26 | 4.0 | 4.0 | 3.8 | 4.0 | 4.0 | 4.0 |
| 27 | 4.0 | 3.4 | 4.0 | 3.0 | 3.7 | 3.7 |
| 28 | 3.6 | 3.6 | 3.5 | 3.8 | 3.6 | 3.7 |
| 29 | 2.8 | 2.6 | 2.8 | 3.5 | 2.9 | 3.1 |
| 30 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 31 | 3.8 | 3.8 | 3.9 | 4.0 | 3.9 | 3.8 |
| 32 | 3.0 | 3.0 | 3.0 | 3.8 | 3.2 | 3.3 |
| 33 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 34 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 35 | 3.3 | 2.0 | 4.0 | 3.3 | 3.3 | 3.2 |
| 36 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 37 | 3.5 | 3.3 | 3.0 | 4.0 | 3.4 | 3.5 |
| 38 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 39 | 3.8 | 3.7 | 3.5 | 3.0 | 3.6 | 3.7 |
| 40 | 3.6 | 4.0 | 4.0 | 3.6 | 3.8 | 3.8 |

TABLE 19--<u>Continued</u>

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 41 | 3.8 | 4.0 | 3.7 | 3.4 | 3.8 | 3.8 |
| 42 | 4.0 | 4.0 | 3.5 | 4.0 | 4.0 | 4.0 |
| 43 | 3.3 | 3.1 | 3.3 | 3.5 | 3.3 | 3.3 |
| 44 | 2.9 | 3.5 | 3.4 | 3.2 | 3.2 | 3.1 |
| 45 | 3.8 | 3.0 | 4.0 | 4.0 | 3.6 | 3.5 |
| 46 | 4.0 | 3.7 | 3.8 | 4.0 | 4.0 | 3.9 |
| 47 | 3.0 | 3.1 | 3.5 | 2.8 | 3.1 | 3.1 |
| 48 | 1.5 | 1.5 | 2.3 | 1.7 | 1.8 | 1.9 |
| 49 | 4.0 | 3.8 | 4.0 | 4.0 · | 4.0 | 4.0 |
| 50 | 3.9 | 3.1 | 2.5 | 3.0 | 3.3 | 3.8 |
| 51 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 52 | 3.5 | 4.0 | 3.0 | 4.0 | 3.8 | 3.7 |
| 53 | 3.9 | 3.8 | 4.0 | 3.9 | 3.9 | 4.0 |
| 54 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 55 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 56 | 3.9 | 3.7 | 3.7 | 3.8 | 3.8 | 3.7 |
| 57 | 4.0 | 4.0 | 4.0 | 3.9 | 4.0 | 4.0 |
| 58 | 3.8 | 4.0 | 4.0 | 3.5 | 3.8 | 3.9 |
| 59 | 3.5 | 3.6 | 3.8 | 3.8 | 3.7 | 3.5 |
| 60 | 3.8 | 4.0 | 3.8 | 4.0 | 3.9 | 3.9 |
| 61 | 3.9 | 3.8 | 4.0 | 4.0 | 3.9 | 3.9 |
| 62 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 63 | 4.0 | 4.0 | 3.8 | 3.3 | 3.8 | 3.5 |
| 64 | 4.0 | 3.4 | 4.0 | 4.0 | 3.7 | 3.7 |
| 65 | 4.0 | 3.1 | 3.6 | 3.3 | 3.5 | 3.5 |
| 66 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 67 | 3.9 | 3.8 | 4.0 | 4.0 | 3.9 | 3.9 |
| 68 | 2.6 | 2.8 | 3.3 | 1.8 | 2.1 | 3.0 |
| 69 | 3.5 | 3.0 | 3.3 | 3.0 | 3.3 | 3.5 |
| 70 | 3.4 | 2.8 | 3.7 | 3.5 | 3.4 | 3.4 |
| 71 | 4.0 | 3.0 | 4.0 | 2.0 | 3.6 | 3.8 |
| 72 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.9 |
| 73 | 3.8 | 3.0 | 4.0 | 4.0 | 3.8 | 3.8 |
| 74 | 3.1 | 3.8 | 3.8 | 4.0 | 3.6 | 3.8 |
| 75 | 3.0 | 3.0 | 3.3 | 2.8 | 3.0 | 2.9 |
| 76 | 3.6 | 2.9 | 3.4 | 4.0 | 3.5 | 3.4 |
| 77 | 3.3 | 2.0 | 2.8 | 2.8 | 2.9 | 2.7 |
| 78 | 3.0 | 3.1 | 3.4 | 2.5 | 3.1 | 3.0 |
| 79 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 80 | 3.9 | 3.5 | 3.7 | 3.8 | 3.7 | 3.6 |
| 81 | 3.6 | 3.7 | 3.0 | 3.3 | 3.5 | 3.6 |
| 82 | 3.1 | 3.2 | 3.8 | 3.8 | 3.5 | 3.6 |

TABLE 19--<u>Continued</u>

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 83 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 84 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 85 | 3.8 | 3.1 | 3.5 | 3.7 | 3.4 | 3.4 |
| 86 | 4.0 | 4.0 | 3.4 | 4.0 | 3.9 | 3.9 |
| 87 | 3.5 | 3.1 | 3.6 | 3.0 | 3.4 | 3.5 |
| 88 | 4.0 | 3.5 | 3.8 | 3.5 | 3.8 | 3.7 |
| 89 | 3.9 | 3.0 | 4.0 | 3.7 | 3.4 | 3.5 |
| 90 | 3.5 | 3.9 | 3.5 | 3.8 | 3.7 | 3.6 |
| 91 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 92 | 3.8 | 4.0 | 3.0 | 4.0 | 3.8 | 3.8 |
| 93 | 3.9 | 3.3 | 3.7 | 3.8 | 3.6 | 3.6 |
| 94 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 95 | 4.0 | 3.5 | 3.8 | 4.0 | 3.9 | 3.8 |
| 96 | 3.5 | 3.6 | 3.8 | 3.3 | 3.6 | 3.5 |
| 97 | 4.0 | 2.9 | 3.0 | 3.3 | 3.3 | 3.4 |
| 98 | 3.8 | 3.8 | 3.8 | 4.0 | 3.8 | 3.6 |
| 99 | 2.9 | 2.3 | 2.3 | 2.0 | 2.4 | 2.6 |
| 100 | 3.1 | 2.8 | 2.7 | 3.3 | 3.0 | 3.1 |

TABLE 20

HIGH SCHOOL GRADE POINT AVERAGES OF GROUP II

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 1 | 3.8 | 3.9 | 4.0 | 3.8 | 3.8 | 3.8 |
| 2 | 1.8 | 1.8 | 2.8 | 2.2 | 2.0 | 2.1 |
| 3 | 3.8 | 1.8 | 4.0 | 3.0 | 3.2 | 3.3 |
| 4 | 2.9 | 2.6 | 2.8 | 3.3 | 2.9 | 2.9 |
| 5 | 2.8 | 2.5 | 3.5 | 2.5 | 2.8 | 2.9 |
| 6 | 3.7 | 4.0 | 4.0 | 4.0 | 4.0 | 3.5 |
| 7 | 3.3 | 2.3 | 3.5 | 3.0 | 2.8 | 2.8 |
| 8 | 2.1 | 2.0 | 2.3 | 2.7 | 2.3 | 2.4 |
| 9 | 2.8 | 1.8 | 3.5 | 3.2 | 2.7 | 2.7 |
| 10 | 2.5 | 2.5 | 3.0 | 3.0 | 2.8 | 2.8 |
| 11 | 3.4 | 2.7 | 3.3 | 2.8 | 3.1 | 3.0 |
| 12 | 2.1 | 2.6 | 2.5 | 1.6 | 2.2 | 2.3 |
| 13 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| 14 | 2.3 | 1.8 | 2.0 | 2.0 | 2.0 | 2.5 |
| 15 | 2.3 | 2.6 | 3.3 | 2.5 | 2.5 | 2.9 |
| 16 | 3.5 | 3.4 | 4.0 | 3.4 | 3.5 | 3.6 |
| 17 | 4.0 | 4.0 | 4.0 | 3.5 | 4.0 | 3.9 |
| 18 | 2.5 | 2.7 | 3.4 | 3.0 | 2.9 | 3.1 |
| 19 | 3.3 | 2.5 | 3.3 | 2.7 | 2.9 | 2.7 |
| 20 | 3.8 | 3.9 | 3.8 | 3.5 | 3.6 | 3.6 |
| 21 | 2.0 | 2.0 | 2.0 | 1.3 | 1.9 | 2.1 |
| 22 | 2.9 | 3.3 | 3.0 | 3.3 | 3.0 | 3.1 |
| 23 | 3.6 | 3.3 | 3.8 | 3.3 | 3.5 | 3.7 |
| 24 | 2.5 | 3.0 | 2.8 | 3.0 | 2.8 | 3.1 |
| 25 | 3.0 | 2.5 | 3.0 | 3.0 | 2.6 | 2.5 |
| 26 | 2.1 | 1.9 | 2.8 | 2.2 | 2.2 | 2.1 |
| 27 | 4.0 | 3.4 | 3.9 | 3.3 | 3.4 | 3.5 |
| 28 | 3.0 | 2.5 | 4.0 | 3.0 | 3.0 | 2.9 |
| 29 | 3.4 | 3.0 | 4.0 | 3.5 | 3.3 | 3.4 |
| 30 | 1.9 | 1.5 | 2.4 | 1.0 | 1.9 | 2.0 |
| 31 | 3.9 | 1.8 | 4.0 | 3.3 | 3.2 | 3.2 |
| 32 | 3.8 | 2.3 | 3.5 | 4.0 | 3.4 | 3.5 |
| 33 | 4.0 | 4.0 | 3.9 | 3.3 | 3.8 | 3.7 |
| 34 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 35 | 3.5 | 3.8 | 3.8 | 3.8 | 3.7 | 3.8 |
| 36 | 1.8 | 1.4 | 1.6 | 1.8 | 1.6 | 1.7 |
| 37 | 2.6 | 2.6 | 2.5 | 3.6 | 3.0 | 2.9 |
| 38 | 2.6 | 3.5 | 2.5 | 2.8 | 2.9 | 3.0 |
| 39 | 2.1 | 2.2 | 2.8 | 2.0 | 2.2 | 2.0 |
| 40 | 4.0 | 3.4 | 3.4 | 3.8 | 3.3 | 3.5 |

TABLE 20--<u>Continued</u>

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 41 | 3.0 | 1.6 | 3.3 | 2.5 | 2.7 | 3.0 |
| 42 | 4.0 | 4.0 | 4.0 | 3.5 | 3.9 | 3.9 |
| 43 | 2.0 | 2.5 | 2.0 | 2.8 | 2.3 | 2.7 |
| 44 | 3.6 | 3.9 | 3.0 | 3.4 | 3.5 | 3.5 |
| 45 | 3.1 | 3.1 | 3.0 | 3.5 | 3.2 | 3.2 |
| 46 | 3.6 | 3.1 | 3.5 | 2.3 | 3.3 | 3.1 |
| 47 | 2.1 | 2.5 | 2.2 | 2.0 | 2.2 | 2.1 |
| 48 | 2.4 | 1.6 | 2.8 | 2.3 | 2.3 | 2.3 |
| 49 | 4.0 | 3.6 | 3.9 | 4.0 | 3.9 | 3.8 |
| 50 | 3.3 | 1.8 | 4.0 | 2.3 | 2.9 | 3.0 |
| 51 | 3.5 | 3.0 | 3.5 | 2.8 | 3.3 | 3.1 |
| 52 | 2.6 | 2.8 | 2.6 | 2.2 | 2.6 | 2.8 |
| 53 | 3.3 | 2.5 | 2.3 | 4.0 | 3.0 | 3.0 |
| 54 | 2.5 | 2.4 | 2.5 | 2.8 | 2.5 | 2.3 |
| 55 | 3.5 | 3.0 | 3.5 | 3.5 | 3.3 | 3.3 |
| 56 | 4.0 | 3.8 | 3.2 | 4.0 | 3.9 | 3.8 |
| 57 | 4.0 | 3.0 | 3.7 | 4.0 | 3.9 | 3.7 |
| 58 | 2.5 | 2.7 | 2.3 | 1.5 | 2.4 | 2.4 |
| 59 | 2.5 | 3.2 | 3.2 | 3.0 | 2.9 | 3.0 |
| 60 | 3.3 | 3.5 | 3.3 | 3.6 | 3.4 | 3.4 |
| 61 | 2.9 | 3.7 | 3.8 | 4.0 | 3.5 | 3.4 |
| 62 | 3.8 | 3.5 | 4.0 | 3.8 | 3.8 | 3.8 |
| 63 | 3.9 | 3.9 | 4.0 | 3.0 | 3.8 | 3.9 |
| 64 | 3.6 | 3.8 | 4.0 | 4.0 | 3.8 | 3.8 |
| 65 | 2.4 | 2.9 | 3.0 | 3.3 | 2.9 | 2.7 |
| 66 | 2.0 | 1.3 | 2.6 | 2.0 | 2.0 | 2.3 |
| 67 | 2.7 | 2.3 | 2.7 | 2.0 | 2.5 | 3.0 |
| 68 | 2.0 | 2.0 | 2.3 | 2.0 | 2.0 | 2.0 |
| 69 | 3.9 | 2.1 | 3.8 | 3.4 | 3.2 | 3.2 |
| 70 | 4.0 | 4.0 | 3.5 | 4.0 | 3.9 | 3.9 |
| 71 | 3.9 | 3.5 | 3.7 | 3.7 | 3.7 | 3.6 |
| 72 | 3.4 | 2.5 | 3.1 | 3.0 | 3.0 | 3.0 |
| 73 | 3.5 | 3.0 | 3.8 | 2.7 | 3.3 | 3.3 |
| 74 | 2.5 | 2.3 | 3.1 | 2.5 | 2.8 | 2.5 |
| 75 | 3.8 | 3.0 | 3.0 | 3.6 | 3.2 | 3.2 |
| 76 | 3.9 | 3.5 | 3.8 | 3.5 | 3.7 | 3.8 |
| 77 | 2.3 | 2.0 | 2.0 | 3.0 | 2.4 | 2.8 |
| 78 | 3.9 | 4.0 | 4.0 | 4.0 | 4.0 | 3.9 |
| 79 | 3.0 | 2.0 | 2.5 | 2.8 | 2.3 | 2.7 |
| 80 | 3.8 | 2.8 | 4.0 | 3.0 | 3.6 | 3.6 |
| 81 | 3.6 | 2.7 | 3.1 | 4.0 | 3.3 | 3.2 |
| 82 | 2.6 | 2.3 | 3.2 | 2.7 | 2.6 | 2.5 |

TABLE 20--<u>Continued</u>

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 83 | 3.1 | 3.3 | 3.8 | 4.0 | 3.5 | 3.3 |
| 84 | 3.5 | 3.6 | 3.8 | 3.6 | 3.6 | 3.6 |
| 85 | 3.5 | 3.1 | 2.8 | 2.3 | 3.0 | 3.3 |
| 86 | 2.3 | 2.3 | 2.5 | 2.0 | 2.4 | 2.3 |
| 87 | 2.3 | 3.1 | 3.0 | 3.0 | 2.9 | 2.2 |
| 88 | 3.5 | 3.6 | 4.0 | 3.2 | 3.5 | 3.5 |
| 89 | 3.6 | 3.1 | 4.0 | 2.9 | 3.4 | 3.5 |
| 90 | 3.3 | 2.5 | 3.5 | 3.0 | 3.0 | 3.0 |
| 91 | 3.0 | 3.9 | 3.3 | 3.0 | 3.2 | 3.4 |
| 92 | 3.3 | 3.6 | 3.3 | 3.3 | 3.4 | 3.8 |
| 93 | 2.4 | 1.8 | 2.5 | 2.8 | 2.3 | 2.4 |
| 94 | 3.8 | 3.4 | 3.2 | 3.4 | 3.5 | 3.4 |
| 95 | 4.0 | 3.3 | 4.0 | 4.0 | 3.7 | 3.8 |
| 96 | 3.1 | 2.1 | 3.2 | 2.9 | 2.8 | 3.0 |
| 97 | 2.4 | 2.7 | 3.0 | 2.5 | 2.5 | 2.8 |
| 98 | 4.0 | 2.8 | 3.8 | 3.7 | 3.7 | 3.8 |
| 99 | 3.1 | 3.4 | 3.5 | 3.7 | 3.4 | 3.4 |
| 100 | 3.6 | 3.9 | 3.8 | 4.0 | 3.8 | 3.8 |

TABLE 21

HIGH SCHOOL GRADE POINT AVERAGES OF GROUP III

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 1 | 3.5 | 3.3 | 3.4 | 2.8 | 3.3 | 3.3 |
| 2 | 2.8 | 2.5 | 2.5 | 2.3 | 2.5 | 2.4 |
| 3 | 2.1 | 1.0 | 2.3 | 1.8 | 1.9 | 2.2 |
| 4 | 2.4 | 2.4 | 2.5 | 2.1 | 2.4 | 2.4 |
| 5 | 2.6 | 3.8 | 2.8 | 3.2 | 3.0 | 2.9 |
| 6 | 2.3 | 1.5 | 2.3 | 2.2 | 2.1 | 2.5 |
| 7 | 1.3 | 1.4 | 1.9 | 1.9 | 1.6 | 1.8 |
| 8 | 2.0 | 2.0 | 2.6 | 2.6 | 2.3 | 2.3 |
| 9 | 2.6 | 3.5 | 3.8 | 3.3 | 3.5 | 3.6 |
| 10 | 2.0 | 1.6 | 2.0 | 2.5 | 2.0 | 2.1 |
| 11 | 2.4 | 2.5 | 2.5 | 2.8 | 2.5 | 2.7 |
| 12 | 3.1 | 2.9 | 3.3 | 3.0 | 3.0 | 2.9 |
| 13 | 2.5 | 3.0 | 2.8 | 3.0 | 2.8 | 2.7 |
| 14 | 1.3 | 2.0 | 1.8 | 2.3 | 1.8 | 2.0 |
| 15 | 2.0 | 1.5 | 3.0 | 2.1 | 2.3 | 2.4 |
| 16 | 3.5 | 3.0 | 3.8 | 2.6 | 3.2 | 3.4 |
| 17 | 2.1 | 3.1 | 3.0 | 2.7 | 2.7 | 2.8 |
| 18 | 2.9 | 3.0 | 2.8 | 3.0 | 2.9 | 3.1 |
| 19 | 3.1 | 3.0 | 3.0 | 1.8 | 2.8 | 2.9 |
| 20 | 1.9 | 1.8 | 1.7 | 1.5 | 1.8 | 2.7 |
| 21 | 3.1 | 1.7 | 3.7 | 3.5 | 3.1 | 3.2 |
| 22 | 1.6 | 2.0 | 1.5 | 2.0 | 1.8 | 2.0 |
| 23 | 2.6 | 2.0 | 1.8 | 2.0 | 2.1 | 2.2 |
| 24 | 2.6 | 2.5 | 3.1 | 2.8 | 2.8 | 2.7 |
| 25 | 1.3 | 2.7 | 2.7 | 2.7 | 2.3 | 2.3 |
| 26 | 2.3 | 2.3 | 2.3 | 2.8 | 2.6 | 2.6 |
| 27 | 2.3 | 1.3 | 3.0 | 2.7 | 2.1 | 2.1 |
| 28 | 3.6 | 2.8 | 3.0 | 2.5 | 3.0 | 3.1 |
| 29 | 4.0 | 3.9 | 3.8 | 4.0 | 3.9 | 3.9 |
| 30 | 3.1 | 3.6 | 3.3 | 3.5 | 3.4 | 3.2 |
| 31 | 2.8 | 2.9 | 2.8 | 2.7 | 2.8 | 2.9 |
| 32 | 2.6 | 2.7 | 3.0 | 2.5 | 3.0 | 2.8 |
| 33 | 1.9 | 2.3 | 2.0 | 2.2 | 2.1 | 2.3 |
| 34 | 2.5 | 2.0 | 2.5 | 2.3 | 2.4 | 2.5 |
| 35 | 1.9 | 1.5 | 2.3 | 3.3 | 2.1 | 2.0 |
| 36 | 2.4 | 2.3 | 2.7 | 2.3 | 2.4 | 2.6 |
| 37 | 1.5 | 1.0 | 1.5 | 1.3 | 1.4 | 1.8 |
| 38 | 2.7 | 3.2 | 3.3 | 3.7 | 3.1 | 3.1 |
| 39 | 3.5 | 1.8 | 2.5 | 3.8 | 3.0 | 2.7 |
| 40 | 2.5 | 1.8 | 4.0 | 2.3 | 2.6 | 2.6 |

TABLE 21--Continued

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 41 | 2.7 | 3.3 | 4.0 | 3.8 | 3.4 | 3.4 |
| 42 | 2.8 | 2.5 | 2.5 | 1.5 | 2.5 | 2.3 |
| 43 | 3.5 | 2.0 | 3.5 | 3.5 | 3.1 | 3.1 |
| 44 | 3.8 | 3.2 | 4.0 | 3.0 | 3.5 | 3.5 |
| 45 | 2.9 | 3.0 | 3.5 | 2.0 | 3.0 | 2.9 |
| 46 | 3.4 | 2.2 | 3.3 | 3.3 | 3.1 | 3.1 |
| 47 | 2.1 | 2.3 | 2.5 | 2.8 | 2.4 | 2.3 |
| 48 | 2.1 | 2.2 | 2.8 | 3.0 | 2.4 | 2.4 |
| 49 | 1.5 | 1.7 | 1.8 | 1.0 | 1.6 | 1.6 |
| 50 | 2.1 | 1.8 | 2.6 | 2.3 | 1.9 | 2.2 |
| 51 | 3.3 | 3.5 | 3.5 | 3.5 | 3.4 | 3.6 |
| 52 | 2.6 | 2.7 | 3.0 | 2.9 | 2.8 | 2.9 |
| 53 | 2.6 | 2.6 | 3.5 | 2.8 | 2.8 | 2.9 |
| 54 | 3.0 | 2.7 | 3.1 | 3.0 | 3.0 | 3.4 |
| 55 | 2.5 | 3.0 | 2.2 | 2.5 | 2.5 | 2.7 |
| 56 | 2.6 | 1.5 | 3.0 | 2.3 | 2.4 | 2.6 |
| 57 | 2.5 | 1.5 | 1.8 | 2.0 | 2.0 | 2.3 |
| 58 | 1.4 | 1.7 | 2.2 | 2.0 | 1.8 | 1.8 |
| 59 | 2.8 | 2.5 | 3.3 | 3.2 | 3.0 | 3.1 |
| 60 | 2.7 | 4.0 | 3.3 | 3.7 | 3.4 | 3.5 |
| 61 | 2.3 | 3.0 | 2.8 | 3.0 | 2.8 | 2.8 |
| 62 | 2.1 | 1.5 | 2.6 | 2.5 | 2.3 | 2.2 |
| 63 | 1.8 | 1.6 | 2.2 | 2.5 | 2.0 | 2.2 |
| 64 | 2.5 | 3.0 | 2.7 | 2.7 | 2.7 | 2.8 |
| 65 | 3.5 | 3.3 | 3.9 | 2.9 | 3.4 | 3.4 |
| 66 | 2.9 | 1.0 | 1.7 | 1.8 | 2.1 | 2.2 |
| 67 | 1.9 | 1.2 | 2.2 | 3.0 | 2.1 | 2.2 |
| 68 | 3.1 | 2.6 | 3.5 | 2.0 | 3.0 | 3.0 |
| 69 | 2.3 | 2.8 | 2.5 | 1.5 | 2.0 | 2.0 |
| 70 | 3.3 | 2.0 | 3.0 | 2.5 | 2.9 | 2.7 |
| 71 | 1.4 | 2.5 | 1.8 | 1.0 | 1.8 | 2.1 |
| 72 | 1.6 | 2.0 | 2.2 | 2.3 | 2.0 | 2.1 |
| 73 | 2.1 | 2.3 | 3.8 | 2.0 | 2.6 | 2.5 |
| 74 | 3.1 | 3.0 | 3.5 | 3.3 | 3.2 | 3.3 |
| 75 | 2.1 | 1.8 | 2.5 | 1.8 | 2.1 | 2.0 |
| 76 | 1.6 | 1.6 | 1.8 | 1.8 | 1.7 | 1.9 |
| 77 | 1.9 | 2.5 | 1.8 | 2.3 | 2.2 | 2.2 |
| 78 | 1.9 | 2.0 | 2.5 | 2.8 | 2.3 | 2.4 |
| 79 | 2.5 | 1.0 | 2.4 | 2.0 | 2.2 | 2.0 |
| 80 | 1.4 | 1.6 | 1.5 | 1.0 | 1.4 | 1.7 |
| 81 | 3.8 | 2.0 | 3.2 | 2.8 | 3.6 | 3.2 |
| 82 | 2.3 | 3.1 | 3.3 | 2.5 | 2.8 | 2.8 |

TABLE 21--Continued

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 83 | 2.0 | 2.0 | 3.0 | 2.0 | 2.4 | 2.5 |
| 84 | 1.6 | 2.5 | 2.3 | 2.3 | 2.1 | 2.3 |
| 85 | 2.6 | 3.0 | 3.0 | 2.1 | 2.7 | 2.7 |
| 86 | 1.8 | 1.2 | 1.7 | 1.5 | 1.6 | 1.8 |
| 87 | 2.8 | 2.2 | 2.5 | 1.5 | 2.5 | 2.7 |
| 88 | 3.6 | 3.5 | 4.0 | 3.5 | 3.6 | 3.5 |
| 89 | 2.8 | 2.7 | 3.0 | 2.9 | 2.8 | 2.9 |
| 90 | 3.3 | 2.9 | 4.0 | 3.7 | 3.4 | 3.4 |
| 91 | 2.3 | 2.0 | 3.0 | 2.0 | 2.2 | 2.4 |
| 92 | 2.6 | 3.4 | 2.5 | 2.5 | 2.9 | 3.2 |
| 93 | 2.7 | 1.3 | 2.8 | 1.8 | 2.3 | 2.7 |
| 94 | 2.9 | 2.3 | 3.5 | 3.0 | 3.9 | 2.8 |
| 95 | 2.5 | 2.8 | 3.0 | 3.0 | 2.8 | 2.9 |
| 96 | 2.8 | 3.5 | 2.0 | 2.8 | 2.8 | 2.8 |
| 97 | 3.1 | 3.6 | 3.0 | 3.2 | 3.3 | 3.3 |
| 98 | 2.1 | 2.0 | 2.8 | 2.0 | 2.3 | 2.4 |
| 99 | 1.4 | 2.0 | 1.8 | 1.7 | 1.7 | 2.2 |
| 100 | 1.9 | 1.5 | 2.0 | 2.0 | 1.9 | 2.0 |

TABLE 22

HIGH SCHOOL GRADE POINT AVERAGES OF GROUP IV

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 1 | 1.8 | 2.6 | 2.0 | 2.3 | 2.1 | 2.5 |
| 2 | 1.8 | 2.6 | 2.0 | 1.8 | 2.2 | 2.5 |
| 3 | 2.5 | 2.6 | 3.3 | 2.8 | 2.9 | 3.1 |
| 4 | 2.1 | 2.0 | 3.2 | 2.0 | 2.3 | 2.6 |
| 5 | 1.3 | 2.3 | 1.5 | 1.8 | 1.6 | 1.7 |
| 6 | 2.3 | 1.3 | 2.5 | 2.0 | 2.1 | 2.4 |
| 7 | 2.8 | 2.6 | 2.6 | 2.8 | 2.7 | 2.8 |
| 8 | 1.3 | 1.8 | 1.0 | 1.2 | 1.3 | 1.5 |
| 9 | 1.9 | 2.0 | 1.6 | 1.2 | 1.7 | 1.8 |
| 10 | 1.8 | 2.5 | 1.8 | 1.1 | 1.9 | 2.2 |
| 11 | 2.1 | 1.5 | 1.9 | 1.7 | 1.9 | 2.0 |
| 12 | 2.6 | 3.2 | 2.6 | 2.3 | 2.7 | 2.7 |
| 13 | 1.3 | 1.0 | 1.0 | 1.0 | 1.1 | 1.4 |
| 14 | 1.3 | 1.3 | 1.4 | 1.0 | 1.2 | 1.4 |
| 15 | 1.4 | 1.8 | 1.6 | 1.5 | 1.5 | 1.7 |
| 16 | 1.1 | 1.2 | 1.6 | 2.3 | 1.4 | 1.5 |
| 17 | 1.8 | 2.0 | 1.2 | 2.0 | 1.6 | 1.9 |
| 18 | 2.6 | 1.7 | 3.0 | 3.5 | 2.5 | 2.6 |
| 19 | 3.7 | 3.3 | 3.9 | 3.5 | 3.6 | 3.7 |
| 20 | 1.1 | 1.3 | 1.2 | 1.0 | 1.1 | 1.1 |
| 21 | 3.8 | 3.8 | 2.3 | 3.6 | 3.3 | 3.2 |
| 22 | 1.9 | 2.5 | 2.6 | 2.0 | 2.1 | 2.5 |
| 23 | 2.0 | 1.8 | 1.7 | 2.9 | 2.2 | 2.4 |
| 24 | 3.9 | 3.0 | 3.8 | 3.5 | 3.5 | 3.5 |
| 25 | 1.9 | 2.8 | 2.5 | 2.8 | 2.2 | 2.6 |
| 26 | 2.8 | 2.0 | 2.8 | 1.8 | 2.2 | 2.4 |
| 27 | 2.8 | 1.5 | 2.6 | 1.5 | 2.1 | 2.1 |
| 28 | 2.6 | 1.9 | 2.8 | 2.5 | 2.4 | 2.5 |
| 29 | 3.0 | 3.3 | 3.7 | 3.5 | 3.3 | 3.2 |
| 30 | 2.0 | 1.2 | 1.7 | 1.8 | 1.7 | 1.9 |
| 31 | 1.5 | 1.1 | 2.2 | 2.0 | 1.6 | 1.6 |
| 32 | 2.5 | 2.0 | 1.3 | 2.0 | 2.1 | 2.0 |
| 33 | 3.1 | 3.4 | 2.6 | 3.0 | 3.0 | 2.8 |
| 34 | 1.9 | 2.3 | 2.1 | 3.0 | 2.1 | 2.2 |
| 35 | 2.0 | 1.7 | 2.3 | 3.0 | 2.2 | 2.3 |
| 36 | 2.1 | 2.4 | 1.8 | 2.4 | 2.2 | 2.2 |
| 37 | 2.8 | 2.5 | 3.0 | 2.0 | 2.5 | 2.7 |
| 38 | 1.4 | 1.1 | 1.4 | 1.5 | 1.4 | 1.4 |
| 39 | 2.6 | 1.8 | 2.0 | 2.0 | 2.1 | 2.3 |
| 40 | 2.3 | 1.8 | 2.0 | 2.2 | 2.1 | 2.1 |

TABLE 22--Continued

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 41 | 3.0 | 2.0 | 3.8 | 3.0 | 3.0 | 2.9 |
| 42 | 2.1 | 2.5 | 3.0 | 1.7 | 2.2 | 2.3 |
| 43 | 2.9 | 3.0 | 3.2 | 3.0 | 3.0 | 3.0 |
| 44 | 1.9 | 2.0 | -2.3 | 1.5 | 1.9 | 2.1 |
| 45 | 2.3 | 1.8 | 2.3 | 1.8 | 2.1 | 2.1 |
| 46 | 2.5 | 2.7 | 2.9 | 3.0 | 2.8 | 2.6 |
| 47 | 3.3 | 1.7 | 2.8 | 2.3 | 2.5 | 2.6 |
| 48 | 1.3 | 1.3 | 1.1 | 1.0 | 1.2 | 1.4 |
| 49 | 2.4 | 1.7 | 2.8 | 2.5 | 2.4 | 2.4 |
| 50 | 1.4 | 1.0 | 2.0 | 1.5 | 1.3 | 1.7 |
| 51 | 1.6 | 2.0 | 2.0 | 1.3 | 1.8 | 2.1 |
| 52 | 1.0 | 1.5 | 2.5 | 2.3 | 1.6 | 1.9 |
| 53 | 2.6 | 2.0 | 2.3 | 3.0 | 2.5 | 2.7 |
| 54 | 1.6 | 1.8 | 2.0 | 2.8 | 1.9 | 1.9 |
| 55 | 1.6 | 1.5 | 1.5 | 2.0 | 1.6 | 1.8 |
| 56 | 1.6 | 2.0 | 1.3 | 1.5 | 1.6 | 1.8 |
| 57 | 2.3 | 2.1 | 2.5 | 2.3 | 2.1 | 2.2 |
| 58 | 2.9 | 2.3 | 3.0 | 2.3 | 2.6 | 2.3 |
| 59 | 3.3 | 3.3 | 3.0 | 2.3 | 3.0 | 3.0 |
| 60 | 2.1 | 1.5 | 2.3 | 1.3 | 1.8 | 2.0 |
| 61 | 1.3 | 1.1 | 1.6 | 1.7 | 1.4 | 1.6 |
| 62 | 2.4 | 2.6 | 2.3 | 2.9 | 2.6 | 2.7 |
| 63 | 2.4 | 2.5 | 2.5 | 3.0 | 2.5 | 2.7 |
| 64 | 1.5 | 2.3 | 1.5 | 1.5 | 1.8 | 1.8 |
| 65 | 2.1 | 2.5 | 2.5 | 2.7 | 2.4 | 2.4 |
| 66 | 2.3 | 2.3 | 3.0 | 2.0 | 2.4 | 2.5 |
| 67 | 1.6 | 1.5 | 1.9 | 1.5 | 1.6 | 1.8 |
| 68 | 2.1 | 2.3 | 2.3 | 2.0 | 2.2 | 2.3 |
| 69 | 2.4 | 1.5 | 1.6 | 2.5 | 2.0 | 2.0 |
| 70 | 2.3 | 2.5 | 2.7 | 2.0 | 2.4 | 2.4 |
| 71 | 1.8 | 2.0 | 1.5 | 1.3 | 1.7 | 1.7 |
| 72 | 1.3 | 1.8 | 1.6 | 1.7 | 1.6 | 1.9 |
| 73 | 1.5 | 1.5 | 1.0 | 1.0 | 1.2 | 1.4 |
| 74 | 1.9 | 1.9 | 2.2 | 2.5 | 2.1 | 2.1 |
| 75 | 2.6 | 3.2 | 3.0 | 2.4 | 2.7 | 2.6 |
| 76 | 2.0 | 2.0 | 3.0 | 1.7 | 2.1 | 2.2 |
| 77 | 1.9 | 2.2 | 3.2 | 1.9 | 2.3 | 2.4 |
| 78 | 2.0 | 2.0 | 2.3 | 1.5 | 2.1 | 2.0 |
| 79 | 2.5 | 2.3 | 2.0 | 2.8 | 2.2 | 2.1 |
| 80 | 2.4 | 2.0 | 1.5 | 2.3 | 2.1 | 2.2 |
| 81 | 3.5 | 3.0 | 4.0 | 3.7 | 3.5 | 3.4 |
| 82 | 3.4 | 3.0 | 3.0 | 3.5 | 3.2 | 3.1 |

TABLE 22--<u>Continued</u>

| Student Number | English | Math | Social Studies | Science | Composite | All Subjects |
|---|---|---|---|---|---|---|
| 83 | 3.0 | 2.0 | 2.3 | 2.9 | 2.6 | 2.7 |
| 84 | 1.8 | 1.5 | 1.4 | 1.8 | 1.6 | 1.6 |
| 85 | 1.8 | 1.6 | 2.3 | 2.0 | 1.9 | 2.2 |
| 86 | 2.0 | 1.3 | 2.2 | 3.0 | 2.0 | 2.1 |
| 87 | 2.0 | 1.7 | 1.8 | 1.5 | 1.8 | 1.9 |
| 88 | 2.6 | 2.3 | 2.3 | 2.3 | 2.4 | 2.5 |
| 89 | 2.4 | 2.7 | 1.8 | 2.0 | 2.3 | 2.4 |
| 90 | 1.4 | 1.5 | 1.8 | 1.2 | 1.5 | 1.6 |
| 91 | 1.9 | 2.5 | 2.3 | 3.3 | 2.2 | 2.2 |
| 92 | 2.3 | 2.9 | 3.3 | 2.0 | 2.6 | 2.8 |
| 93 | 1.9 | 2.2 | 1.9 | 2.4 | 2.1 | 1.7 |
| 94 | 1.3 | 1.5 | 1.8 | 2.0 | 1.6 | 1.8 |
| 95 | 1.4 | 2.0 | 2.9 | 2.0 | 2.1 | 2.1 |
| 96 | 2.0 | 2.3 | 2.0 | 2.5 | 2.2 | 2.3 |
| 97 | 2.1 | 1.7 | 1.4 | 1.5 | 1.7 | 1.8 |
| 98 | 2.8 | 3.0 | 2.3 | 2.0 | 2.6 | 2.6 |
| 99 | 2.9 | 3.2 | 3.8 | 3.3 | 3.2 | 3.2 |
| 100 | 2.6 | 2.3 | 2.3 | 2.7 | 2.5 | 2.7 |

APPENDIX C

# LEGEND FOR APPENDIX C

| Column Title | Codes |
|---|---|
| Sex | m – male |
| | f – female |
| | |
| High School Size | 1 – 10 teachers |
| | 2 – 11 to 24 teachers |
| | 3 – 25 to 49 teachers |
| | 4 – 50 or more teachers |
| | |
| Occupation of Parent | 0 – Business and Professional |
| | 1 – Sales and Clerical |
| | 2 – Service |
| | 3 – Agricultural, fishery, forestry |
| | 4 – Skilled |
| | 5 – Semi-skilled |
| | 6 – Unskilled |
| | |
| High School Course Type | 0 – Enrolled for more than 75 per cent in Academic courses |
| | 1 – Enrolled in 75 per cent or less academic courses |

## TABLE 23

### COLLEGE GRADE POINT AVERAGES AND OTHER
### VARIABLES FOR GROUP I

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 1 | 3.5 | f | 4 | 0 | 0 |
| 2 | 3.2 | m | 2 | 1 | 0 |
| 3 | 3.9 | m | 4 | 0 | 0 |
| 4 | 4.0 | f | 2 | 0 | 1 |
| 5 | 3.7 | f | 4 | 0 | 1 |
| 6 | 3.2 | f | 4 | 0 | 1 |
| 7 | 3.3 | f | 4 | 4 | 0 |
| 8 | 3.2 | f | 3 | 0 | 0 |
| 9 | 3.7 | f | 3 | 3 | 0 |
| 10 | 3.1 | m | 2 | 0 | 0 |
| 11 | 3.3 | m | 4 | 5 | 0 |
| 12 | 3.5 | m | 4 | 0 | 1 |
| 13 | 3.0 | m | 4 | 0 | 0 |
| 14 | 3.4 | m | 2 | 0 | 0 |
| 15 | 4.0 | m | 4 | 1 | 0 |
| 16 | 3.8 | m | 1 | 3 | 0 |
| 17 | 3.6 | m | 4 | 1 | 0 |
| 18 | 3.1 | m | 3 | 0 | 0 |
| 19 | 3.4 | f | 4 | 0 | 0 |
| 20 | 3.1 | m | 3 | 1 | 0 |
| 21 | 3.1 | m | 3 | 6 | 0 |
| 22 | 3.0 | f | 4 | 1 | 0 |
| 23 | 3.5 | f | 3 | 0 | 0 |
| 24 | 3.3 | f | 4 | 0 | 0 |
| 25 | 4.0 | f | 4 | 5 | 0 |
| 26 | 3.7 | m | 1 | 3 | 1 |
| 27 | 3.6 | m | 4 | 0 | 0 |
| 28 | 3.3 | f | 3 | 4 | 1 |
| 29 | 3.1 | m | 2 | 0 | 0 |
| 30 | 3.7 | f | 1 | 1 | 1 |
| 31 | 3.0 | f | 4 | 1 | 0 |
| 32 | 3.2 | f | 4 | 6 | 0 |
| 33 | 3.2 | f | 4 | 0 | 0 |
| 34 | 4.0 | f | 4 | 1 | 0 |
| 35 | 3.2 | f | 4 | 0 | 0 |
| 36 | 3.6 | m | 4 | 1 | 0 |
| 37 | 3.7 | f | 4 | 6 | 1 |
| 38 | 3.8 | m | 2 | 2 | 0 |
| 39 | 3.5 | f | 4 | 0 | 0 |

TABLE 23--<u>Continued</u>

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 40 | 4.0 | m | 4 | 0 | 0 |
| 41 | 3.2 | f | 4 | 1 | 0 |
| 42 | 3.1 | m | 3 | 0 | 0 |
| 43 | 3.2 | f | 4 | 0 | 0 |
| 44 | 3.2 | m | 4 | 5 | 0 |
| 45 | 3.4 | f | 2 | 1 | 0 |
| 46 | 3.8 | f | 4 | 0 | 0 |
| 47 | 3.3 | m | 2 | 0 | 0 |
| 48 | 3.2 | m | 4 | 0 | 0 |
| 49 | 3.1 | f | 4 | 0 | 0 |
| 50 | 3.6 | m | 2 | 0 | 0 |
| 51 | 4.0 | f | 4 | 0 | 0 |
| 52 | 3.7 | m | 3 | 0 | 0 |
| 53 | 3.4 | f | 4 | 0 | 0 |
| 54 | 3.0 | f | 1 | 0 | 0 |
| 55 | 3.6 | f | 3 | 0 | 0 |
| 56 | 3.2 | f | 4 | 3 | 0 |
| 57 | 3.3 | f | 4 | 0 | 0 |
| 58 | 3.3 | f | 4 | 0 | 1 |
| 59 | 3.5 | f | 1 | 2 | 0 |
| 60 | 3.8 | f | 4 | 0 | 0 |
| 61 | 3.0 | f | 4 | 5 | 1 |
| 62 | 3.8 | m | 4 | 1 | 0 |
| 63 | 3.4 | f | 4 | 1 | 0 |
| 64 | 3.1 | f | 4 | 4 | 1 |
| 65 | 3.5 | f | 4 | 0 | 0 |
| 66 | 3.8 | f | 4 | 1 | 0 |
| 67 | 4.0 | m | 4 | 0 | 0 |
| 68 | -3.1 | m | 4 | 1 | 0 |
| 69 | 3.2 | m | 4 | 0 | 0 |
| 70 | 4.0 | f | 2 | 1 | 0 |
| 71 | 3.8 | f | 4 | 1 | 0 |
| 72 | 3.7 | m | 4 | 0 | 0 |
| 73 | 3.0 | f | 2 | 4 | 0 |
| 74 | 3.8 | f | 1 | 0 | 1 |
| 75 | 3.5 | m | 4 | 0 | 0 |
| 76 | 3.1 | f | 4 | 2 | 0 |
| 77 | 3.0 | f | 4 | 0 | 1 |
| 78 | 3.0 | f | 4 | 0 | 0 |
| 79 | 3.8 | m | 4 | 1 | 0 |
| 80 | 3.3 | f | 3 | 1 | 0 |
| 81 | 3.0 | f | 3 | 3 | 0 |

TABLE 23--<u>Continued</u>

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 82 | 3.5 | m | 4 | 0 | 0 |
| 83 | 3.8 | f | 2 | 4 | 1 |
| 84 | 3.6 | f | 2 | 5 | 0 |
| 85 | 3.5 | f | 4 | 0 | 0 |
| 86 | 3.8 | f | 2 | 0 | 0 |
| 87 | 3.3 | m | 4 | 0 | 0 |
| 88 | 3.1 | f | 3 | 0 | 0 |
| 89 | 3.1 | m | 4 | 0 | 0 |
| 90 | 3.1 | m | 4 | 0 | 0 |
| 91 | 3.4 | f | 3 | 2 | 1 |
| 92 | 3.4 | f | 2 | 4 | 1 |
| 93 | 3.5 | m | 4 | 0 | 0 |
| 94 | 3.7 | f | 1 | 3 | 1 |
| 95 | 3.0 | f | 4 | 0 | 1 |
| 96 | 3.2 | m | 3 | 0 | 0 |
| 97 | 3.0 | f | 4 | 0 | 0 |
| 98 | 3.8 | f | 4 | 0 | 0 |
| 99 | 3.1 | f | 4 | 1 | 0 |
| 100 | 3.3 | f | 4 | 5 | 1 |

## TABLE 24

### COLLEGE GRADE POINT AVERAGES AND OTHER
### VARIABLES FOR GROUP II

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 1 | 2.8 | f | 4 | 4 | 0 |
| 2 | 2.9 | m | 4 | 1 | 0 |
| 3 | 2.6 | f | 4 | 0 | 0 |
| 4 | 2.7 | m | 4 | 1 | 0 |
| 5 | 2.7 | m | 4 | 2 | 0 |
| 6 | 2.4 | m | 2 | 6 | 1 |
| 7 | 2.8 | m | 4 | 1 | 0 |
| 8 | 2.6 | m | 4 | 0 | 0 |
| 9 | 2.1 | m | 4 | 1 | 0 |
| 10 | 2.2 | m | 4 | 0 | 1 |
| 11 | 2.4 | m | 4 | 1 | 0 |
| 12 | 2.4 | m | 4 | 0 | 0 |
| 13 | 2.3 | f | 4 | 1 | 0 |
| 14 | 2.2 | f | 4 | 4 | 1 |
| 15 | 2.2 | m | 4 | 0 | 1 |
| 16 | 2.1 | m | 4 | 1 | 0 |
| 17 | 2.3 | f | 4 | 5 | 1 |
| 18 | 2.1 | f | 4 | 1 | 0 |
| 19 | 2.1 | f | 4 | 0 | 0 |
| 20 | 2.6 | m | 4 | 1 | 0 |
| 21 | 2.1 | m | 4 | 3 | 1 |
| 22 | 2.8 | m | 4 | 1 | 1 |
| 23 | 2.2 | f | 1 | 0 | 0 |
| 24 | 2.3 | f | 4 | 1 | 0 |
| 25 | 2.0 | m | 2 | 0 | 0 |
| 26 | 2.0 | m | 4 | 2 | 0 |
| 27 | 2.7 | f | 4 | 0 | 0 |
| 28 | 2.7 | m | 3 | 4 | 0 |
| 29 | 2.5 | m | 3 | 0 | 1 |
| 30 | 2.2 | m | 4 | 0 | 0 |
| 31 | 2.4 | f | 3 | 0 | 0 |
| 32 | 2.2 | f | 4 | 0 | 1 |
| 33 | 2.0 | m | 3 | 0 | 0 |
| 34 | 2.3 | m | 2 | 0 | 0 |
| 35 | 2.9 | f | 4 | 0 | 0 |
| 36 | 2.5 | m | 4 | 2 | 0 |
| 37 | 2.0 | m | 4 | 1 | 0 |
| 38 | 2.4 | m | 4 | 1 | 0 |
| 39 | 2.0 | m | 4 | 0 | 0 |

TABLE 24--<u>Continued</u>

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 40 | 2.4 | m | 4 | 1 | 0 |
| 41 | 2.4 | f | 4 | 0 | 0 |
| 42 | 2.6 | f | 4 | 5 | 0 |
| 43 | 2.2 | m | 4 | 0 | 0 |
| 44 | 2.7 | m | 4 | 0 | 0 |
| 45 | 2.7 | f | 4 | 0 | 0 |
| 46 | 2.3 | f | 4 | 5 | 0 |
| 47 | 2.2 | m | 4 | 5 | 0 |
| 48 | 2.2 | m | 4 | 0 | 0 |
| 49 | 2.5 | m | 4 | 0 | 0 |
| 50 | 2.1 | f | 2 | 1 | 0 |
| 51 | 2.2 | m | 4 | 1 | 0 |
| 52 | 2.8 | f | 4 | 0 | 0 |
| 53 | 2.2 | f | 4 | 4 | 0 |
| 54 | 2.3 | m | 2 | 0 | 0 |
| 55 | 2.2 | m | 4 | 1 | 0 |
| 56 | 2.7 | m | 2 | 0 | 0 |
| 57 | 2.8 | f | 1 | 0 | 0 |
| 58 | 2.5 | m | 3 | 0 | 0 |
| 59 | 2.6 | m | 2 | 0 | 0 |
| 60 | 2.3 | m | 4 | 1 | 0 |
| 61 | 2.0 | m | 4 | 1 | 0 |
| 62 | 2.3 | f | 1 | 3 | 0 |
| 63 | 2.1 | f | 3 | 0 | 1 |
| 64 | 2.4 | f | 4 | 0 | 1 |
| 65 | 2.1 | m | 4 | 0 | 0 |
| 66 | 2.1 | f | 4 | 1 | 1 |
| 67 | 2.8 | f | 4 | 0 | 1 |
| 68 | 2.0 | m | 4 | 5 | 1. |
| 69 | 2.9 | m | 4 | 1 | 0 |
| 70 | 2.2 | m | 3 | 4 | 0 |
| 71 | 2.3 | f | 4 | 0 | 0 |
| 72 | 2.5 | f | 4 | 1 | 0 |
| 73 | 2.8 | m | 4 | 1 | 0 |
| 74 | 2.7 | f | 4 | 0 | 0 |
| 75 | 2.1 | f | 4 | 0 | 0 |
| 76 | 2.8 | f | 3 | 0 | 0 |
| 77 | 2.6 | m | 4 | 0 | 0 |
| 78 | 2.1 | m | 2 | 3 | 1 |
| 79 | 2.8 | m | 4 | 0 | 1 |
| 80 | 2.9 | f | 3 | 0 | 0 |

TABLE 24--Continued

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 81 | 2.3 | m | 4 | 0 | 0 |
| 82 | 2.7 | f | 4 | 4 | 0 |
| 83 | 2.2 | f | 4 | 0 | 1 |
| 84 | 2.3 | f | 3 | 1 | 0 |
| 85 | 2.0 | f | 4 | 0 | 1 |
| 86 | 2.1 | m | 2 | 5 | 0 |
| 87 | 2.8 | m | 4 | 1 | 0 |
| 88 | 2.2 | m | 4 | 5 | 0 |
| 89 | 2.2 | f | 3 | 1 | 0 |
| 90 | 2.2 | m | 2 | 0 | 1 |
| 91 | 2.3 | m | 1 | 3 | 1 |
| 92 | 2.6 | m | 4 | 0 | 0 |
| 93 | 2.1 | f | 4 | 0 | 0 |
| 94 | 2.5 | m | 4 | 0 | 0 |
| 95 | 2.8 | m | 2 | 4 | 0 |
| 96 | 2.2 | m | 3 | 4 | 0 |
| 97 | 2.2 | m | 4 | 0 | 1 |
| 98 | 2.8 | f | 4 | 5 | 0 |
| 99 | 2.6 | m | 4 | 0 | 1 |
| 100 | 2.9 | m | 3 | 5 | 0 |

TABLE 25

COLLEGE GRADE POINT AVERAGES AND OTHER
VARIABLES FOR GROUP III

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 1 | 1.6 | f | 2 | 0 | 1 |
| 2 | 1.7 | f | 1 | 0 | 0 |
| 3 | 1.5 | m | 4 | 0 | 1 |
| 4 | 1.8 | m | 4 | 0 | 0 |
| 5 | 1.3 | f | 4 | 4 | 0 |
| 6 | 1.6 | m | 3 | 0 | 0 |
| 7 | 1.9 | m | 4 | 0 | 0 |
| 8 | 1.9 | m | 4 | 5 | 0 |
| 9 | 1.6 | m | 2 | 3 | 1 |
| 10 | 1.3 | m | 4 | 1 | 0 |
| 11 | 1.6 | m | 4 | 1 | 0 |
| 12 | 1.2 | m | 3 | 6 | 0 |
| 13 | 1.3 | m | 4 | 2 | 0 |
| 14 | 1.0 | m | 4 | 1 | 0 |
| 15 | 1.9 | m | 4 | 0 | 0 |
| 16 | 1.6 | f | 4 | 1 | 0 |
| 17 | 1.8 | m | 4 | 0 | 0 |
| 18 | 1.7 | m | 3 | 4 | 0 |
| 19 | 1.6 | f | 3 | 3 | 1 |
| 20 | 1.8 | m | 4 | 0 | 0 |
| 21 | 1.9 | m | 4 | 2 | 0 |
| 22 | 1.9 | m | 4 | 0 | 1 |
| 23 | 1.3 | m | 4 | 1 | 0 |
| 24 | 1.4 | m | 3 | 0 | 0 |
| 25 | 1.7 | m | 3 | 2 | 0 |
| 26 | 1.5 | f | 4 | 0 | 1 |
| 27 | 1.1 | m | 4 | 0 | 0 |
| 28 | 1.6 | m | 2 | 0 | 0 |
| 29 | 1.9 | m | 3 | 4 | 0 |
| 30 | 1.9 | m | 4 | 0 | 0 |
| 31 | 1.8 | m | 4 | 0 | 0 |
| 32 | 1.0 | m | 4 | 5 | 0 |
| 33 | 1.0 | m | 4 | 1 | 0 |
| 34 | 1.0 | f | 4 | 6 | 1 |
| 35 | 1.2 | m | 4 | 0 | 1 |
| 36 | 1.7 | m | 3 | 3 | 1 |
| 37 | 1.4 | m | 4 | 1 | 1 |
| 38 | 1.8 | m | 4 | 0 | 1 |
| 39 | 1.2 | f | 4 | 0 | 0 |

TABLE 25--<u>Continued</u>

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 40 | 1.1 | m | 4 | 1 | 0 |
| 41 | 1.4 | m | 2 | 0 | 0 |
| 42 | 1.5 | f | 4 | 0 | 1 |
| 43 | 1.5 | f | 4 | 0 | 0 |
| 44 | 1.9 | f | 1 | 1 | 1 |
| 45 | 1.9 | m | 3 | 1 | 0 |
| 46 | 1.8 | m | 4 | 1 | 0 |
| 47 | 1.7 | m | 3 | 1 | 0 |
| 48 | 1.0 | m | 4 | 4 | 1 |
| 49 | 1.0 | m | 4 | 0 | 1 |
| 50 | 1.4 | m | 4 | 0 | 0 |
| 51 | 1.7 | f | 3 | 3 | 1 |
| 52 | 1.6 | m | 4 | 0 | 0 |
| 53 | 1.5 | m | 4 | 0 | 0 |
| 54 | 1.5 | f | 4 | 1 | 0 |
| 55 | 1.8 | f | 4 | 0 | 1 |
| 56 | 1.9 | m | 4 | 1 | 1 |
| 57 | 1.6 | m | 4 | 0 | 1 |
| 58 | 1.5 | m | 4 | 0 | 1 |
| 59 | 1.5 | f | 4 | 0 | 1 |
| 60 | 1.1 | m | 3 | 5 | 1 |
| 61 | 1.8 | m | 4 | 4 | 0 |
| 62 | 1.1 | f | 4 | 1 | 0 |
| 63 | 1.4 | m | 4 | 5 | 1 |
| 64 | 1.5 | m | 4 | 0 | 0 |
| 65 | 1.1 | m | 4 | 0 | 0 |
| 66 | 1.4 | f | 3 | 6 | 1 |
| 67 | 1.1 | m | 4 | 0 | 0 |
| 68 | 1.8 | m | 4 | 1 | 0 |
| 69 | 1.8 | m | 4 | 0 | 0 |
| 70 | 1.1 | f | 2 | 2 | 1 |
| 71 | 1.1 | m | 4 | 0 | 1 |
| 72 | 1.4 | m | 4 | 0 | 0 |
| 73 | 1.4 | m | 3 | 4 | 0 |
| 74 | 1.6 | m | 3 | 0 | 0 |
| 75 | 1.3 | m | 4 | 0 | 1 |
| 76 | 1.1 | m | 4 | 0 | 0 |
| 77 | 1.6 | m | 2 | 1 | 0 |
| 78 | 1.4 | m | 4 | 0 | 0 |
| 79 | 1.7 | f | 4 | 0 | 1 |
| 80 | 1.2 | m | 4 | 5 | 1 |

TABLE 25--<u>Continued</u>

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 81 | 1.5 | f | 4 | 5 | 1 |
| 82 | 1.0 | m | 2 | 3 | 0 |
| 83 | 1.6 | f | 4 | 0 | 0 |
| 84 | 1.5 | m | 4 | 0 | 1 |
| 85 | 1.6 | m | 3 | 3 | 0 |
| 86 | 1.2 | f | 2 | 0 | 1 |
| 87 | 1.1 | m | 4 | 0 | 1 |
| 88 | 1.3 | f | 2 | 0 | 0 |
| 89 | 1.5 | m | 1 | 0 | 1 |
| 90 | 1.3 | m | 4 | 4 | 0 |
| 91 | 1.2 | m | 3 | 0 | 1 |
| 92 | 1.7 | m | 2 | 3 | 1 |
| 93 | 1.3 | f | 3 | 0 | 1 |
| 94 | 1.2 | m | 3 | 0 | 0 |
| 95 | 1.1 | m | 4 | 1 | 0 |
| 96 | 1.8 | m | 2 | 4 | 0 |
| 97 | 1.4 | m | 4 | 5 | 0 |
| 98 | 1.9 | m | 1 | 6 | 1 |
| 99 | 1.2 | f | 4 | 0 | 1 |
| 100 | 1.6 | m | 3 | 0 | 0 |

TABLE 26

COLLEGE GRADE POINT AVERAGES AND OTHER
VARIABLES FOR GROUP IV

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 1 | .1 | m | 4 | 0 | 1 |
| 2 | .4 | m | 4 | 0 | 1 |
| 3 | .6 | f | 4 | 0 | 0 |
| 4 | .3 | m | 4 | 5 | 1 |
| 5 | .7 | m | 4 | 0 | 1 |
| 6 | .5 | m | 4 | 0 | 1 |
| 7 | .9 | m | 4 | 1 | 1 |
| 8 | .5 | m | 4 | 0 | 1 |
| 9 | .0 | m | 4 | 5 | 1 |
| 10 | .5 | m | 4 | 0 | 1 |
| 11 | .8 | f | 4 | 1 | 1 |
| 12 | .2 | m | 4 | 0 | 0 |
| 13 | .7 | f | 4 | 1 | 1 |
| 14 | .6 | m | 4 | 0 | 1 |
| 15 | .4 | m | 4 | 0 | 0 |
| 16 | .9 | m | 4 | 1 | 0 |
| 17 | .6 | m | 3 | 0 | 0 |
| 18 | .8 | f | 3 | 4 | 1 |
| 19 | .8 | m | 1 | 5 | 1 |
| 20 | .5 | m | 3 | 1 | 0 |
| 21 | .7 | m | 1 | 0 | 0 |
| 22 | .8 | m | 2 | 3 | 1 |
| 23 | .0 | m | 4 | 4 | 0 |
| 24 | .9 | f | 4 | 0 | 0 |
| 25 | .0 | m | 2 | 3 | 1 |
| 26 | .4 | f | 4 | 4 | 1 |
| 27 | .5 | m | 4 | 1 | 0 |
| 28 | .6 | m | 4 | 4 | 0 |
| 29 | .0 | m | 3 | 5 | 0 |
| 30 | .8 | m | 4 | 5 | 1 |
| 31 | .6 | m | 4 | 1 | 0 |
| 32 | .0 | m | 4 | 4 | 1 |
| 33 | .5 | m | 4 | 0 | 0 |
| 34 | .9 | f | 4 | 0 | 0 |
| 35 | .6 | m | 4 | 0 | 1 |
| 36 | .3 | f | 4 | 1 | 0 |
| 37 | .4 | m | 1 | 0 | 1 |
| 38 | .5 | m | 4 | 0 | 1 |
| 39 | .7 | f | 4 | 0 | 0 |

TABLE 26--<u>Continued</u>

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 40 | .4 | m | 4 | 5 | 0 |
| 41 | .8 | m | 2 | 4 | 0 |
| 42 | .7 | f | 3 | 4 | 1 |
| 43 | .4 | f | 3 | 0 | 1 |
| 44 | .6 | f | 4 | 1 | 1 |
| 45 | .0 | m | 2 | 2 | 0 |
| 46 | .5 | m | 3 | 0 | 0 |
| 47 | .1 | f | 4 | 4 | 0 |
| 48 | .2 | m | 4 | 0 | 1 |
| 49 | .5 | m | 3 | 1 | 0 |
| 50 | .8 | m | 4 | 0 | 0 |
| 51 | .2 | m | 4 | 0 | 0 |
| 52 | .0 | m | 4 | 0 | 1 |
| 53 | .7 | f | 4 | 1 | 1 |
| 54 | .6 | m | 4 | 0 | 0 |
| 55 | .6 | m | 4 | 3 | 1 |
| 56 | .2 | m | 2 | 0 | 0 |
| 57 | .6 | m | 4 | 0 | 0 |
| 58 | .8 | m | 4 | 0 | 0 |
| 59 | .7 | m | 2 | 6 | 0 |
| 60 | .4 | m | 3 | 3 | 0 |
| 61 | .3 | m | 4 | 0 | 1 |
| 62 | .9 | m | 4 | 0 | 1 |
| 63 | .6 | m | 4 | 0 | 1 |
| 64 | .9 | m | 4 | 0 | 0 |
| 65 | .4 | m | 2 | 0 | 0 |
| 66 | .4 | m | 4 | 4 | 0 |
| 67 | .7 | m | 4 | 2 | 0 |
| 68 | .8 | m | 4 | 1 | 0 |
| 69 | .6 | m | 4 | 4 | 0 |
| 70 | .9 | m | 3 | 0 | 1 |
| 71 | .3 | f | 2 | 0 | 1 |
| 72 | .4 | m | 4 | 0 | 0 |
| 73 | .2 | f | 4 | 0 | 1 |
| 74 | .7 | m | 4 | 0 | 0 |
| 75 | .0 | m | 4 | 4 | 0 |
| 76 | .6 | m | 4 | 0 | 0 |
| 77 | .6 | m | 3 | 4 | 0 |
| 78 | .4 | m | 4 | 0 | 1 |
| 79 | .2 | f | 4 | 2 | 0 |
| 80 | .2 | f | 4 | 1 | 0 |

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TABLE 26--<u>Continued</u>

| Student Number | College Grade Point Average | Sex | High School Size | Occupation of Parent | High School Course Type |
|---|---|---|---|---|---|
| 81 | .5 | m | 3 | 0 | 0 |
| 82 | .4 | f | 4 | 0 | 0 |
| 83 | .7 | m | 4 | 2 | 0 |
| 84 | .6 | m | 4 | 0 | 0 |
| 85 | .3 | m | 4 | 1 | 0 |
| 86 | .4 | m | 4 | 0 | 0 |
| 87 | .7 | f | 4 | 0 | 1 |
| 88 | .6 | m | 4 | 1 | 0 |
| 89 | .8 | f | 4 | 0 | 0 |
| 90 | .2 | m | 4 | 4 | 0 |
| 91 | .9 | m | 3 | 0 | 0 |
| 92 | .3 | m | 4 | 1 | 1 |
| 93 | .9 | m | 4 | 1 | 0 |
| 94 | .2 | m | 4 | 1 | 0 |
| 95 | .4 | m | 4 | 0 | 0 |
| 96 | .5 | m | 4 | 0 | 1 |
| 97 | .3 | f | 4 | 0 | 1 |
| 98 | .4 | m | 4 | 3 | 0 |
| 99 | .5 | m | 2 | 5 | 1 |
| 100 | .3 | m | 4 | 0 | 0 |

APPENDIX D

TABLE 27

OKLAHOMA PERCENTILE NORMS ON ACT BATTERY*

| | | | Percentile Rank | | |
|---|---|---|---|---|---|
| Standard Score | English | Math | Social Studies | Natural Sciences | Composite |
| 36 | | | | | |
| 35 | | | | | |
| 34 | | | | | |
| 33 | | 99 | | | |
| 32 | | 98 | | | |
| 31 | | 97 | | 99 | |
| 30 | | 96 | 99 | 98 | |
| 29 | | 95 | 97 | 96 | 99 |
| 28 | 99 | 93 | 95 | 93 | 98 |
| 27 | 97 | 90 | 92 | 90 | 96 |
| 26 | 95 | 88 | 89 | 86 | 93 |
| 25 | 91 | 85 | 86 | 82 | 89 |
| 24 | 86 | 83 | 82 | 76 | 85 |
| 23 | 81 | 80 | 78 | 70 | 80 |
| 22 | 74 | 76 | 74 | 64 | 74 |
| 21 | 68 | 71 | 69 | 58 | 68 |
| 20 | 61 | 65 | 64 | 52 | 62 |
| 19 | 53 | 58 | 58 | 47 | 54 |
| 18 | 45 | 51 | 51 | 42 | 47 |
| 17 | 38 | 44 | 45 | 36 | 39 |
| 16 | 33 | 37 | 39 | 31 | 32 |
| 15 | 27 | 31 | 32 | 25 | 25 |
| 14 | 22 | 25 | 24 | 20 | 20 |
| 13 | 18 | 20 | 18 | 16 | 15 |
| 12 | 15 | 17 | 14 | 12 | 11 |
| 11 | 12 | 14 | 11 | 10 | 7 |
| 10 | 10 | 12 | 8 | 7 | 5 |
| 9 | 7 | 10 | 6 | 5 | 3 |
| 8 | 6 | 7 | 4 | 3 | 2 |
| 7 | 4 | 6 | 3 | 2 | 1 |
| 6 | 3 | 4 | 2 | 2 | |
| 5 | 2 | 3 | 1 | 1 | |
| 4 | 1 | 2 | | | |
| 3 | | 1 | | | |

*This table was furnished by the University Guidance Service.