THESIS

on

THE PREDICTION OF SCHOLASTIC SUCCESS

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CONTENTS

CORRELATION SCATTERGRAMS

TABLES

CHAPTER I

INTRODUCTION

Increase in Enrolments, 1900 - 1931.

There has been an unprecedented increase in enrolments in American colleges and universities since 1900. Twenty-two years ago fewer than 275,000 individuals, constituting approximately 3.7 per cent. of the population of the country between the ages of 19 to 22 inclusive, attended colleges and universities. Ten years later there were 462,000 students or 6.3 per cent. in attendance at institutions of higher education. In 1926, according to the United States Commissioner of Education, William J. Cooper (56), 763,000 students, or 10.4 per cent. of the population between the ages of 19 to 22 inclusive, were attending institutions of higher education. "The percentage of people of college age who are attending college in 1931 is approximately 14 per cent. or one in seven as compared to one in sixteen in 1920, one in twenty-seven in 1910, and one in thirty-six in 1900" (69). A generation ago a college education was, more or less, a luxury; now, apparently, it has become a necessity; then it was largely cultural, now it is largely vocational; then it was enjoyed only by the leisure class with superior economic and social backgrounds, now its privileges are demanded by everyone.

Can All Profit by Higher Education?

How many of those attempting higher education can and do complete

it and receive a degree? It was found at Leland Stanford Jr. University that 30 per cent. of those entering this institution in 1920 and 1921 were placed on probation or disqualified and forced to withdraw (202). At Johns Hopkins University 29 per cent. of those entering were eliminated due to unsatisfactory work (98). Similar percentages were found at the University of Oregon (69) and at the University of Washington (22). Only 34 per cent. of those who enter as freshmen at Ohio State University are ever graduated (72). An examination of the records at Oregon State Agricultural College indicates that only one out of every four freshmen entering this college complete the prescribed four-year curricula.

The Need of Some Selective Basis of Admission to Institutions of Higher Education.

Economists, psychologists, sociologists, educators, and taxpayers are bluntly asking the question, "How far may we safely go in providing higher education at public expense for anyone who desires or thinks that he desires it?" It is not a question of dollars and cents alone; if it were, it would not be so difficult and delicate a problem to solve. The emotional cost to the students who are unsuccessful in their attempts at higher education; their discouragement; their shame; the effect on their health; and their loss of self-confidence cannot be measured in terms of money. The financial loss to the college and the state is a minor consideration when we reflect upon

what the result of an unsuccessful attempt at a college education may mean in the life of the individual.

"It goes without saying that not everyone should be permitted to enter college. There must be some restrictions placed on entrance, some standard of qualifications which will insure that the student body is ready and able to profit by college instruction" (198). The question of the selection of those who should go to college; the standards of qualification for college entrance to be adopted; and the prediction of scholastic success in college are among the major problems facing higher education today.

CHAPTER II

REVIEW OF THE LITERATURE PERTAINING TO THE ADMISSION OF STUDENTS TO COLLEGE AND THE PREDICTION OF THEIR SCHOLASTIC SUCCESS

Methods of Selecting College Students.

Prior to 1870 most institutions required every applicant to submit to an entrance examination, the content and standards of which varied widely among different institutions. The accrediting system, by which graduates of approved secondary schools presenting credits in specified subjects are admitted, was first adopted at the University of Michigan in 1871, and has spread until at present it is the prevailing system of admission throughout the nation. Between 1871 and the present time both methods of admission have been in use, often in the same institutions. Confusion has often resulted, however, among the institutions because of the varying standards of work required in the high schools and in the colleges and universities themselves. These inequalities in preparation demanded and of work required arose from the employment of different examinations and of different standards by each separate institution. In an endeavor to improve the situation, the College Entrance Examination Board was formed in 1900 to standardize the examinations given for the selection of college entrants to member institutions. It is still possible to enter practically all institutions of higher learning by the College Entrance Board Examination route, but only a few institutions, principally colleges for women in New England and the

Middle Atlantic States, receive students on that basis alone. With the development of group mental tests, or, as they are often called, psychological or intelligence tests, this newer criterion has been urged as a means of determining the capacity of a candidate to do college work.

Brown and Proctor (31) found that there were seven general practices of admittance employed in 331 institutions, including 41 state universities; 31 colleges of agriculture, applied science and technology; and 51 women's colleges. A rather complete and accurate picture of the relative frequency of the use of the various criteria and combinations of criteria is shown in Table I, taken from that investigation.

TABLE I
NUMBER AND PERCENT OF INSTITUTIONS
EMPLOYING VARIOUS METHODS OF SELECTING ENTRANTS

Method of Entrance	Predominant		Occasional	
	No.	%	No.	%
1. Examination in all subjects by the college or university	0	0	101	31
2. College Entrance Board Examination	7	2	88	27
3. Transcript from approved high school	234	71	20	6
4. Combination of Examination and certificate method	14	4	152	46
5. Diploma from approved high school	2	1	20	6
6. High school certificates, psychological examination, and personal history	25	8	39	12
7. Maturity, vocational experience, and psychological examination	0	0	58	18

They found that, with the exception of a small minority of institutions, students entering by means of transcripts from their high school records are required to present from five to twelve credits in specified subjects, with a minimum requirement in each of a number of fields, as follows:

(1) English: Every school specifying any subject required some work in English. There was also more agreement in the amount of English than in any other subject; 93 per cent. required three or more units (years) of English, and 18 per cent. required four units.

(2) Mathematics: Two units were required by 94 per cent. of the institutions, usually one year of algebra and one year of geometry.

(3) Foreign Language: Two or more units in some foreign language (a few schools specifying Latin) were required by 75 per cent. of the institutions.

(4) History and Social Studies: One or more units was specified by 75 per cent. of the schools - usually one unit of history.

(5) Natural Science: A minimum of one unit of science, usually of a laboratory type, was required by 54 per cent. of the colleges.

(6) Vocational Studies: 73 per cent. of the institutions would not accept more than four units of credit in vocational subjects toward entrance.

Recently there has been a tendency to qualify the acceptance of high school credits upon the basis of the marks attached to the credits. The most popular form of this practice seems to be the setting up of an arbitrary dead line, credits presented with marks below the minimum so established not being accepted toward entrance. This is usually a "B" or "2" grade on a three point grading scale, as in the state universities of California. The lowest passing secondary school mark is not acceptable to a number of institutions. At a few institutions the acceptance of an applicant is conditional upon the principal's recommendation of the individual or credits concerned.

No body of scienfific data has been available until recently to support the practices employed. The development of statistical technique has led to many investigations in this field. Many and different approaches to the many phases of the problem have been made.

The Validity of the Various Predictive Criteria.

College Scholastic, Accomplishment, or Achievement Entrance Examinations.

College Entrance Board Examinations (61).

The purpose of the College Entrance Board Examinations is:

1. To measure the pupils' scholastic ability in general and to secure an index of the individual's

probable all-round scholastic promise.

2. To evaluate competence in particular subjects.
3. To secure evidence supplementary to the secondary school record.
4. To test the schools themselves by measuring the average performance of their pupils, and so hold them to acceptable scholastic standards.

A recent survey of the records of 3,277 students taking the College Entrance Board Examinations at Yale indicates that neither the general averages on such examinations (as measured by correlations with freshmen grade averages $r = .47$), nor grades in individual examination subjects (as correlated with freshmen marks in the same subject) have more than a meager validity.

TABLE II
CORRELATION OF MARKS IN SPECIAL SUBJECTS ON ENTRANCE BOARD EXAMINATIONS WITH FRESHMEN GRADES IN THE SAME SUBJECT

Special Subject	Class of 1933		Class of 1934	
	No.	r	No.	r
English	710	.30	599	.24
History				
Ancient	143	.21	164	.39
European	118	.38	113	.26
American	291	.33	277	.35
Mathematics				
Elementary Algebra	357	.32	245	.39
Plane Geometry	352	.22	238	.32
Solid Geometry	238	.35	235	.33
Plane Trigomentry	278	.36	274	.44
Chemistry	238	.23	173	.24
French	866	.38	646	.37
Latin	931	.33	916	.38
Average		.33		.34

"These examinations, however well prepared and administered, do not in fact prove (to be entirely) satisfactory indices of probable scholastic success in college" (61).

Matriculation Examinations at McGill University.

> "High grades on Matriculation Tests are pretty sure signs of success in college but a relatively low entrance test score is by no means a sure sign of low college scholarship. Success depends upon capacity and industry - the entrance test score is some indication of industry" (126).

Secondary School Marks. Table III shows the coefficients of correlation between average high school marks and college marks reported by a number of investigators.

TABLE III
COEFFICIENT OF CORRELATION
BETWEEN AVERAGE HIGH SCHOOL MARKS AND COLLEGE MARKS

Reported by	Source	Institution	Date	r
Beatley, B.	(14)	Harvard University	1922	.69
Bolenbaugh, L., and Proctor, W. M.	(20)	Stanford University	1927	.37
Brammell, P. R.	(22)	University of Washington	1930	.52
Cocking, W. D. and Holy, T. C.	(46)	University of Iowa	1927	.53
Columbia University	(49)	Carnegie Institute	1922	.29
		Columbia University	1922	.45
		Cornell University	1922	.47
		Ohio State University	1922	.53
Crawford, A. B.	(60)	Yale University	1930	.61
Crawford, A. B. and Burnham, P. S.	(61)	Yale University	1932	.57

Reported by	Source	Institution	Date	r
Dempster, R. N.	(67)	Johns Hopkins Univ.	1922	.53
Douglass, H. R.	(69)	University of Oregon	1931	.56
Edgerton, H. A, and Toops, H. A.	(72)	Ohio State University	1927	.44
Goldthorpe, L. H.	(88)	Northwestern Univ.	1929	.62
Hartson, L. D.	(95)	Oberlin College	1930	.46
Hawks, L. J.	(98)	Johns Hopkins Univ.	1929	.66
	(98)	Gettysburg Univ.	1929	.64
	(98)	Vanderbilt University	1929	.69
Johnston, L. B.	(113)(117)	University of Minnesota	1928	.63
Laver, A. R. and Evans, J. E.	(130)	University of Iowa	1930	.49
May, Mark	(137)	Syracuse University	1923	.40
Neuberg, Maurice	(146)	Wittenberg College	1930	.49
Odell, C. W.	(153)	Over 100 Illinois Colleges & Universities	1927	.55
Odell, C. W.	(154)	Over 100 Illinois Colleges & Universities	1930	.54
Potthoff, E. F.	(161)	University of Chicago	1929	.60
Proctor, W. M.	(165)	Stanford University	1925	.52
Scates, D. E.	(177)	University of Chicago	1924	.61
Seashore, C. E.	(179)	Columbia University	1922	.35
Symonds, P. M.	(198)	University of Hawaii	1926	.52
Terman, L. M.	(201)	University of Iowa	1921	.53
	(201)	Columbia University	1921	.63
	(201)	University Arkansas	1921	.54
	(201)	Stanford University	1921	.54
	(201)	University of Texas	1921	.54
Thurstone, L. L.	(205)	43 Colleges of Engineering	1922	.29

Some investigators have used the average high school grades, some the numerical ranks in the high school classes, and other the percentile ranks in their high school classes. E. L. Clark (42) conducted a study of the relative value of the two general measures among high school marks (1) the average high school grade and (2) the rank in the high school graduating class - as prognostications of the quality of scholastic performance in college. The subjects of his study were

members of the freshmen classes entering the College of Liberal Arts of Northwestern University from 1919 to 1931. He concluded that neither index showed a consistent superiority over the other in the prediction of scholastic achievement in college. The two indexes were found to correlate to the extent of .80.

William S. Hoffman (103) (104) found that students graduating in the lowest third of their high school classes have a much smaller chance of doing satisfactory college work at Pennsylvannia State College than do the students from the upper two-thirds of their high school classes; and that the significant correlation between high school rank and scholastic success at that institution seemed to justify selection of applicants only from the upper two-thirds of the high school graduating classes. The Percentile rank in high school grades of 16,619 high school seniors was applied to 1825 freshmen at the University of Wisconsin and gave a correlation of .36 (36). In Oregon, where the sizes of the high schools vary from the small one-room school in isolated locations to the large and modern high schools of Portland, the average high school grade would seem to be the best of the three methods to use.

Table IV shows the coefficients of correlation between high school marks in given subjects and average college marks reported by several investigators.

TABLE IV
COEFFICIENTS OF CORRELATION BETWEEN HIGH SCHOOL MARKS
IN GIVEN SUBJECTS AND AVERAGE COLLEGE MARKS IN ALL SUBJECTS

Reported by	Source	Institution	Year	Subject	r
Brammel, P. R.	(22)	University of Washington	1931	Social Studies	.43
				English	.45
				Mathematics	.39
				Science	.40
				Foreign Lang.	.42
Douglass, Harl R.	(69)	Univ. of Oregon	1931	Foreign Lang.	.46
				English	.49
				Mathematics	.44
				Science	.54
				Social Studies	.44
				Vocational Studies	.36
Hawks, L. J.	(98)	Johns Hopkins Univ.	1931	Mathematics	.602
				English	.612
				Science	.517
Lauer, A. and Evans, J. E.	(130)	University of Iowa	1930	History	.44
				English	.45
				Mathematics	.47

No high school subject seemed to have marked superiority over another in the prediction of college scholastic success. Records of 597 students in both academic and vocational groups were studied at Leland Stanford Jr. University. The investigators (20) reported that "not enough difference exists between the achievement of the academic-pattern group and the vocational-pattern group to justify any discrimination against an applicant for college admission because he took from 15 to 50 per cent. of his preparatory subjects in the vocational group of high school subjects". "There appears to be no justification for colleges requiring certain subjects for admission." (212) Mac-

phail (134) reported that there was no significant difference in college scholastic success between students presenting four years of Latin for entrance and those presenting no Latin. "All generally accepted high school courses appear to have approximately equal training value in relation to college success" (90).

Intelligence Tests

Table V shows the coefficient of correlation between scores on intelligence tests and college marks reported by a number of investigators.

TABLE V
CORRELATION COEFFICIENTS BETWEEN INTELLIGENCE TEST SCORES AND COLLEGE SCHOLASTIC SUCCESS

Reported by	Source	Institution	Test	Date	r
Anderson, J. E and Spencer, L.T.	(6)	Yale University	Yale Classification	1923	.38
				1924	.37
				1925	.37
Arlitt, Ada H., and Hall, Margaret	(7)	Bryn Mawr College		1923	.30
Binnerwiese, W. S.	(17)	South Dakota State College	Terman Group		.49
			Miller Mental		.43
			Otis		.39
Bolenbaugh, L. and Proctor, W. M.	(20)	Stanford Univ.	Thorndike	1927	.45
Brammell, P. R.	(22)	Univ. of Wash.	Army Alpha	1930	.39
			Washington College Test		.35
Bridges, J. W.	(23)	Ohio State Univ.	Army Alpha	1920	.35
Byrns, R. K.	(36)	Univ. of Wisconsin	Ohio State University	1932	.43

Reported by	Source	Institution	Test	Date	r
Cleeton, Glen U.	(45)	Carnegie Institute of Technology	Thorndike	1927	.50
Cocking, W. D., and Holy, W. D.	(46)	University of Iowa		1927	.47
Columbia Univ. Report	(49)	Columbia Univer.	Thorndike	1922	.65
		43 Colleges of Engineering	Thurstone	1922	.29
Colvin, S. S.	(51)(53)	Brown Univer.	Army Alpha	1920	.46
			Brown Univ.	1920	.60
DeCamp, J. E.	(66)	Penn State College	Army Alpha	1920	.41
			Thurstone	1920	.32
			Stanford Binet	1920	.17
Dempster, R. N.	(67)	Johns Hopkins University		1920	.47
Douglass, H. R.	(69)	Univ. of Oregon	A. C. E.	1930	.45
Edgerton, H. A and Toops, H. A.	(72)	Ohio State Univ.	Ohio State Univ.	1929	.45
Ernst, J. L.	(77)	Univ. of Pittsburg	Army Alpha	1923	.41
Graver, D. and Root, W. T.	(92)	Univ. of Pittsburg	Thorndike	1927	.39
Guiler, W. S.	(93)	Miami University	Terman Group	1927	.52
			Otis Self-Administering	1927	.49
			Ohio College Association		.47
			Thorndike		.51
Hartson, L. D.	(94)	Oberlin College	Ohio State Univ.	1929	.60
			A. C. E.		.50
Johnston, J. B.	(113-117)	Univ. of Minnesota	Univ. of Minnesota	1924	.50
Lauer, A. R. and Evans, J. E.	(130)	Iowa State College		1930	.42

Reported by	Source	Institution	Test	Date	r
MacPhail, A. H.	(135)	Brown University	Thorndike	1923	.37
				1924	.37
				1925	.41
				1926	.41
			Brown Univ.	1923	.34
				1924	.41
				1925	.38
				1926	.39
			Army Alpha	1923	.36
				1924	.42
				1925	.48
				1926	.42
Murray, Elsie	(144)	"Small College"	Thurstone	1921	.34
				1923	.43
				1924	.42
				1925	.44
Neuberg, Maurice	(146)	Wittenberg College	Ohio State University	1930	.47
Odell, C. W.	(153)				
	(154)	Illinois Colleges and Universities	Otis Self Administering	1927	.38
				1930	.31
Pierson, C. D. and Nettels, C. H.	(158)	California Institutions	Terman Group	1928	.43
Potthoff, E. F.	(161)	Univ. of Chicago	National Research Council	1929	.50
				1930	.44
Remmers, H. H.	(169)	Purdue Univer.	A. C. E.		.45
Root, W. T.	(173)	Univ. Pittsburg	Thorndike	1923	.51
Rosenow, Curt	(174)	Univ. of Kansas	Otis Group	1925	.44
Stone, C. F.	(194)		Army Alpha	1922	.44
Symonds, P. M.	(198)	Univ. of Hawaii	A. C. E.	1924	.41
Tallman, R. W.	(199)	Univ. of Iowa	Thorndike	1926	.51

Reported by	Source	Institution	Test	Date	r
Terman, L. M.	(201)	Chicago University	Thorndike	1921	.41
		Columbia Univ.	Thorndike		.60
		Stanford Univ.	Terman		.54
		Univ. of Wyoming	Stanford-Binet		.53
		Randolph-Macon College	Stanford-Binet		.44
		Yale	Army Alpha		.38
		Southern Methodist University	Army Alpha		.52
		Stanford Univer.	Army Alpha		.43
		Univ. of Oregon	Army Alpha		.49
		Univ. of Illinois	Army Alpha		.37
		Northwestern Univ.	Thurstone		.29
		Vassar College	Thurstone		.33
Thurstone, L. L.	(206)	Univer. of Chicago	A. C. E.	1929	.54
		Case School of Applied Science	Council of Education		.60
Toll, Chas. H.	(209)	Amherst College	Otis Self-Administering	1928	.33
			Terman Group		.28
			Amherst Test		.26
			Army Alpha		.33
Van Wagenen, M. J.	(213)	Univ. Minnesota	Army Alpha	1922	.50
Whitney, F. L. and Goodman, A. K.	(220)	Colorado State Teachers College	Thurstone	1930	.33
Wood, Ben D.	(222)	Columbia College	Thorndike	1923	.43

High standing in the intelligence test seems to be a prerequisite for success in college, but does not guarantee success (126). As students advance through college the correlations between their intelligence scores and college grades increase (130). On the other hand, some writers do not approve of extensive dependence upon psychological entrance examination. The use of intelligence tests for the prediction of college success is discouraging, but

better than nothing (209). The scholastic records of students failing a general intelligence test show that the tests are not an accurate means of selection of good college students (68). The results of American Council on Education Psychological Examinations can be used only as supplemental information (83).

Character and Personality Ratings.

Harl R. Douglass (69) obtained principals' ratings of the industry, leadership, and citizenship on 1196 students entering the University of Oregon in the fall quarters of 1926 and 1927. These ratings were obtained at least six months, and in some cases several years, after the students had been graduated from high school, so their validity is seriously open to question. No permanent records were available as a basis for rating in many instances and, even where they were, they were, at best, rather faulty measures of these qualities.

"The coefficients yielded by the ratings were all definitely positive and the fact that the correlations were all rather small (industry, .38; citizenship, .26; and leadership, .18) should not be taken to mean that these qualities are not correlated with college marks to a much higher degree or that materially higher coefficients of correlation might not be obtained if more valid ratings could be obtained. The intercorrelations with other factors were comparatively so large that with the exception of a few

possibilities in the case of the industry ratings, they were of no value in contributing to a higher multiple coefficient or regression equation" (69).

MacPhail (135) found a small positive correlation between character ratings and scholarship at Brown University. Principals' ratings of 428 men on a scale of 1 to 5 on habits of integrity, punctuality, neatness, perseverance, initiative, co-operation, leadership, popularity, cheerfulness, and health gave a correlation of .168 with college marks during the first semester.

Combinations of High School Marks and Other Prognostic Variables.

High school grades should be used in connection with intelligence ratings to prognosticate college success; neither measure can, profitably, be left out (130). Prediction is improved when the intelligence test score and high school scholarship rank are combined (115). Relative standings of students in secondary schools are of better predictive value than comprehensive examinations are. A combination of the two is more satisfactory (14).

Table VI shows the multiple correlation coefficients reported by different investigators, using various prognostic variables in relation with college scholastic success.

TABLE VI
MULTIPLE CORRELATION COEFFICIENTS BETWEEN VARIOUS PROGNOSTIC VARIABLES AND COLLEGE SCHOLASTIC SUCCESS

Reported by	Source	Institution	Variables	r
Byrns, Ruth K.	(36)	Univ. of Wisconsin	(High School Percentile Rank	.626
			(Ohio State Univ. Test	
			(Psychological Test Percentile rank	
Douglass, H.R.	(69)	Univ. of Oregon	(High School Average mark	.626
			(American Council Percentile rank	
			(American Council Percentile rank,	
			(and English High School mark	.59
			(and Foreign language High school mark	.56
			(and Natural Science high school mark	.61
			(and Social studies high school mark	.55
			(and Mathematics high school mark	.55
			(and Industry rating	.55
			(American Council Percentile rank	.636
			(Industry rating	
			(Average high school mark	
Hartson, L. D.	(95)	Oberlin College	High School Marks	.599
			Ohio State University Intelligence Test	
Johnston, J. B.	(113) (117)	Univ. of Minnesota	(Percentile rank in high school	.67

		(Percentile rank (in Minnesota Intel- (ligence test	
Jones, E. S.	(122) University of Buffalo	(Tables test (Iowa English test (P. R. Council of (Education test	.61
Lauer, A.R. and Evans, J. E.	(130) Iowa State College	(High School Average (Intelligence test	.546
May, M. A.	(137) Syracuse Univ.	(High School Average (P. R. American (Council	.63
Odell, C. W.	(153) (154) Illinois Institutions	(High School Average (Otis Self-Administering	.55
Pierson, C.D. and Nettel, C.H.	(158) California Institutions	(Terman Group I.Q. (High School Average (on academic subjects (Character ratings	.65
Proctor, W. M.	(165) Stanford Univ.	(High School grades (Thorndike test	.58
Symonds, P. M.	(198) Univ. of Hawaii	(High School marks (P. R. American (Council	.59
Wood, B. D.	(222) Columbia College	(High School Average (New York Regents (Examination (Thorndike test	.66

It appears that little may be gained in the prediction of college scholastic success by employing other types of data than

average high school marks and scores on some valid intelligence test.

Relation between first and second quarter college marks.

Ruth K. Byrns (36) reports that the correlation between first and second quarter marks at the University of Wisconsin is .73. H. A. Toops (210) found the average correlation between first and second quarter marks in 66 American Universities was .66.

Conclusions Drawn from Reviewing the Literature Relative to the Prediction of College Scholastic Success.

1. A high standard of scholarship in high school is normally followed by a high standard of work in college.

2. A low standard of college work normally follows low scholarship in the high schools.

3. The average high school mark is the best criterion of college success.

4. There is not enough difference in the predictive values of the different high school subjects to warrant weighting them in the prediction of college success.

5. Intelligence test results are less valid in predicting college success than high school grade averages.

6. Principals' ratings on industry, leadership, and citizenship are all positively and materially correlated with college marks, but not in a sufficient degree to furnish, alone, a useful basis for

the prediction of college marks.

7. College marks may be predicted only roughly by means of any one type of data.

8. Very little may be gained in the accuracy of prediction of college scholastic success by the addition of any other criteria to the high school average made and the scores on a good intelligence test.

9. Since the correlation coefficient between the first quarter's marks and the second quarter's marks is only about .70, one can predict a student's college success almost as well from his high school record and freshman entrance test score (before he ever enters college) as one can from his first quarter's marks.

CHAPTER III

THE SOURCES OF THE DATA OF THIS STUDY

The Subjects of the Study.

The individuals included in the study were 362 seniors who were graduated from the Oregon State Agricultural College in 1932, and 138 juniors who had completed at least nine quarters of work. The records of all students graduating from Oregon State Agricultural College in 1932 were examined, but only 362 of the records were complete enough to be included in the study, and, as a result, the records of 138 juniors were included to make the study on the basis of 500 cases.

College Marks as the Criterion.

The average marks in the courses taken by these students while in attendance at the Oregon State Agricultural College were taken as the measure of their college scholastic success. The College marking system involves five steps - "A", "B", "C", "D", and "F", "A" being the highest with a quality point value of 3.00 for each hour of credit, "B" next with value of 2.00, then "C" with value of 1.00, and "D", the lowest passing grade with quality point value of 0.00. "F" carries a quality point value of -1.00 for each hour of credit. In calculating the average college mark, each mark was weighted in proportion to the number of credit hours allotted to

the course. The distribution of marks was supposed to, and in fact did, approach a fairly normal distribution.

Records of High School Subjects and Marks.

The high school subjects, with their marks, for the group to be studied were obtained from the official transcripts in the office of the registrar of the Oregon State Agricultural College.

For the purposes of the study the high school subjects were grouped under six main headings; English, mathematics, social sciences, natural sciences, foreign languages, and the non-academic subjects. History, civics, economics, high school geography, and social problems were included under the social sciences; biology, botany, chemistry, general science, physics, physiology, and zoology under the natural sciences; and French, Latin, Spanish, and German under the foregin languages. The Principal non-academic courses recorded were agriculture; commerce, including bookkeeping, commercial arithmetic, commercial law, stenography, and typing; home economics; manual training; mechanical drawing; music; and shop.

Conversion of High School Marks to the Grading System in Effect at the Oregon State Agricultural College.

A study of the high school marking systems as recorded on the official transcripts showed that the marks used by the several high schools were based on a wide variety of grading or evaluating systems. In an attempt to make the marks from the different school systems comparable, all of the high school grades were comverted to

closely approximate equivalents with the Oregon State College grading system as a basis in as much as the study was to include the prediction of college scholastic success in the Oregon State Agricultural College. In this system "A" is the equivalent of 93 to 100, with a quality point value of 3.00 for each registered hour of the course; "B" is from 85 to 92, with a quality point value of 2.00; "C" is from 78 to 84, with a quality point value of 1.00; "D" is from 70 to 77, with a quality point value of 0.00; and "F" is below 70 with a -1.00 quality point value.

In the Portland grading system, where "E" is the equivalent of 90 to 100; "G" the equivalent of 80 to 89; and "F" equals 70 to 79; the "G" has a value of 1.50 quality points when converted to the Oregon State Agricultural College system. This was computed as follows: the grades 80 to 84 have a value of one quality point each or a total of five; and 85 to 89 inclusive have a value of two quality points each or a total of ten; making a total of fifteen quality points for the ten marks included in 80 to 89 inclusive, or an average quality point value of 1.50 for "G". All of the grading systems were classified under five principal systems and quality point values computed as shown in Table VII.

TABLE VII
HIGH SCHOOL GRADING SYSTEMS WITH QUALITY POINT VALUES

High School Marks				Quality Point Values
			System I (4 point - 70 passing)	
A	1	I	93-100	3.00
B	2	II	85-92	2.00
C	3	III	78-84	1.00
D	4	IV	70-77	.00
F	F	F	below 70	-1.00
			System II (5 point - 70 passing)	
A	1	I	94-100	3.00
B	2	II	88-93	2.17
C	3	III	82-87	1.50
D	4	IV	76-81	.67
E	5	V	70-75	.00
F	F	F	below 70	-1.00
			System III (4 point - 75 passing)	
A	1	I	94-100	3.00
B	2	II	88-93	2.17
C	3	III	82-87	1.50
D	4	IV	75-81	.50
F	F	F	below 75	

High School Marks				Quality Point Values
		System IV (5 point - 75 passing)		
A	1	I	95-100	3.00
B	2	II	90-94	2.20
C	3	III	85-89	2.00
D	4	IV	80-84	1.00
E	5	V	75-79	.40
F	F	F	below 75	
		System V (3 point - 70 passing)		
A	1	I	E 90-100	2.73
B	2	II	G 80-89	1.50
C	3	III	F 70-79	.20
F	F	F	below 70	

Intelligence Test Scores.

The scores made by the students on The American Council on Education Psychological Examination were used in this study. These tests are taken during the first week of the freshman year by all students of the College, as far as this is possible.

CHAPTER IV

THE STUDY

Recording the Data.

The data obtained from the official transcripts and the psychological examinations of the students involved in this study were recorded on the following form:

Name _____ High School _____

Sex _____ Method of Grading _____

HIGH SCHOOL SCHOLASTIC RECORD

ENGLISH		NATURAL SCIENCES		NON-ACADEMIC	
1st year	____	Biology	____	Agriculture	____
2nd year	____	Botany	____	Commerce	
3rd year	____	Chemistry	____	Bookkeeping	____
4th year	____	Gen. Science	____	Com. Arith.	____
		Physics	____	Com. Law	____
Mean	____	Physiology	____	Typing	____
		Zoology	____		____
			____		____
MATHEMATICS		Mean	____	Home Econ.	____
					____
Elem. Alb.	____	LANGUAGES			____
Adv. Alg.	____	French		Manual Train-	
Pl. Geom.	____	1st yeaf	____	ing	____
Solid Geom.	____	2nd year	____	Freehand	
Trig.	____	3rd year	____	Drawing	____
		4th year	____	Mech. Draw-	
Mean	____	Latin		ing	____
		1st year	____	Music	____
		2nd year	____	Shop	____
		3rd year	____		____
		4th year	____	Mean	____

SOCIAL SCIENCES

Amer. History _____
Anct. History _____
Civics _____
Economics _____
Eng. History _____
Geography _____
Med. History _____
Mod. History _____
U.S. History _____
Social Prob. _____
World History _____
_____
_____

Mean _____

Spanish

1st year _____
2nd year _____
3rd year _____
4th year _____

Mean _____

Composite high school Mean _____

Psychological Examination Score _____

Psychological Exam. Percentile _____

COLLEGE SCHOLASTIC RECORD

	Mean by Quarters	Cumulative Mean
First Year		
1st quarter	_____	_____
2nd quarter	_____	_____
3rd quarter	_____	_____
Second Year		
1st quarter	_____	_____
2nd quarter	_____	_____
3rd quarter	_____	_____
Third Year		
1st quarter	_____	_____
2nd quarter	_____	_____
3rd quarter	_____	_____
Fourth Year		
1st quarter	_____	_____
2nd quarter	_____	_____
3rd quarter	_____	_____
Fifth Year		
1st quarter	_____	_____
2nd quarter	_____	_____
3rd quarter	_____	_____

TAYLOR		DVORAK		JONES	
Index of excellence	____	.0959 Eng.	____	Eng.	____
		.0157 Math.	____	Math.	____
Percentile of index	____	.2464 Soc.Sc.	____	Soc.Science	____
		.0977 Nat.Sc.	____	Nat.Science	____
Percentile of Psy.		.1159 Lang.	____	Language	____
score	____	.0029 Non.Ac.	____	Non. Acad.	____
		.0022 Psy.	____	Psy. Score	____
Percentile Prediction	____	Percent.			
		Constant .1700		Mean	____
		Dvorak Prediction			
			____		

The means for each of the high school subject classifications were computed and recorded; and these were then united into a composite high school mean. The psychological examination scores in percentile form were obtained from the tables furnished with the examinations (appendix A). The cumulative college scholastic mean for each quarter was computed and recorded. These data were recorded on a master sheet (see appendix B). This was done separately for the 362 seniors and for the 138 members of the junior class for the purpose of making comparisons and analyses.

TABLE VIII
HIGH SCHOOL MARKS AND PSYCHOLOGICAL EXAMINATION SCORES

	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Compo-site	Psy. Score
Seniors								
Number of cases	362	358	361	348	285	313	362	362
Mean Mark	1.63	1.83	1.80	1.87	1.59	1.95	1.77	133

	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Compo-site	Psy. Score
Juniors								
Number of cases	138	137	138	137	111	116	138	138
Mean Mark	1.61	1.89	1.80	1.87	1.54	1.98	1.78	154
Combined								
Number of cases	500	495	499	485	396	429	500	500
Mean Mark	1.62	1.84	1.80	1.87	1.58	1.96	1.77	139

TABLE IX
SUMMARY OF COLLEGE SCHOLASTIC RECORDS

	Seniors		Juniors		Combined	
	No. Cases	Cumula-tive	No. Cases	Cumula-tive	No. Cases	Cumula-tive
First Year						
1st quarter	362	1.52	138	1.49	500	1.50
2nd quarter	362	1.54	138	1.47	500	1.52
3rd quarter	362	1.55	138	1.48	500	1.53
Second Year						
1st quarter	362	1.53	138	1.47	500	1.51
2nd quarter	362	1.52	138	1.49	500	1.51
3rd quarter	362	1.52	138	1.49	500	1.51
Third Year						
1st quarter	362	1.51	138	1.49	500	1.50
2nd quarter	362	1.51	138	1.49	500	1.50
3rd quarter	362	1.51	138	1.49	500	1.50
Fourth Year						
1st quarter	359	1.51	25	1.16	384	1.49
2nd quarter	354	1.50	19	1.13	373	1.48
3rd quarter	331	1.51	11	1.01	342	1.50
Fifth Year						
1st quarter	94	1.27			94	1.27
2nd quarter	50	1.16			50	1.16
3rd quarter	27	1.15			27	1.15
Final	362	1.51	138	1.49	500	1.50

The college scholastic success of the 500 subjects involved in this study was then predicted by the Taylor and the Dvorak formulae, and another method, which will be called the Jones method, was developed and applied to the same cases.

The Taylor Formula.

Dr. Taylor (200) explains his formula for predicting scholastic success at the University of Oregon as follows:

"We have found that the high school grading scales upon which students entering the University are rated in regard to their high school work can be divided into four groups: first, those using a percentage basis; second, those with three passing grades, such as A, B, C, and a failing grade; third, those with four passing grades, such as A, B, C, D, and a failing grade; fourth, those with five passing grades, such as A, B, C, D, E, with a failing grade. Those with six passing grades are few in number and it is always possible to make some grouping so as to reduce such scales to a four-step or five-step passing grade scale. Since the third type of scale with four passing grades has been officially approved by the Principals' Association and the State Superintendent's office, and because it is the most typical scale in use, we have made it the basis for our index. We find that on the average, six semester units of work are graded in the highest step interval on this basic scale of four passing grades. On the average, nine semester units are rated in the highest step interval when the

scale with three passing grades is used, and twelve semester units are, on the average, rated between ninety and one hundred per cent. when the percentage scale is used. In our evaluations we have counted all the work which the registrar's office checked as acceptable for entrance credit. Hence, our empirical scheme for equating the various rating scales is as follows: Count the number of grades that a student earns between ninety and one hundred for high schools using a percentage scale, and divide this number by two. This is the student's index for excellence of high school record. For example, if a student had seventeen units, that is year courses of work acceptable for entrance, he would have thirty-four different grades recorded on the record, one for each semester. Suppose sixteen of these were ninety or above, (on a percentage scale) his numerical index would be eight. In the same way a student whose work is graded on a scale with three passing grades would earn a numerical rating of two-thirds the number of A grades. Thus, suppose he had twenty-four semester units rated in the highest step interval, his numerical index would be sixteen. A student who comes from a high school with a four passing grade scale would get the actual number of semester units graded in the highest step interval as his index. A student coming from a high school where there are five passing grades in the rating scale would have one and one-half times the number of semester units graded in the highest step interval. If any high school has a still larger number of passing grades, these can be grouped so as to make them comparable to either

the four or five passing grade scales. Of course, it does not matter whether the computation is done in terms of units - that is, year courses, - or semester credits - that is, half units - since the index is purely relative and all that is necessary is to use the same procedure for all students; but it is probably easier to do the computation in terms of semesters of work, each of which is usually given a mark in the principal's report.

The formula by which we combine prep PR with test PR for predictive purposes is very simple. Transmute the index of excellence of high school record into percentile rank for convenience in explanation. Then the prep PR and the test PR have exactly the same weight in predicting college success. We usually take the average of the two PR's as the best single index. We have used percentile ranks for both test score and prep record because of their convenience from the standpoint of explanation to both faculty and students."

This may be put into formula form for various systems of high school marks as follows:

I Percentage System (70% passing)

$$\text{Index of Excellence} = \frac{\text{No. of grades of 90 or above}}{2}$$

II Three Passing Grades (A-B-C, or equivalent)

$$\text{Index of Excellence} = \frac{\text{No. of A grades} \times 2}{3}$$

III Four Passing Grades (A-B-C-D, or equivalent)

$$\text{Index of Excellence} = \text{No. of A grades.}$$

IV Five Passing Grades (A-B-C-D-E, or equivalent)

$$\text{Index of Excellence} = \frac{\text{No. of A grades X 3}}{2}$$

V College Success

$$\text{College Success (percentile standing)} = \frac{\text{Percentile of Index of Excellence plus Percent. of Psy Exam.}}{2}$$

The Index of Excellence of each of the 500 cases involved in this study was computed by the Taylor formula and recorded on the individual's data sheet. These indexes were then grouped into percentiles (Appendix C) and the college success percentile for this group of 500 were predicted and recorded (appendix F). The actual scholastic percentile ranks (appendix D) of the cases involved in this study were then computed from their cumulative college grade records. A correlation of .64 $\pm$ .02 was found between the actual college grade percentile rank and the percentile rank predicted by the Taylor formula.

SCATTERGRAM I
TAYLOR'S PREDICTION AND COLLEGE SUCCESS

College Grades	.000 .099	.100 .199	.200 .299	.300 .399	.400 .499	.500 .599	.600 .699	.700 .799	.800 .899	.900 .999	Total
.900-.999					3	3	8	15	14	8	51
.800-.899		1	2	1	6	6	12	13	6	3	50
.700-.799			1	4	7	14	12	5	4	2	49
.600-.699		1	1	4	12	11	12	5	5	1	52
.500-.599	2	3	9	7	5	7	8	2	2	1	46
.400-.499	1	4	5	10	17	9	4	2			52
.300-.399	1	5	10	15	9	5	3	2			50
.200-.299	2	5	11	8	14	5	2	2			47
.100-.199	1	6	10	17	13	6	2				55
.000-.099	3	3	10	12	7	7	3	3			48
	10	28	59	78	93	73	66	47	31	15	500

$r = .64 \pm .0174$

The Dvorak Formula.

The Dvorak Formula (71) for the prediction of college scholastic success is based on the data of three investigations at the University of Washington - P. R. Brammel (22), Glen Blair (18), and Rufus C. Salyer. A deviation formula was derived by regression coefficients and converted into a score form as follows:

College Scholastic Success = .0959 x high school English mean
+ .0157 x high school Mathematics mean
+ .2464 x high school Social sciences mean
+ .0977 x high school natural sciences mean
+ .1159 x high school foreign language mean
+ .0989 x high school non-academic mean
+ .0022 x percentile rank on American Council on Education Psychological Examination
+ .1700 (71)

Tables (Appendix E) were constructed for converting the high school means in the various subjects, and the percentile ranks on the psychological examinations, directly into the form required by the Dvorak formula. The Dvorak predictions of scholastic success were then computed and recorded (Appendix F), together with deviations from the cumulative college grades of the cases involved in the study. Table X gives a summary of the relation of the Dvorak predictions to the actual cumulative grades.

TABLE X
SUMMARY OF DVORAK PREDICTIONS IN
RELATION TO CUMULATIVE COLLEGE MARKS

	Seniors	Juniors	Combined
No. of cases	362	138	500
No. of minus deviations	300	95	395
Mean of minus deviations	-.45	-.43	-.44
Greatest minus deviation	-1.58	-1.37	-1.58
No. of plus deviations	62	43	105
Mean of plus deviations	.25	.25	.25
Greatest plus deviation	.80	1.04	1.04
Standard deviation	.53	.48	.52
Mean of prediction	1.22	1.25	1.23
Mean of cumulative college marks	1.51	1.49	1.50
Difference	-.29	-.24	-.27

This indicates that the Dvorak prediction underrates the student by a mean of .27 of a quality grade point. The standard deviation between the predicted marks and the average marks was .53 of a quality grade point. The Dvorak prediction correlated $r = +.59 \pm .02$ with actual college scholastic success in the 500 cases considered in this study.

SCATTERGRAM II
DVORAK PREDICTION AND COLLEGE SUCCESS

College Grades	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 3.00	Totals
2.80-2.99						1	1			1					3
2.60-2.79					1	1	3	2	5	2					14
2.40-2.59					1		7	6	4	2					20
2.20-2.39				2	7	4	3	11	8						35
2.00-2.19				5	3	6	5	4	6						29
1.80-1.99			1	3	4	8	10	9	3	1					39
1.60-1.79			2	4	11	12	18	11	4						62
1.40-1.59			6	10	18	15	8	7	1						65
1.20-1.39		2	7	17	16	18	11	1	1						73
1.00-1.19		2	18	27	22	9	7	1	1						87
.80- .99		7	15	11	11	8	3	2							57
.60- .79			8	3	2	1	1	1							16
Totals		11	57	82	96	83	77	55	33	6					500

$r = .59 \pm .0193$

The Jones Method.

The first step in developing the Jones Method for use at the Oregon State Agricultural College was the derivation of correlations between the average high school marks for each of the subject matter classifications and the cumulative college marks; between the composite high school marks and the cumulative college marks; and the scores on the psychological examinations and the cumulative college marks. The records of the 500 students involved in this study gave correlations as follows:

English	.51	±.02
Mathematics	.49	±.02
Social Sciences	.46	±.02
Natural Sciences	.44	±.02
Foreign Languages	.51	±.02
Non-academic	.41	±.02
Composite	.59	±.02
Psychological test scores	.42	±.02

SCATTERGRAM III
HIGH SCHOOL ENGLISH AND COLLEGE SUCCESS

College Average	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 3.00	Totals
2.80-2.99									1		1				1	3
2.60-2.79								1			4		3	5	1	14
2.40-2.59					1			1		2	1	3	5	4	3	20
2.20-2.39			1	1		2		3	3		8	5	6	6		35
2.00-2.19		1	1	1	1	3		2	1	1	4	1	5	6	2	29
1.80-1.99			1	1		2	2	5		3	6	7	2	10		39
1.60-1.79					2	6	4	7	6	4	12	6	5	8	2	62
1.40-1.59		2	2	3	2	11	2	10	8	4	13	3	1	2	2	65
1.20-1.39	1	2	6	1	7	8	3	15	8	4	9	3	3	3		73
1.00-1.19	2	4	14	6	9	12	6	12	3	6	10		2		1	87
.80- .99	1	6	3	8	5	5	2	9	8		7	1	1	1		57
.60- .79		2	2		1	5		2	2		1	1				16
Total	4	17	30	21	28	54	19	67	40	24	76	30	33	45	12	500

$r = .51 \pm .0220$

SCATTERGRAM IV
HIGH SCHOOL MATHEMATICS
AND COLLEGE SUCCESS

College Grades	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 3.00	Totals
2.80-2.99										1					2	3
2.60-2.79									1		1	1	1	5	5	14
2.40-2.59						1			1			2	3	8	5	20
2.20-2.39						2	1		3	2	8	3	3	8	5	35
2.00-2.19	1				2	1	1	1	1	1	6	2	5	6	2	29
1.80-1.99		1			2			4	2	2	7	6	4	9	2	39
1.60-1.79			1	1	1	2	2	3	5	4	11	10	10	8	4	62
1.40-1.59		1		2	2	9	5	7	4	4	7	10	7	4	2	64
1.20-1.39	2	1	2	2	2	7	2	11	6	12	11	5	6	2	1	72
1.00-1.19	1	4	2	5	6	12	6	13	7	6	10	5	3	6		86
.80- .99	3	2	6	6	2	5	2	13	3	2	4	1	3	2	1	55
.60- .79			1	3	2	2	1	3	2		1		1			16
Total	7	9	12	19	19	41	20	55	35	34	66	45	46	58	29	495

$r = .49 \pm .0228$

SCATTERGRAM V

HIGH SCHOOL SOCIAL SCIENCES AND COLLEGE SUCCESS

College Grades	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 3.00	Totals
2.80-2.99											2				1	3
2.60-2.79											4	1	2	2	5	14
2.40-2.59										3	3	2	2	7	3	20
2.20-2.39				1			2	4	2	2	7	4	4	7	2	35
2.00-2.19					2	2	1	3	1	3	6	1		7	3	29
1.80-1.99						2	3	3	3	2	4	4	4	13	1	39
1.60-1.79				1	1	2	3	8	6	3	10	12	2	8	5	61
1.40-1.59		2	3		1	5	4	10	4	4	13	8	3	6	2	65
1.20-1.39	1	1	2	3	4	4	5	15	5	5	16	4	5	2	1	73
1.00-1.19		1	6	4	7	19	6	8	6	10	6	5	3	4	2	87
.80- .99		5	5	8	2	6	3	7	6	2	9	1	2		1	57
.60- .79			3	2	2	2	2	1			3			1		16
Totals	1	9	19	19	19	42	29	59	33	34	83	42	27	57	26	499

$r = .46 \pm .0236$

SCATTERGRAM VI
HIGH SCHOOL NATURAL SCIENCES AND COLLEGE SUCCESS

College Grades	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 2.99	Totals
2.80-2.99											1			1	1	3
2.60-2.79											3		2	2	6	14
2.40-2.59						1		1			2	2	5	7	2	20
2.20-2.39			1	1	1		2	1		1	6	3	4	10	5	35
2.00-2.19		2			1	1	1	1	1	1	8	3	2	5	2	28
1.80-1.99						1		5			9	3	3	11	5	37
1.60-1.79		2	1	1		2	1	8	3		21	5	8	5	3	60
1.40-1.59	1	1		2		7	4	13	1	4	16	3	7	3	2	64
1.20-1.39			2	2	6	6	4	15	4	4	11	8	5	4	1	72
1.00-1.19	2	3		6	6	12	5	19	5	5	11	4	1	4	2	85
.80- .99		2	1	3	1	11	4	8	2	1	13	4		2		52
.60- .79			1	1	2		3	2		2	1	1	2	1		16
Totals	3	10	6	16	17	41	24	73	16	18	102	36	39	55	29	485

$r = .44 \pm .0253$

SCATTERGRAM VII
HIGH SCHOOL FOREIGN LANGUAGES AND COLLEGE SUCCESS

College Grades	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 3.00	Totals
2.80-2.99											1				1	2
2.60-2.79								1			4			4	3	12
2.40-2.59					1			3			2		3	4	3	16
2.20-2.39		1		1		2		2	2	2	4	1	2	10	2	29
2.00-2.19		2	1	1				3		1	5	2	2	2	4	23
1.80-1.99					1		1	5			10		2	5	2	26
1.60-1.79		3	2	1	1	4	2	9	2	6	12	3	3	4	4	56
1.40-1.59	3	1	1	1	5	7	1	16	1	1	9	3	2		1	52
1.20-1.39	2	6	1		5	4	3	9	2	1	9	1	4	3	2	52
1.00-1.19	2	7	7	4	2	18		14	2	4	3	2	2	1		68
.80- .99	3	6	7	1	2	7		9	1	1	6	1		1		45
.60- .79	1	4		1	3	2		1			3					15
Totals	11	30	19	10	20	44	7	72	10	16	68	13	20	34	22	396

$r = .51 \pm .025$

SCATTERGRAM VIII

HIGH SCHOOL NON-ACADEMIC SUBJECTS AND COLLEGE SUCCESS

College Grades	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 3.00	Totals
2.80-2.99												1			2	3
2.60-2.79											2	1		3	6	12
2.40-2.59							1	2			4	1	3	5	2	18
2.20-2.39						1		3		1	4	4	6	4	4	27
2.00-2.19								4		3	7	2	1	6	4	27
1.80-1.99			1					6	2	2	11		3	4	1	30
1.60-1.79			1		1	1		7	2	3	9	6	6	13	3	52
1.40-1.59					1	4		10	3	7	15	7	4	2	3	56
1.20-1.39	2	2		2	1	6	1	12	6	6	14	6	5	2	3	68
1.00-1.19		2	1		1	11	3	17	3	3	17	5	2	10	3	78
.80- .99			2	1	1	12	1	12		2	13	2		1	1	48
.60- .79						4		2		1	2			1		10
Totals	2	4	5	3	5	39	6	75	16	28	98	35	30	51	32	429

$r = .41 \pm .280$

SCATTERGRAM IX
HIGH SCHOOL COMPOSITE AVERAGE AND COLLEGE SUCCESS

College Grades	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 2.99	Totals
2.80-2.99												2			1	3
2.60-2.79											2	2	4	3	3	14
2.40-2.59						1			1	1	1	2	7	3	4	20
2.20-2.39						1	2	2		5	4	9	4	7	1	35
2.00-2.19					1	2	1	1	3	3	5	4	3	5	1	29
1.80-1.99							2	4	2	6	6	8	4	6	1	39
1.60-1.79					2	2	5	2	7	12	9	11	7	3	2	62
1.40-1.59				1	1	6	8	15	6	9	9	7	2		1	65
1.20-1.39					7	8	8	9	10	13	11	4	3			73
1.00-1.19				2	9	24	13	12	8	7	4	5	2	1		87
.80- .99			2	9	8	6	4	9	10	3	4		2			57
.60- .79			1	1	3	2	3	3	1		1	1				16
Totals			3	13	31	52	46	57	48	59	56	55	38	28	14	500

$r = .59 \pm .0193$

SCATTERGRAM X
PSYCHOLOGICAL EXAMINATION SCORES AND COLLEGE SUCCESS

College Average	20 39	40 59	60 79	80 99	100 119	120 139	140 159	160 179	180 199	200 219	220 239	240 259	260 279	280 299	300 328	Totals
2.80-2.99										1			2			3
2.60-2.79						2	2	2	4	2	1	1				14
2.40-2.59						3	2	4	2	5		1	2	1		20
2.20-2.39				2	2	5	5	6	5	4	2	2	1	1		35
2.00-2.19					5	2	7	7	2	2	1	3				29
1.80-1.99		2	1	4	6	5	7	5	3	4	1	1				39
1.60-1.79			3	5	9	11	12	5	8	5	2	1	1			62
1.40-1.59	4	1	7	10	7	11	11	4	4		3	2			1	65
1.20-1.39		9	9	6	11	16	11	5	4			2				73
1.00-1.19	3	4	11	12	19	18	8	4	3	1	1	1	1	1		87
.80- .99	1	6	4	8	8	8	6	3	6	4		1	2			57
.60- .79		1		3	2	8	1	1								16
Total	8	23	35	50	69	89	72	46	41	28	11	15	9	3	1	500

$r = .42 \pm .025$

These correlations seemed to indicate that there was not enough difference among the values of the several variables to warrant weighting them. The high school marks had already been converted into marks comparable with the system of marks in use at Oregon State Agricultural College. The psychological examination scores had a range of 37 to 328 (inclusive) which, divided by 100, was very close to the range of the college marks for the cases involved. The psychological examination scores (divided by 100) were used to make these scores directly comparable with the college marks. This, then, gave the Jones Method:

$$\text{College Success} = \frac{\begin{array}{l}\text{Mean of High school English} \\ + \text{Mean of high school mathematics} \\ + \text{Mean of high school social sciences} \\ + \text{Mean of high school natural sciences} \\ + \text{Mean of high school foreign languages} \\ + \text{Mean of high school non-academic} \\ + \text{Score on Psychological Examinations} \div 100\end{array}}{\text{Divided by the number of variables in the case predicted}}$$

These data were already recorded on the individual's data sheet in an immediately available form.

Predictions by this method were computed for each of the 500 cases involved in this study and recorded on the data sheet and on the master data sheet (Appendix F). These predictions were then correlated with the cumulative total college marks and a correlation, $4 = .65 \pm .02$, was obtained. A correlation of $4 = .76$ was found between the first quarter's marks and the cumulative college marks.

SCATTERGRAM XI
JONES PREDICTIONS AND COLLEGE SUCCESS

College Grades	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 2.99	Totals
2.80-2.99											2			1	3
2.60-2.79										3	1	5	5		14
2.40-2.59						1			2	1	5	7	3	1	20
2.20-2.39						4	1	1	4	8	7	7	3		35
2.00-2.19					1	3	1	2	5	4	7	4	2		29
1.80-1.99						1	4	4	9	8	6	5	1	1	39
1.60-1.79					2	5	4	12	13	8	13	3	1	1	62
1.40-1.59					6	14	12	10	8	10	4	1			65
1.20-1.39					16	13	6	18	8	8	4				73
1.00-1.19					36	16	13	9	5	5	2	1			87
.80- .99			3	15	10	3	12	8	2	3	1				57
.60- .79			1	5	1	4	2	1	1	1					16
Totals			4	20	72	64	55	65	57	59	52	33	15	4	500

$r = .65 \pm .0174$

SCATTERGRAM XII
FIRST QUARTER MARKS AND CUMULATIVE COLLEGE MARKS

College Grades	.00 .19	.20 .39	.40 .59	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 2.99	Totals
2.80-2.99												2			1	3
2.60-2.79											1	3	2	5	3	14
2.40-2.59											3	5	7	3	2	20
2.20-2.39							1	1		4	11	10	1	6	1	35
2.00-2.19						1		3	1	4	12	5	1	2		29
1.80-1.99				1		1	1	4	5	4	11	6	4	2		39
1.60-1.79		1			1	3	5	13	9	7	17	3		2	1	62
1.40-1.59			1	3	4	4	5	15	11	6	11	3	1	1		65
1.20-1.39	3	2	2	5	9	13	8	15	5	1	6	4				73
1.00-1.19	6	8	3	12	10	16	8	11	8	2	3					87
.80- .99	10	11	3	7	5	11	5	3		1	1					57
.60- .79	6		2	2	2	4										16
Totals	25	22	11	30	31	53	33	65	39	29	76	41	16	21	8	500

$r = .76 \pm .013$

Deviations of the predictions from the cumulative college marks for each quarter were computed and recorded (Appendix B) to determine the relative value of the predictions in relation to the length of residence. Weight of the various factors entering into a prediction of college scholastic success based on one quarter's or year's residence might be seriously inaccurate. Table XI gives a summary of the results found.

TABLE XI
SUMMARY OF JONES PREDICTIONS IN RELATION
TO CUMULATIVE COLLEGE MARKS - BY QUARTERS

	Seniors	Juniors	Combined
FIRST QUARTER			
No. of cases	362	138	500
No. of minus deviations	140	39	179
Mean of minus deviations	-.38	-.29	-.36
Greatest minus deviation	-1.36	-1.01	-1.36
No. of plus deviations	215	99	314
Mean of plus deviations	.55	.51	.54
Greatest plus deviation	1.81	1.46	1.81
No. of non deviations	7	0	7
Standard deviation	.59	.58	.59
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.52	1.49	1.50
Difference	.18	.24	.21
SECOND QUARTER			
No. of cases	362	138	500
No. of minus deviations	143	39	182
Mean of minus deviations	-.34	-.27	-.32
Greatest minus deviation	-1.36	-.94	-1.36
No. of plus deviations	216	98	314
Mean of plus deviations	.49	.47	.49
Greatest plus deviation	1.60	1.27	1.60
No. of non deviations	3	1	4
Standard deviation	.53	.54	.54
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.54	1.47	1.52
Difference	.16	.26	.19

	Seniors	Juniors	Combined
THIRD QUARTER			
No. of cases	362	138	500
No. of minus deviations	147	40	187
Mean of minus deviations	-.30	-.24	-.29
Greatest minus deviation	-1.44	-1.01	-1.44
No. of plus deviations	210	97	307
Mean of plus deviations	.45	.46	.45
Greatest plus deviation	1.48	1.38	1.48
No. of non deviations	5	1	6
Standard deviation	.50	.51	.50
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.55	1.48	1.53
Difference	.15	.25	.18
FOURTH QUARTER			
No. of cases	362	138	500
No. of minus deviations	129	37	166
Mean of minus deviations	-.30	-.23	-.29
Greatest minus deviation	-1.41	-.93	-1.41
No. of plus deviations	229	101	330
Mean of plus deviations	.44	.45	.45
Greatest plus deviation	1.41	1.38	1.41
No. of non deviations	4	0	4
Standard deviation	.48	.50	.49
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.53	1.47	1.51
Difference	.17	.26	.20

	Seniors	Juniors	Combined
FIFTH QUARTER			
No. of cases	362	138	500
No. of minus deviations	125	37	162
Mean of minus deviations	-.25	-.25	-.25
Greatest minus deviation	-1.33	-1.03	-1.33
No. of plus deviations	232	99	331
Mean of plus deviations	.43	.45	.44
Greatest plus deviation	1.60	1.43	1.60
No. of non deviations	5	2	7
Standard deviation	.48	.50	.49
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.52	1.49	1.51
Difference	.18	.24	.20
SIXTH QUARTER			
No. of cases	362	138	500
No. of minus deviations	121	39	160
Mean of minus deviations	-.27	-.24	-.26
Greatest minus deviation	-1.40	-1.08	-1.40
No. of plus deviations	237	98	335
Mean of plus deviations	.42	.45	.43
Greatest plus deviations	1.63	1.40	1.63
No. of non deviations	4	1	5
Standard deviation	.45	.50	.47
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.52	1.49	1.51
Difference	.18	.24	.20

	Seniors	Juniors	Combined
SEVENTH QUARTER			
No. of cases	362	138	500
No. of minus deviations	121	37	158
Mean of minus deviations	-.26	-.24	-.25
Greatest minus deviation	-1.33	-.96	-1.33
No. of plus deviations	239	99	338
Mean of plus deviations	.41	.46	.43
Greatest plus deviation	1.66	1.44	1.66
No. of non deviations	2	2	4
Standard deviation	.45	.50	.47
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.51	1.49	1.50
Difference	.19	.24	.21
EIGHTH QUARTER			
No. of cases	362	138	500
No. of minus deviations	119	38	157
Mean of minus deviations	-.26	-.23	-.25
Greatest minus deviation	-1.27	-1.00	-1.27
No. of plus deviations	236	99	335
Mean of plus deviations	.42	.46	.43
Greatest plus deviation	1.65	1.48	1.65
No. of non deviations	7	1	8
Standard deviation	.45	.50	.47
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.51	1.49	1.50
Difference	.19	.24	.21

	Seniors	Juniors	Combined
NINTH QUARTER			
No. of cases	362	138	500
No. of minus deviations	122	34	156
Mean of minus deviations	-.25	-.26	-.25
Greatest minus deviation	-1.24	-.98	-1.24
No. of plus deviations	240	99	339
Mean of plus deviations	.41	.45	.42
Greatest plus deviation	1.69	1.48	1.69
No. of non deviations	0	5	5
Standard deviation	.43	.50	.45
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.51	1.49	1.50
Difference	.19	.24	.21
TENTH QUARTER			
No. of cases	359	25	384
No. of minus deviations	117	6	123
Mean of minus deviations	-.24	-.18	-.23
Greatest minus deviation	-.96	-.35	-.96
No. of plus deviations	236	18	254
Mean of plus deviations	.41	.45	.41
Greatest plus deviation	1.73	.90	1.73
No. of non deviations	6	1	7
Standard deviation	.43	.50	.44
Mean of prediction	1.70	1.44	1.69
Mean of actual marks	1.51	1.16	1.49
Difference	.19	.28	.20

	Seniors	Juniors	Combined
ELEVENTH QUARTER			
No. of cases	354	19	373
No. of minus deviations	110	3	113
Mean of minus deviations	-.25	-.19	-.25
Greatest minus deviation	-1.00	-.37	-1.00
No. of plus deviations	236	16	252
Mean of plus deviations	.41	.44	.41
Greatest plus deviation	1.68	.91	1.68
No. of non deviations	8	0	8
Standard deviation	.42	.50	.44
Mean of prediction	1.70	1.47	1.68
Mean of actual marks	1.50	1.13	1.48
Difference	.20	.34	.20
TWELFTH QUARTER			
No. of cases	331	11	342
No. of minus deviations	108	0	108
Mean of minus deviations	-.24	-	-.24
Greatest minus deviation	-1.00	-	-1.00
No. of plus deviations	218	11	229
Mean of plus deviations	.40	.49	.40
Greatest plus deviation	1.64	.60	.95
No. of non deviations	5	0	5
Standard deviation	.42	.63	.45
Mean of prediction	1.70	1.50	1.70
Mean of actual marks	1.51	1.01	1.50
Difference	.19	.49	.20

	Seniors	Juniors	Combined
THIRTEENTH QUARTER			
No. of cases	94		94
No. of minus deviations	20		20
Mean of minus deviations	-.20		-.20
Greatest minus deviation	-.49		-.49
No. of plus deviations	70		70
Mean of plus deviations	.38		.38
Greatest plus deviation	1.60		1.60
No. of non deviations	4		4
Standard deviation	.40		.40
Mean of prediction	1.51		1.51
Mean of actual marks	1.27		1.27
Difference	.24		.24
FOURTEENTH QUARTER			
No. of cases	50		50
No. of minus deviations	12		12
Mean of minus deviations	-.16		-.16
Greatest minus deviation	-.53		-.53
No. of plus deviations	36		36
Mean of plus deviations	.43		.43
Greatest plus deviation	1.54		1.54
No. of non deviations	2		2
Standard deviation	.43		.43
Mean of prediction	1.43		1.43
Mean of actual marks	1.16		1.16
Difference	.27		.27

	Seniors	Juniors	Combined
FIFTEENTH QUARTER			
No. of cases	27		27
No. of minus deviations	8		8
Mean of minus deviations	-.19		-.19
Greatest minus deviation	-.58		-.58
No. of plus deviations	19		19
Mean of plus deviations	.47		.47
Greatest plus deviations	1.42		1.42
No. of non deviations	0		0
Standard deviation	.48		.48
Mean of prediction	1.42		1.42
Mean of actual marks	1.15		1.15
Difference	.27		.27
FINAL QUARTER (Cumulative)			
No. of cases	362	138	500
No. of minus deviations	130	33	163
Mean of minus deviations	-.25	-.26	-.25
Greatest minus deviation	-1.24	-.98	-1.24
No. of plus deviations	226	101	327
Mean of plus deviations	.39	.44	.40
Greatest plus deviations	1.42	1.44	1.44
No. of non deviations	6	4	10
Standard deviation	.42	.50	.44
Mean of prediction	1.70	1.73	1.71
Mean of actual marks	1.51	1.49	1.50
Difference	.19	.24	.21

This indicated that the Jones prediction overrated the student a mean of .21 of a quality grade point. The sigma difference between the predicted and the average of the actual marks was .44 of a quality grade point.

The variations in standard deviations by quarters were small, being larger in the first quarter than in any subsequent quarter and decreasing about .01 of a quality grade point each quarter. This indicates that with each additional quarter in residence the students' actual cumulative mark approaches nearer to that predicted for him by the Jones method, of in other words, that the Jones prediction becomes slightly more accurate with each additional quarter's marks considered.

The ratio of poor students who would be barred to the number of poor students who would be admitted may be taken as another measure of validity of the several criteria for the purpose of selecting college entrants.

The scattergrams on page 48 and page 47 show the correlations between the Council on Education Psychological Examination scores and final college average and between the composite high school averages and final college averages, respectively.

If all the students whose composite high school marks were less than 1.00 quality grade point were refused admittance, 45 or 9.4 per cent. of the 500 students involved in this study would have been re-

jected. Of these 47, 24 or 51 per cent. averaged less than 1.00 quality grade point in their college work; 20 or 43 per cent. averaged between 1.00 and 1.49; 2 or 4.3 per cent. averaged between 1.50 and 1.99; and only 1 averaged 2.00 or better.

If the psychological test score required for admittance were established at 80, 66 or 13.2 per cent. of the students involved in this study would have been rejected. Of these 66, 12 or 18.2 per cent. made a final college average of less than 1.00 quality grade point; 42 or 63.6 per cent. averaged between 1.00 and 1.49; 12 or 18.2 per cent. averaged between 1.50 and 1.99; and none averaged 2.00 or better.

Seventy-three or 14.5 per cent. of the 500 students involved in this study made a college average of less than 1.00 quality point. Only 2 of these 73 had both composite high school averages of less than 1.00 and psychological test scores of less than 1.00; twenty-nine or 40 per cent. of the 72 averaged better than 1.00 in high school and had psychological test scores of more than 100, so would have been admitted according to both criteria. Of these 73, 25 with composite high school averages of above 1.00 made psychological test scores of less than 100; and 26 with composite high school averages of less than 1.00 made psychological test scores of more than 100.

The Jones method indicated that 24 of the 500 students (Numbers 4,5, 17, 25, 35, 36, 42, 46, 59, 133, 283, 312, 336, 372, 376, 417, 428, 442, 455, 474, 475, 484, and 488) should be expected to make

college quality point averages of less than 1.00. Every one of these students failed to make a quality grade point average of 1.00.

Comparisons of the Three Methods.

Comparison of the results obtained by the Taylor and Dvorak formulae, and by the Jones' method.

The Jones and the Taylor methods predict college scholastic success about equally accurately, with the Jones' method having a slightly better correlation, r = .65 as compared with r = .64. Both methods require approximately the same time to work out in their application to any particular case. The Jones' method gives predictions on a quality point basis directly comparable with marks as obtained in subjects at the Oregon State Agricultural College while the Taylor formula gives predictions on a percentile basis which must be converted to a quality point basis to be comparable with the college marks.

The Jones' method predicts college scholastic success more accurately (r = .65) than the Dvorak formula (r = .59). The Dvorak formula gives exactly the same correlation with college scholastic success as the composite high school mean does. One can work out about six predictive applications to cases by the Jones' method in the same time he requires for one predictive application by the Dvorak formula. The Dvorak formula is more subject to error than the Jones method due to the greater number of steps involved in

making the predictions. The standard deviation from cumulative college scholastic average by the Jones method is .44 of a quality grade point and the standard deviation by the Dvorak formula is .53 of a quality grade point.

CHAPTER V

ADDITIONAL PROBLEMS OF THE STUDY

Sex Differences in Marks and Intelligence.

Are the highest average marks made by the women or by the men? A study (36) was made at the University of Wisconsin (1932) involving the scholastic records of 55,708 students at that institution. There were approximately the same number of men students as women considered in the study. It was found that the scholastic average of the women students was significantly higher than that of the men students during every semester of the four year period. The lowest average received by any group of women students was consistently above the highest average of any group of the men students. The women made an average scholastic mark of 1.474 as compared with 1.170 for the men. At the University of Iowa (46) the women surpass in scholarship even when their intelligence test scores are the same as those of the men.

The women not only make the highest marks, but also come nearer to fulfilling scholastic expectations when predictions are made by either the average high school marks or psychological test scores (69). Edward S. Jones (66) found, over a five year period at the University of Buffalo, that the correlation between the women's average high school marks and their marks at that institution was .43; and that of the men was .29. He believes the women are usually more serious in their school work and tend to spend less time in

outside activities. This would explain these results. L. D. Hartson (95) found, at Oberlin College, that the women's average high school marks correlated with college scholastic successes, $r = .542$, and correlated for the men, $r = .410$. The correlation between the scores made on a psychological examination and average marks made at that institution was .537 for the women and .431 for the men. Harl R. Douglass (69) found at the University of Oregon that there was a correlation between general high school average and average college marks of .55 for the women and .49 for the men. Scores on the American Council on Education Psychological Examinations at the University of Oregon showed a correlation of .49 with average college marks for the women and .42 for the men. He concluded that women come a little nearer to earning marks proportionate to their ability than men do.

The composite marks made in high school and at the Oregon State Agricultural College by the 371 men and 129 women involved in this study are shown in Table XII.

TABLE XII
COMPOSITE HIGH SCHOOL AND COLLEGE MARKS BY SEX

Scores	High School Marks		College Marks	
	Women	Men	Women	Men
3.00	1	2		
2.90 - 2.99	4	3		2
2.80 - 2.89	3	1		1
2.70 - 2.79	2	8	3	6

Scores	High School Marks		College Marks	
	Women	Men	Women	Men
2.60 - 2.69	4	14	2	3
2.50 - 2.59	7	12	2	4
2.40 - 2.49	9	10	5	9
2.30 - 2.39	8	20	7	10
2.20 - 2.29	8	19	4	14
2.10 - 2.19	12	20	2	6
2.00 - 2.09	7	17	9	12
1.90 - 1.99	11	20	5	12
1.80 - 1.89	1	27	4	18
1.70 - 1.79	7	21	11	16
1.60 - 1.69	3	17	11	24
1.50 - 1.59	8	22	6	21
1.40 - 1.49	6	21	7	31
1.30 - 1.39	7	7	3	31
1.20 - 1.29	7	25	10	29
1.10 - 1.19	4	25	9	30
1.00 - 1.09	2	21	9	39
.90 - .99	2	18	16	20
.80 - .89	2	9	3	18
.70 - .79	2	5	1	10
.60 - .69	1	5		5
.50 - .59	1	1		
.40 - .49		1		
Totals	129	371	129	371
Mean	1.92	1.73	1.62	1.51
Standard Deviation	.57	.57	.53	.55

The women made a composite average of 1.92 in high school as compared with 1.73 for the men. The standard deviation of .57 of a quality grade point was the same for both.

The women also surpassed the men in marks received at Oregon State Agricultural College. The average grade for the women was 1.62, with a sigma difference of .53 of a quality grade point. The

men made an average of 1.51, with a sigma difference of .55 of a quality grade point.

The women involved in this study made a better scholastic average by one-fifth of a quality point in high school than the men, and .11 of a quality point better average at the Oregon State Agricultural College. An examination of the scores made on the American Council on Education Psychological Examination shows that these women made an average score 23 points below that of the men. Table XIII gives a summary of the scores made on the psychological examinations.

TABLE XIII
SCORES ON PSYCHOLOGICAL EXAMINATIONS BY SEX

Scores	Women	Men
320 - 339		1
300 - 319		
280 - 299		3
260 - 279		9
240 - 259	2	13
220 - 239		11
200 - 219	6	22
180 - 199	9	32
160 - 179	10	36
140 - 159	16	58
120 - 139	20	68
100 - 119	25	44
80 - 99	18	32
60 - 79	12	23
40 - 59	8	14
20 - 39	3	5
Total	129	371
Mean	123	146
Standard Deviation	.46	.55

The women made an average of 123 as compared with 146 for the men. The standard deviation for the women was 46 points and that of the men was 55 points.

SCATTERGRAM XIII

MEN - JONES PREDICTION AND COLLEGE SUCCESS

College Marks	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 2.99	Totals
2.80-2.99									2			1	3
2.60-2.79								2		4	3		9
2.40-2.59				1			3	1	2	5	1		13
2.20-2.39				2	1	1	2	6	7	3	2		24
2.00-2.19				2	1	2	3	2	4	3	1		18
1.80-1.99				1	2	3	7	6	4	5	1	1	30
1.60-1.79			2	4	3	9	8	3	9	2			40
1.40-1.59			6	9	12	9	6	8	2				52
1.20-1.39			15	9	6	14	6	7	3				60
1.00-1.19			30	12	11	9	3	1	2	1			69
.80- .99	2	11	8	1	7	5	1	2	1				38
.60- .79	1	5	1	3	2	1	1	1					15
Totals	3	16	62	44	45	53	40	39	36	23	8	2	371

r = .67

SCATTERGRAM XIV
WOMEN - JONES PREDICTION AND COLLEGE SUCCESS

College Marks	.60 .79	.80 .99	1.00 1.19	1.20 1.39	1.40 1.59	1.60 1.79	1.80 1.99	2.00 2.19	2.20 2.39	2.40 2.59	2.60 2.79	2.80 2.99	Totals
2.80-2.99													
2.60-2.79								1	1	1	2		5
2.40-2.59									3	2	2		7
2.20-2.39				2			2	2		4	1		11
2.00-2.19			1	1			2	2	3	1	1		11
1.80-1.99					2	1	2	2	2				9
1.60-1.79				1	1	3	5	5	4	1	1	1	22
1.40-1.59				5		1	2	2	2	1			13
1.20-1.39			1	4		4	2	1	1				13
1.00-1.19			6	4	2		2	4					18
.80- .99	1	4	2	2	5	3	1		1				19
.60- .79				1									1
Totals	1	4	10	20	10	12	18	19	17	10	7	1	129

r = .64

When the composite high school marks and the scores on the psychological examinations are combined into a prediction by the Jones' method, a correlation, r = .67, is obtained between these predictions and average college marks for the 371 men. The correlation for the 129 women involed in this study is, r = .64. This indicates that the men come nearer to making the marks at Oregon State Agricultural College as predicted by the Jones' method than the women do, although there is not enough difference in the accuracy of prediction of college scholastic success by the Jones' method to warrant considering them separately.

Individual High Schools.

The records of the students involved in this study were grouped according to the high schools from which they entered; 385 students represent 103 Oregon high schools in this study. The remaining 115 students attended the high schools of twenty other states, Hawaii, and the Philippines. Table XIV gives certain data for the students entering Oregon State Agricultural College from the high schools shown.

TABLE XIV

GRADES MADE IN HIGH SCHOOL

No. of Cases	High School	Average Size	1.62 Eng.	1.84 Math.	1.80 Soc. Sc.	1.87 Nat. Sc.	1.58 Lang.	1.96 Non-Acad.
9	Albany	582	2.20	2.47	2.15	2.25	1.88	2.39
1	Alsea	53	2.67	1.67	2.33	2.00	1.50	1.00
1	Antelope	11	2.50	2.67	2.40	2.00	2.00	2.00
5	Ashland	411	1.43	1.39	1.45	1.10	1.23	1.63
5	Astoria	502	1.74	2.23	1.96	1.99	1.17	2.11
1	Aumsville	83	2.00	2.50	2.80	3.00		2.00
5	Baker	542	1.74	2.11	2.03	2.37	2.38	1.94
3	Beaverton	307	2.05	2.05	1.81	2.35	1.95	1.75
4	Bend	586	2.23	2.46	2.38	2.15	2.38	2.03
3	Brownsville	92	2.21	2.53	2.32	2.10	1.89	2.39
1	Carlton	94	1.50	1.00	2.50	2.33	1.00	2.33
1	Central Point	113	2.25	2.00	3.00	3.00	2.00	2.50
1	Chemawa	258	2.50	00	1.50	.50		1.50
1	Clatskaine	219	2.00	2.00	2.50	2.00	2.00	
1	Clatsop County	55	1.75	2.25	2.00	2.50	2.50	2.33
1	Columbia Univ.	220	2.50	1.67	3.00	3.00	3.00	
1	Coquille	245	1.50	1.50	2.00	2.00	00	1.00
46	Corvallis	770	1.54	1.88	1.70	1.75	1.45	1.87
3	Cottage Grove	297	2.07	2.35	2.14	2.43	.95	1.67
1	Culver	21	.40	1.00	1.10	1.00	.33	1.25
2	Dallas	278	1.88	1.80	1.65	1.75	2.31	2.00

No. of Cases	High School	Average Size	1.62 Eng.	1.84 Math.	1.80 Soc. Sc.	1.87 Nat. Sc.	1.58 Lang.	1.96 Non-Acad.
1	Dayton	98	2.00	2.00	2.33	2.50	2.50	2.00
2	Enterprise	182	1.83	2.29	2.23	1.75	1.54	1.86
3	Estacada	165	2.03	2.50	2.36	2.11	2.25	2.20
3	Eugene	882	1.50	1.48	1.95	2.00	1.67	1.72
4	Forest Grove	372	1.94	2.06	2.12	2.02	1.92	1.50
1	Glendale	53	1.00	1.00	2.00	1.33	.00	1.00
1	Goldbeach	41	1.75	1.50	2.12	2.25	1.00	
7	Grantspass	559	1.64	1.89	1.55	1.95	1.55	2.21
1	Grass Valley	53	2.12	2.73	2.12	2.12		2.12
2	Gresham	549	1.67	2.12	1.87	2.17	1.50	1.83
1	Halfway	104	2.50	2.75	3.00	2.50	3.00	3.00
1	Halsey	60	3.00	3.00	2.67	3.00	3.00	3.00
1	Harney County	40	2.73	2.73	2.73	2.73	2.73	2.73
1	Hermiston	127	1.90	2.35	1.20	2.10	2.13	
1	Hill Military Acad.	102	1.50	1.99	1.28	1.50	1.50	1.50
1	Hillsboro	513	2.21	2.58	2.38	2.17	2.17	
1	Holy Child Acad.	53	2.00	2.67	2.80	2.00	2.60	
4	Hood River	291	2.29	2.26	2.39	2.13	2.10	2.38
1	Huntington	47	2.00	1.33	2.00	2.00	1.50	2.00
1	Imbler	72	2.25	2.00	2.33	2.00	2.50	2.00
1	Ione	52	3.00	3.00	2.75	3.00	2.50	2.75
1	Jordan Valley	53	1.50	2.00	2.00	2.00		2.00

No. of Cases	High School	Average Size	1.62 Eng.	1.84 Math.	1.80 Soc. Sc.	1.87 Nat. Sc.	1.58 Lang.	1.96 Non-Acad.
1	Junction City	119	1.25	1.00	1.40	1.50	1.50	2.00
1	Kerby	31	1.75	2.00	2.16	2.25		1.00
2	Klamath Falls	828	1.72	2.03	1.92	2.45	1.60	2.25
1	Knappa	103	2.50	2.50	3.00	2.67	3.00	2.33
7	Lakeview	188	1.27	1.64	1.83	1.73	1.40	1.47
2	La Grande	727	1.40	1.60	1.78	1.65	.85	2.45
3	Lebanon	302	1.61	1.58	1.71	1.17	1.66	1.83
4	Marshfield	526	2.07	2.25	2.29	2.43	2.08	2.40
1	Maupin	36	.50	1.75	2.00	1.75		2.00
3	Medford	1000	1.37	1.73	1.61	1.63	1.61	2.24
5	Milwaukie	587	1.73	1.91	2.27	1.97	1.25	1.78
2	Molalla	218	1.63	1.63	2.00	1.90	3.00	3.00
3	Myrtle Creek	112	1.92	1.67	1.80	1.78	2.08	2.22
2	Myrtle Point	258	2.12	.85	1.72	2.01	1.16	2.73
1	Newberg	374	1.50	1.08	1.63	1.50	1.08	1.08
1	Nyssa	144	2.38	2.17	2.72	2.72	2.17	1.50
4	Ontario	335	1.63	2.14	2.15	1.92	1.73	2.17
4	Oregon City	531	1.69	1.50	1.56	1.41	1.38	2.21
4	Oregon Inst. Tech.	181	1.65	1.95	2.06	1.40	2.33	1.89
1	Paisley	36	2.20	1.40	1.25	1.50	.70	1.80
3	Parkrose	189	2.00	1.81	1.89	2.31	2.00	2.28

No. of Cases	High School	Average Size	1.62 Eng.	1.84 Math.	1.80 Soc. Sc.	1.87 Nat. Sc.	1.58 Lang.	1.96 Non-Acad.
5	Pendleton	458	2.06	2.28	2.08	1.59	1.87	1.96
1	Placer Union	52	1.84	1.72	2.17	1.50	1.50	2.17
	Portland	15,050						
29	Benson		1.53	2.02	1.83	2.03		1.66
1	Commerce		1.49	2.12	1.44			1.47
10	Franklin		1.61	1.46	1.65	1.15	1.73	1.60
23	Grant		1.64	1.82	1.89	1.91	1.45	1.81
26	Jefferson		1.44	1.71	1.60	2.10	1.47	2.14
16	Lincoln		1.74	1.70	1.57	2.15	1.66	2.00
4	Roosevelt		1.67	2.19	2.03	2.01	1.96	1.27
23	Washington		1.20	1.69	1.10	1.24	1.50	2.23
1	Port Orford	42	2.73	2.73	2.73	2.73		
1	Prairie City	94	2.75	2.50	2.75	3.00	3.00	3.00
1	Rainier	271	.75	1.03	1.10	1.50	.50	1.17
1	Redmond	185	1.50	2.00	2.00	2.00		1.33
1	Rickerall	35	3.00	3.00	3.00	3.00	3.00	3.00
1	Riddle	41	1.75	1.00	2.34	2.00	1.50	3.00
4	Roseburg	500	1.68	1.73	1.51	1.72	1.23	2.00
13	Salem	1937	1.72	1.94	1.71	1.81	1.77	2.23
1	Sandy	159	2.00	2.50	2.40	3.00	1.50	2.00
1	Scappoose	162	1.91	2.73	2.73	2.73	2.73	2.73
1	Scotts Mill	44	2.25	2.00	2.80	2.00	2.00	

No. of Cases	High School	Average Size	1.62 Eng.	1.84 Math.	1.80 Soc. Sc.	1.87 Nat. Sc.	1.58 Lang.	1.96 Non-Acad.
1	Shedd	46	2.00	2.00	1.80	2.00		2.00
4	Silverton	456	1.94	1.81	1.69	2.45	.88	2.28
2	Sisters	35	2.21	2.42	2.53	2.51	2.16	
1	Stayton	163	1.50	2.12	2.73	2.12	1.50	1.50
2	The Dalles	588	1.63	1.50	2.12	2.00	1.50	2.25
3	Tigard	243	2.12	2.13	2.43	2.28	2.08	2.33
2	Tillamook	317	1.75	2.17	2.08	1.50	1.75	2.50
1	Toledo	147	2.25	2.00	1.00			1.80
1	Union	136	00	1.67	00	1.50	00	1.67
1	Vale	143	2.80	2.60	3.00	2.70	2.20	1.95
1	Vernonia	178	2.05	2.20	2.07	2.10	1.00	2.20
1	Walker	18	.71	.67	.95	1.09	00	2.25
1	Wallowa	124	1.50	2.00	1.67	1.00	1.00	2.00
2	Warrenton	66	2.75	2.67	2.83	2.40	2.00	2.00
1	Wasco	53	1.75	2.25	2.00	2.00	2.00	1.67
4	West Linn	415	1.54	2.11	2.00	2.17	1.89	2.05
1	Wilbur	17	2.73	2.32	2.42	2.73	2.73	2.73
1	Yoncalla	61	2.73	3.00	3.00	3.00	3.00	2.67

No. of Cases	High School	Average Size	1.62 Eng.	1.84 Math.	1.80 Soc. Sc.	1.87 Nat. Sc.	1.58 Lang.	1.96 Non-Acad.
1	Arkansas		1.67	1.33	1.00	2.00	1.00	
51	California		1.17	1.40	1.52	1.39	1.27	1.58
2	Colorado		2.33	2.25	2.58	2.50	2.75	1.38
5	Idaho		1.98	1.94	2.22	2.07	2.17	2.21
4	Illinois		1.09	1.46	1.32	1.41	1.04	2.43
1	Indiana		1.50	1.50	.50	2.00	2.00	1.50
1	Iowa		2.00	2.00	2.00	2.00		2.50
1	Kansas		1.75	1.00	2.00	1.67	1.00	1.50
1	Minnesota		.50	1.00	1.00	00	1.50	
2	Missouri		.87	1.00	1.12	1.00	.25	2.00
7	Montana		1.89	1.75	1.89	2.14	1.27	2.01
1	Nebraska		1.45	.70	.40	1.20	.40	1.60
1	New Jersey		.50	1.50	1.33	.67	00	2.00
1	New Mexico		.25	1.00	.88	.67	1.00	
1	Oklahoma		1.33	2.00	2.00	1.50	2.50	1.50
1	Pennsylvania		.50	.33	1.00	1.25	1.00	2.00
2	South Dakota		2.69	2.41	2.63	2.50	2.51	2.61
1	Rhode Island		2.00	1.33	2.33	2.00	2.00	
26	Washington		1.60	1.94	1.82	1.74	1.62	2.06
1	Wisconsin		2.17	2.79	2.17	2.72		3.00
3	Hawaii		1.38	.98	1.41	1.15	1.46	1.80
1	Philippines		.75	1.00	1.00	1.00		1.00

TABLE XIV
GRADES MADE IN COLLEGE

No. of Cases	High School	(Average) Size	139 Fresh. Score	1.71 Jones Pred.	1.50 Av. in College	Deviation from Jones Pred. +	Deviation from Jones Pred. -
9	Albany	582	118	2.01	1.68		.33
1	Alsea	53	110	1.75	.99		.76
1	Antelope	11	190	2.21	2.29	.08	
5	Ashland	411	135	1.37	1.27		.10
5	Astoria	502	127	1.83	1.49		.34
1	Aumsville	83	56	2.28	1.13		1.15
5	Baker	542	136	1.97	1.84		.13
3	Beaverton	307	145	1.98	1.47		.51
4	Bend	586	175	2.16	2.12		.04
3	Brownsville	92	162	2.15	2.02		.13
1	Carlton	94	57	1.60	1.29		.31
1	Central Point	113	120	1.28	1.69	.41	
1	Chemawa	258	54	1.09	.87		.22
1	Clatskaine	219	204	2.09	2.72	.63	
1	Clatsop County	55	110	2.06	1.51		.55
1	Columbia Univ.	220	209	2.54	2.79	.25	
1	Coquille	245	89	1.27	1.43	.16	
46	Corvallis	770	123	1.64	1.50		.14
3	Cottage Grove	297	114	1.86	1.53		.33
1	Culver	21	193	1.00	1.08	.08	

No. of Cases	High School	Average Size	139 Fresh. Score	1.71 Jones Pred.	1.50 Av. in College	Deviation from Jones Pred. +	-
2	Dallas	278	142	1.78	1.88	.10	
1	Dayton	98	79	2.01	1.13		.88
2	Enterprise	182	133	1.83	1.65		.18
3	Estacada	165	180	2.19	1.24		.95
3	Eugene	882	140	1.62	1.36		.26
4	Forest Grove	372	151	1.92	1.78		.14
1	Glendale	53	96	1.04	.73		.31
1	Goldbeach	41	165	1.71	.62		1.09
7	Grantspass	559	95	1.68	1.41		.27
1	Grass Valley	53	90	2.02	1.07		.95
2	Gresham	549	153	1.83	1.31		.52
1	Halfway	104	157	2.62	2.61		.01
1	Halsey	60	199	2.80	1.68		1.12
1	Harney County	40	63	2.43	1.81		.62
1	Hermiston	127	132	1.81	1.81		.00
1	Hill Military Acad.	102	134	1.51	1.00		.51
1	Hillsboro	513	186	2.23	1.80		.43
1	Holy Child Acad.	53	122	2.21	.92		.29
4	Hood River	291	125	2.11	1.64		.47
1	Huntington	47	77	1.65	1.11		.54
1	Imbler	72	136	2.06	1.86		.20
1	Ione	52	144	2.64	2.07		.57

No. of Cases	High School	Average Size	139 Fresh. Score	1.71 Jones Pred.	1.50 Av. in College	Deviation from Jones Pred. +	-
1	Jordan Valley	53	77	1.71	1.46		.25
1	Junction City	119	117	1.40	1.45	.05	
1	Kerby	31	75	1.65	1.25		.40
2	Klamath Falls	828	123	1.32	1.60	.28	
1	Knappa	103	168	2.52	2.06		.46
7	Lakeview	188	144	1.54	1.17		.37
2	La Grande	727	150	1.60	1.37		.23
3	Lebanon	302	94	1.49	1.00		.49
4	Marshfield	526	146	2.18	2.29	.11	
1	Maupin	36	108	1.51	1.04		.47
3	Medford	1000	164	1.71	1.61		.10
5	Milwaukie	587	105	1.71	1.78	.07	
2	Molalla	218	238	1.96	1.46		.50
3	Myrtle Creek	112	75	1.70	1.46		.24
2	Myrtle Point	258	108	1.79	1.55		.24
1	Newberg	374	108	1.28	2.28	1.00	
1	Nyssa	144	123	2.14	.70		1.44
4	Ontario	335	136	1.69	1.69		.00
4	Oregon City	531	95	1.51	1.66	.15	
4	Ore. Inst. Tech.	181	109	1.73	1.44		.29
1	Paisley	36	107	1.41	.99		.42

No. of Cases	High School	Average Size	139 Fresh. Score	1.71 Jones Pred.	1.50 Av. in College	Deviation from Jones Pred. +	Deviation from Jones Pred. -
3	Parkrose	189	93	1.86	1.31		.57
5	Pendleton	458	139	1.91	1.58		.33
1	Placer Union	52	268	1.94	2.46	.52	
	Portland	15,050					
29	Benson		166	1.43	1.66		.08
1	Commerce		44	1.39	.94		.45
10	Franklin		160	1.57	1.74	.17	
23	Grant		156	1.73	1.55		.18
26	Jefferson		145	1.69	1.45		.24
16	Lincoln		166	1.77	1.61		.16
4	Roosevelt		154	1.83	1.73		.10
23	Washington		161	1.41	1.63	.22	
1	Port Orford	42	126	2.43	1.82		.61
1	Prairie City	94	77	2.53	1.55		.98
1	Rainier	271	178	1.12	1.16	.04	
1	Redmond	185	112	1.66	1.02		.64
1	Rickerall	35	260	2.95	2.98	.03	
1	Riddle	41	90	1.78	1.72		.06
4	Roseburg	500	134	1.60	1.60		
13	Salem	1937	123	1.78	1.44		.34
1	Sandy	159	146	2.42	1.85		.57

No. of Cases	High School	Average Size	139 Fresh. Score	1.71 Jones Pred.	1.50 Av. in College	Deviation from Jones Pred. +	Deviation from Jones Pred. -
1	Scappoose	162	143	2.43	1.01		1.42
1	Scotts Mill	44	246	2.25	2.27	.02	
1	Shedd	46	69	1.74	1.27		.47
4	Silverton	456	119	1.74	1.58		.16
2	Sisters	35	75	2.09	1.74		.35
1	Stayton	163	154	1.86	1.44		.42
2	The Dalles	588	98	1.62	1.38		.24
3	Tigard	243	145	2.13	1.35		.78
2	Tillamook	317	159	1.90	2.08	.18	
1	Toledo	147	255	1.92	2.00	.08	
1	Union	136	248	1.04	1.34	.30	
1	Vale	143	106	2.33	1.00		1.33
1	Vernonia	178	83	1.78	1.05		.73
1	Walker	18	138	1.01	1.11	.10	
1	Wallowa	124	76	1.42	1.16		.26
2	Warrenton	66	174	2.37	1.87		.50
1	Wasco	53	138	1.86	1.57		.29
4	West Linn	415	85	1.72	1.15		.57
1	Wilbur	17	123	2.41	1.73		.68
1	Yoncalla	61	64	2.54	1.66		.88

No. of Cases	High School	Average Size	139 Fresh. Score	1.71 Jones Pred.	1.50 Av. in College	Deviation from Jones Pred. +	-
1	Arkansas		35	1.22	1.45	.23	
51	California		148	1.37	1.26		.11
2	Colorado		123	2.14	1.45		.69
5	Idaho		138	1.98	1.77		.21
4	Illinois		120	1.41	1.30		.11
1	Indiana		70	1.38	.95		.43
1	Iowa		85	1.90	2.39	.49	
1	Kansas		93	1.12	.86		.26
1	Minnesota		212	1.02	1.09	.07	
2	Missouri		146	1.22	1.91	.67	
2	Montana		148	1.73	1.24		.49
1	Nebraska		226	1.14	1.43	.29	
1	New Jersey		147	1.17	1.30	.13	
1	New Mexico		252	1.05	1.42	.37	
1	Oklahoma		129	1.73	1.08		.65
1	Pennsylvania		135	1.06	1.01		.05
2	South Dakota		110	2.36	2.05		.31
1	Rhode Island		122	1.81	1.43		.38
26	Washington		143	1.74	1.51		.23
1	Wisconsin		180	2.44	2.76	.32	
3	Hawaii		159	1.37	1.13		.24
1	Philippines		143	1.13	1.29	.16	

Size of High School.

It has been found that in general the scholastic success of freshmen entering Washington State College increases with the size of the high school attended (203). Students entering Purdue University from small high schools do not succeed as well generally as those who attended larger high schools (187). Charles W. Odell (154) found that there was little relationship between the size of high school attended and scholastic success at the University of Illinois. Those entering from the very small high school were slightly handicapped while those who attended high schools of 500 to 1000 students held a slight advantage. Harl R. Douglass (69) states that "students from very small schools achieve college marks slightly inferior to those received by graduates of larger schools". Table XV gives comparative means of percentile rank in intelligence and of college marks for students entering the University of Oregon from Oregon high schools.

TABLE XV
AVERAGE COLLEGE MARK AND AVERAGE PERCENTILE RANK AT THE UNIVERSITY OF OREGON IN RELATION TO SIZE OF OREGON HIGH SCHOOL ATTENDED

Size of School	Average P.R. Intelligence	Average First Year College Marks
Less than 50 pupils	.508	3.83
50- 99 pupils	.438	3.78
100-199 pupils	.458	3.58
200-299 pupils	.502	3.53
300-399 pupils	.463	3.51
400-499 pupils	.441	3.82
500-1529 pupils	.552	3.37
Portland high schools	.582	3.41

At the time that this study was made at the University of Oregon the greater average college mark signified the lower rating, therefore it would appear that students from high schools with enrollments of less than 100 made slightly less satisfactory college marks. The differences are so small, however, that it appears there is no significant relationship between the size of high school attended and the marks earned at the University of Oregon.

The 385 students involved in this study who entered college from Oregon high schools were grouped according to the size of the high school attended. Table XVI gives certain data for these classifications.

TABLE XVI

OREGON HIGH SCHOOLS BY SIZE HIGH SCHOOL AVERAGE MARKS PSYCHOLOGICAL SCORES JONES PREDICTION - OREGON STATE AGRICULTURAL COLLEGE AVERAGE AND DEVIATIONS FROM JONES' PREDICTIONS

No. High Schools	Mean No. Cases	1.62 Eng.	1.84 Math.	1.80 Soc. Sc.	1.87 Nat. Sc.	1.58 Lang.	1.96 Non. Acad.	1.39 Psy. Exam.	1.71 Jones Pred.	1.50 Average College	.21 Dev. from Jones Pred
					1	To	99				
34	38	2.09	2.13	2.32	2.22	1.64	2.18	1.24	2.02	1.56	.46
					100	To	199				
22	38	1.76	2.01	2.02	1.97	1.84	1.94	1.32	1.79	1.39	.40
					200	To	299				
11	21	2.01	1.54	2.10	2.04	1.79	2.14	1.42	1.88	1.62	.26
					300	To	399				
6	17	1.78	1.95	1.97	1.81	1.77	1.85	1.35	1.76	1.63	.23
					400	To	499				
4	18	1.74	1.89	1.80	1.77	1.47	1.96	1.22	1.67	1.40	.27
					500	To	999				
16	105	1.70	1.96	1.81	1.91	1.57	2.01	1.24	1.73	1.59	.14
					1000	To	1999				
2	16	1.72	1.90	1.69	1.78	1.74	2.23	1.31	1.76	1.47	.29
						Portland					
8	132	1.52	1.80	1.62	1.87	1.49	1.92	1.52	1.66	1.59	.07

An examination of Table XVI indicates that, in general, the students from the larger high schools made higher scores on the A.C.E. Psychological Test. The Jones predictions, based on an average of the psychological scores and the average marks given in each subject-classification, indicates that the composite high school marks decrease slightly as the size of the high schools increase, in other words, the marking in the large high schools is more severe. The students from the larger high schools come nearer to making the college scholastic averages predicted for their cases by the Jones method than those from the smaller schools do.

CHAPTER VI
CONCLUSIONS AND IMPLICATIONS

Conclusions:

1. College scholastic success can be predicted very satisfactorily from the high school grade average and the psychological test score.

2. College scholastic success is dependent upon ability and upon industry. Prediction of college scholastic success must be based upon these factors if it is to be satisfactory. The psychological test score is an index of ability. The high school grade average is an index of habits of industry.

3. College scholastic success can be predicted before a student enters college nearly as well as it can be at the end of the first quarter.

4. The high school composite grade average is the best single criterion for the prediction of college scholastic success.

5. The high school grade averages by single subject-matter fields give considerable predictive information about college scholastic success. These fields, in the order of their predictive value, are: English, and foreign languages; mathematics; social sciences; natural sciences; and non-academic subjects.

6. The test scores from a reliable intelligence or college entrance examination are fairly highly correlated with college scholastic success, but are distinctly less useful in the prediction of college

scholastic success than the combination of high school grades and intelligence test scores. As a matter of fact, they are no better for prediction than the high school grade-averages in any of the subject-matter fields taken by itself.

7. Women make higher average college marks than men do. This is true even when they make somewhat lower scores on psychological examinations.

8. The Jones' method of prediction of college success at Oregon State Agricultural College yields equally accurate results for men and women.

9. The size of Oregon high school attended bears little relation to the marks made at Oregon State Agricultural College.

10. The students from the larger high schools come nearer to making the college scholastic averages predicted for their cases by the Jones' method than students from the smaller high schools do.

Implications of this study for Education.

1. Education should be constructive in every way. Admission of any student who applies (with certain minimum requirements) without regard for his probable scholastic success is not the best educational procedure. Placing students on scholastic probation is only a makeshift measure, especially in the first quarter. It is much better from every point of view that the assortment of those who clearly can not attend college profitably be done as early as possible and with as

little of destructive emotional and social crisis as possible.

2. It is believed that the psychological examinations should be given under competent administrators at the high schools, or in other convenient centers, during the senior year in high school of the prospective students. Predictions of probable college success could then be made and the prospective student advised of his probable success some months prior to his entrance into the college. Inaccuracies of prediction and exceptions due to imperfect correlations would not be too important because only those with practically impossible odds against them would be advised definitely and firmly to stay away. Others could be told of the apparent odds against them and would have to accept their known chances of making good, if they came to college.

3. All students should have their actual scholastic accomplishments compared each quarter with their predicted accomplishment. If the actual were superior to the predicted, the student should be encouraged and complimented. If the predicted were superior to the actual accomplishment, causes should be sought and remedies applied.

4. Even with some method of prediction a number of students would be admitted whose scholastic records would be unsatisfactory. With an adequate plan of prediction and counseling, however, the number of these people admitted would be distinctly smaller. It is more than probable that the number of unsatisfactory scholastic records would be decreased as well.

APPENDICES

APPENDIX A

PSYCHOLOGICAL EXAMINATION PERCENTILES

From Confidental Manual

0 - 9	.000	180 - 189	.772
10 - 19	.001	190 - 199	.818
20 - 29	.005	200 - 209	.858
30 - 39	.013	210 - 219	.892
40 - 49	.028	220 - 229	.919
50 - 59	.052	230 - 239	.942
60 - 69	.084	240 - 249	.960
70 - 79	.124	250 - 259	.973
80 - 89	.174	260 - 269	.983
90 - 99	.228	270 - 279	.990
100 - 109	.287	280 - 289	.994
110 - 119	.349	290 - 299	.997
120 - 129	.413	300 - 309	.998
130 - 139	.477	310 - 319	.999
140 - 149	.541	320 - 329	.999
150 - 159	.604	330 - 339	.999
160 - 169	.665	340 - 349	.999
170 - 179	.721		

BASIC DATA OF STUDY

Sex and High School Record

No. represents the individual whose record is shown

APPRENDIX B NO. I
BASIC DATA OF STUDY

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
1	Glasgow	F.	2.50	2.00	2.00	2.00		2.34	2.17
2	Summit	M.	.50	1.50	1.33	.67	.00	2.00	1.20
3	Riddle	F.	1.75	1.00	2.34	2.00	1.50	3.00	1.93
4	Fall River	M.	.85	.53	.20	.20	.85	1.07	.62
5	Corvallis	F.	.00	1.50	.50	1.00		.67	.73
6	Grants Pass	M.	1.75	1.75	2.00	2.00	1.50	2.00	1.83
7	Albany	M.	2.00	3.00	1.50	3.00		2.43	2.39
8	Jefferson	M.	.53	1.07	1.27	.53		2.73	1.23
9	Yoncalla	M.	2.75	3.00	3.00	3.00	3.00	2.67	2.91
10	Jefferson	M.	1.81	1.75	2.73	2.42	2.12	1.91	2.12
11	Lincoln	M.	2.42	2.73	2.73	2.73	2.73	2.73	2.68
12	Albany	M.	2.00	2.25	2.21	1.46	1.67	2.17	1.96
13	Warrenton	M.	2.75	2.50	2.67	2.00	1.33	2.00	2.21
14	Grant	F.	2.73	2.73	2.73	2.73	2.73	1.50	2.53
15	Carlton	M.	1.50	1.00	2.50	2.33	1.00	2.33	1.78
16	Corvallis	M.	2.25	2.00	2.33	2.00		2.22	2.16
17	Klamath Falls	M.	.53	1.07	.85	1.89	.20	1.50	1.01
18	Anacortes	F.	2.58	2.58	2.83	2.17	2.17	2.58	2.49
19	Molalla	M.	.50	.25	1.00	.80			.64
20	Washington	M.	.85	2.24	.53	1.91	2.12		1.53
21	Franklin	F.	1.50	.85	1.75	2.73	1.50	1.50	1.64
22	Los Angeles	F.	2.00	2.00	1.75	1.33	.50	2.00	1.59
23	Brownsville	M.	2.73	2.73	2.73	2.73	2.73	2.32	2.65
24	Hillsboro	M.	2.21	2.58	2.38	2.17	2.17		2.30
25	Roseburg	F.	.88	.67	.57	.67	.00	1.17	.67
26	Centrallia	M.	2.17	3.00	2.17			2.76	2.53
27	Albany	F.	3.00	2.58	2.45	2.21	2.17	3.00	2.51
28	Alhambra	F.	1.50	.85	1.28	1.50	.67	1.70	1.25
29	Toledo	F.	2.25	2.00	1.00			1.80	1.76
30	Bend	F.	2.75	2.67	2.67	3.00	2.00	2.00	2.52
31	Stayton	M.	1.50	2.12	2.73	2.12	1.50	1.50	1.91
32	Roseburg	F.	2.50	1.67	2.00	2.33	2.00	2.33	2.14
33	Grant	F.	1.50	1.07	1.23	1.50	.46		1.15
34	Corvallis	M.	.75	1.75	1.40	.67	.50	2.00	1.17
35	Benson	M.	.20	.97	.20	.67		.46	.62
36	Jefferson	M.	.20	.85	.20	.85		1.50	.72
37	Long Beach	M.	1.73	1.18	1.07	.20	.67	1.46	1.05
38	San Bernardio	F.	1.46	.85	1.07	1.50	.85	1.79	1.25
39	Anocnoa	F.	1.50	1.40	1.28	1.25	1.50	2.18	1.52

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
40	Lakeview	F.	1.50	1.50	..67	2.00	1.00	1.00	1.44
41	Jefferson	F.	2.73	2.12	2.73	2.73	2.73		2.61
42	Maxwell	M.	.53		.20	.20	.00	1.07	.40
43	Los Angeles	M.	1.25	.75	2.33	2.40	1.33	2.00	1.67
44	La Grande	M.	.85	.85	1.18	.85	.20	2.73	1.11
45	Myrtle Point	F.	2.12		1.75	1.91	.20	2.73	1.75
46	Corvallis	F.	.25	.00	.67	1.00	.50	1.00	.57
47	Glendale	F.	1.50	1.50	1.07	.20	1.75	.20	1.04
48	Benson	M.	2.42	2.24	2.73	2.73		1.98	2.42
49	Estacada	F.	2.00	2.33	2.67	3.00		2.50	2.50
50	Corvallis	M.	2.67	2.67	2.75	2.50	2.00	2.00	2.44
51	Lakeview	F.	1.67	1.50	1.50	1.25	1.00	2.37	1.55
52	Washington	M.	2.73	2.73	.20	.20	.85	1.50	1.03
53	Salem	M.	1.49	1.48	1.49	1.81	1.50	2.12	1.65
54	Alsea	M.	2.67	1.67	2.33	2.00	1.50	1.00	1.84
55	Washington	M.	1.51	1.50	1.48	.20	1.50	2.73	1.48
56	Ione	F.	3.00	3.00	2.75	3.00	2.50	2.75	2.83
57	Hamilton	F.	1.25	.00	1.60		.00		.71
58	Baker	M.	2.12	1.91	1.48	1.91	2.73	.85	1.83
59	Corvallis	F.	.25	1.00	.50	1.00	1.50	1.00	.88
60	Olympia	M.	2.00	2.50	2.00	2.00	2.00	2.00	2.04
61	Aumsville	M.	2.00	2.50	2.80	3.00		3.00	2.68
62	Roosevelt	M.	1.91	2.73	2.73	2.73	2.12	2.12	2.39
63	Sisters	M.	2.25	3.00	2.67	3.00	2.50		2.69
64	Halsey	F.	3.00	3.00	2.67	3.00	3.00	3.00	2.94
65	Jefferson	M.	1.18	2.46	.20	2.12	.53	2.12	1.44
66	Washington	F.	2.12	2.12	1.91	.85	2.73	2.12	1.97
67	Camas	M.	.25	.00	.84	1.25		1.00	.67
68	Milwaukie	M.	1.50	2.73	2.12	2.42	1.50	2.73	2.17
69	Pendleton	M.	1.50	2.73	1.91	2.73	2.12	2.12	2.19
70	Beaverton	M.	1.67	2.17	1.84	2.17	1.84	1.50	1.86
71	Warrenton	M.	2.75	2.73	3.00	2.80	2.67		2.79
72	Grant	F.	.85	2.12	2.12	2.12	1.81	1.50	1.75
73	Lakeview	M.	1.00	.50	1.90	1.38		1.00	1.15
74	Grant	M.	2.73	2.73	2.73	2.73	2.73	2.73	2.73
75	Kiendaville	F.	1.50	1.50	.50	2.00	2.00	1.50	1.50
76	Los Angeles	M.	1.81	1.50	1.50	1.50	.85	1.50	1.45
77	Union	M.	.00	1.67	.00	1.50	.00	1.67	.81
78	Lakeview	M.	.50	1.33	1.00	1.33	1.00	2.00	1.19
79	Salem	F.	1.25	1.50	.67	1.50	1.00	1.67	1.24
80	Benson	M.	1.07	2.12	2.12	2.32		1.50	1.83
81	Salem	F.	2.00	1.50	2.00	1.00	1.50	2.25	1.71
82	Camas	F.	2.00	1.50	2.00	1.33	1.50	2.00	1.79

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
83	Forest Grove	M.	2.75	2.75	2.33	2.40	3.00		2.64
84	Wallowa	F.	1.50	2.00	1.67	1.00	1.00	2.00	1.53
85	Prairie City	F.	2.75	2.50	2.75	3.00	3.00	3.00	2.84
86	Corvallis	F.	2.00	1.50	1.67	1.50		2.00	1.73
87	Salem	M.	.53	.46	1.18	1.07	.20	1.50	.83
88	Los Angeles	M.	.85	1.07	1.56	1.50	.85	.67	1.08
89	Corvallis	M.	.75	2.00	1.00	1.00	.50	1.00	1.04
90	Pasadena	M.	.85	.85	1.69	1.50			1.22
91	Corvallis	F.	1.00	1.33	1.75	1.50	1.00	1.67	1.37
92	St. Elmo	M.	.00	.50	1.33	.75		3.00	1.10
93	Benson	M.	2.73	2.73	2.73	2.73		2.42	2.67
94	Willits	M.	1.91	1.91	2.73	1.50	1.50	1.81	1.89
95	Pasadena	M.	.20	1.50	1.48	1.07	.20	.20	1.03
96	Lebanon	M.	1.33	1.50	2.33	1.00		2.00	1.63
97	Jefferson	M.	1.50	1.48	1.50	2.12	.67	2.73	1.67
98	Pasadena	M.	.85	.85	1.99	1.91	.20	1.50	1.21
99	Grant	F.	2.12	2.73	1.91	1.50	1.99	2.73	2.16
100	Benson	M.	1.50	2.24	2.32	2.32		.85	1.85
101	Corvallis	M.	1.00	2.00	2.00	1.67	2.00	2.00	1.77
102	Washington	F.	1.50	1.50	1.18	.85	1.50	1.50	1.32
103	Washington	M.	.20	1.99	.53	1.50	.20	2.73	1.19
104	Oakland	M.	20	1.50	1.48	1.18	2.12	1.07	1.26
105	Lakeport	F.	.39	.85	.85	.85	2.73	1.49	1.18
106	Lakeview	F.	2.50	2.25	3.00	2.00	2.00	2.50	2.38
107	Jefferson	M.	2.12	2.12			2.24		2.16
108	Corvallis	M.	1.50	2.50	1.50	1.50		2.30	1.86
109	Central Point	M.	2.25	2.00	3.00	3.00	2.00	2.50	2.46
110	Oakland	F.	2.42	2.73	2.73	2.12	2.12	2.73	2.48
111	Benson	M.	2.12	1.99	2.12	2.73		2.32	2.26
112	Rainier	M.	.75	1.03	1.10	1.50	.50	1.17	1.01
113	Washington	M.	1.18	1.50	1.01	2.12	1.50	2.73	1.67
114	Salem	M.	1.40	2.50	2.30	2.70	2.30	2.30	2.25
115	Franklin	M.	1.18	1.18	1.50	1.50	.85	1.50	1.28
116	Pendleton	M.	1.50	.53	1.50	.20	1.50	.53	.96
117	Lincoln	M.	1.50	1.50	1.50	2.73	1.50	1.50	1.72
118	Huntington Park	M.	.85	1.50	.20	1.50		1.48	1.10
119	Lebanon	F.	2.50	2.00	2.00	2.00	2.33	2.50	2.22
120	Duluth	M.	.50	1.00	1.00	.00	1.50		.80
121	Albany	F.	2.38	2.17	2.17	2.17	2.17	2.58	2.27
122	Coquille	F.	1.50	1.50	2.00	2.00	.00	1.00	1.33
123	Albany	F.	2.79	3.00	2.83	3.00	3.00	3.00	2.94
124	Whitefish	M.	2.00	3.00	2.52	2.58	2.58		2.53
125	Spokane	M.	1.34	1.50	1.83	1.00		2.17	1.57
126	Washington	M.	2.42	2.73	2.32	2.43	2.73		2.51
127	Benson	M.	2.73	2.48	1.50	2.32		2.32	2.27
128	Corvallis	M.	1.00	1.33	.75	.50	.50	1.75	.97

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
129	Medford	M.	1.42	1.50	1.22	.67	1.83	2.17	1.63
130	Salem	M.	2.10	2.72	2.21	2.40	2.60	2.30	2.39
131	San Fernando	F.	1.75	2.67	2.00	1.50			1.98
132	Hood River	M.	2.13	2.05	2.60	2.30	2.30	2.80	2.38
133	Franklin	M.	1.17	.67	1.07	.85	.20		.79
134	Baker	M.	1.40	3.00	1.75	2.67	1.67	2.50	2.16
135	Oregon City	F.	1.75	1.00	1.50	.00	2.00	2.00	1.37
136	Grant	M.	.69	.72	1.28	1.50	1.50	1.50	1.24
137	Roosevelt	M.	.85	1.50	1.50	1.07	1.50		1.28
138	Benson	M.	.67	.85	2.73	1.91		1.48	1.53
139	Carthage	F.	1.00	2.00	1.00			2.00	1.50
140	Parma	M.	1.50	2.25	2.00	2.33	2.50		2.11
141	Corvallis	F.	2.75	2.75	1.50	2.00	2.00	2.00	2.17
142	Medford	M.	1.50	2.10	2.00	2.00	1.50		1.82
143	Washington	F.	1.97	2.42	1.91	2.42	2.36	2.73	2.30
144	Cottage Grove	M.	2.15	2.35	2.20	2.10	1.50	2.00	2.05
145	Antigo	M.	2.17	2.79	2.17	2.72		3.00	2.57
146	Los Angeles	M.	.90	1.50	2.33	2.00	1.50	1.75	1.66
147	Evanston	M.	1.00	1.50	.33	1.33	.00	2.00	1.03
148	Vale	M.	2.80	2.60	3.00	2.70	2.20	1.95	2.54
149	Corvallis	M.	1.50	2.67	1.40	1.67	1.00		1.65
150	Washington	M.	2.12	2.24	1.91	2.43	1.50	2.12	2.06
151	Grants Pass	F.	2.00	2.50	1.67	2.00	2.00	2.00	2.03
152	Lincoln	M.	2.25	2.00	1.33	3.00	1.50		2.00
153	Ore.Inst.Tech.	M.	1.75	1.50	2.25	1.50		1.50	1.70
154	Grass Valley	F.	2.12	2.73	2.12	2.12		2.12	2.24
155	Dayton	F.	2.00	2.00	2.33	2.50	2.50	2.00	2.23
156	Walker	F.	.71	.67	.95	1.09	.00	2.25	.95
157	Benson	M.	1.18	2.24	1.50	1.50	.20	1.50	1.35
158	Grant	M.	1.00	1.49	1.07	.72	.85	1.50	1.10
159	Corvallis	M.	2.25	2.50	2.00	2.20		2.89	2.37
160	Milwaukie	M.	2.25	2.00	3.00	2.50	.00	2.33	2.01
161	Pendleton	F.	2.73	2.73	2.84	1.50		2.67	2.49
162	St. Louis	F.	.75	.00	1.25	1.00	.25	2.00	.88
163	Enterprise	M.	2.00	2.75	3.00	2.00	2.00	2.50	2.38
164	Whittier	M.	.85	.20	1.91	.20	1.14	1.50	.97
165	Payette	M.	1.00	1.50	1.00	1.00		1.00	1.10
166	Grant	M.	2.12	2.60	2.73	2.58	1.50	1.50	2.18
167	Corvallis	F.	3.00	3.00	2.80	3.00	2.67	3.00	2.91
168	Astoria	M.	1.81	2.48	1.48	2.32		2.73	2.16
169	Ontario	M.	.83	1.72	1.50	1.50	1.50	2.17	1.54
170	Bend	M.	.80	1.60	1.60	.70	1.52	.40	1.10
171	Twin Falls	F.	2.40	2.40	2.40	2.40	2.40	2.40	2.40

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
172	Pendleton	M.	1.57	2.42	1.50	1.50	.85	1.50	1.56
173	Lincoln	M.	1.75	3.00	2.00	2.00	2.00	3.00	2.30
174	Corvallis	F.	1.50	2.00	1.25	1.50	1.50	2.25	1.67
175	Franklin	M.	.42	1.41	1.18	1.55		2.12	1.33
176	Ore.Inst.Tech.	M.	1.00	1.67	1.50	1.00	3.00	1.67	1.64
177	Corvallis	F.	1.75	2.50	1.60	1.00	3.00	2.00	1.98
178	Antelope	M.	2.50	2.67	2.40	2.00	2.00	2.00	2.26
179	Ore.Inst.Tech.	M.	2.00	2.00	2.00	1.33		2.50	1.96
180	Salem	M.	2.20	2.28	2.55	2.65	2.30	2.40	2.41
181	Van Buren	F.	1.67	1.33	1.00	2.00	1.00		1.40
182	Corvallis	F.	1.25	1.80	2.50	2.33	.75	2.20	1.81
183	Sisters	M.	2.17	1.83	2.39	2.02	1.83		2.05
184	Frederick	M.	1.33	2.00	2.00	1.50	2.50	1.50	1.81
185	Jefferson	M.	1.50	2.24	2.73	2.73	2.12	2.73	2.34
186	Jefferson	F.	1.50	2.73	1.99	2.73	2.12	2.73	2.30
187	Benson	M.	1.50	1.75	1.50	1.50		1.91	1.63
188	East Greenwich	M.	2.00	1.33	2.33	2.00	2.00		1.93
189	Benson	M.	.67	1.81	2.12	1.50		1.81	1.58
190	Lincoln	M.	.50	1.50	.50	1.00	1.00		.90
191	Baker	M.	.69	1.07	1.49	2.12		1.87	1.45
192	Parkrose	F.	2.50	3.00	3.00	3.00	3.00	3.00	2.92
193	Maupin	M.	.50	1.75	2.00	1.75		2.00	1.60
194	Corvallis	F.	2.00	1.67	2.67	2.50		2.00	2.17
195	Benson	M.	.67	2.73	1.91	2.73		1.50	1.91
196	Brownsville	M.	2.73	2.73	2.73	2.73	2.73	2.73	2.73
197	Milbank	F.	2.66	2.44	2.88	2.00	2.44	2.22	2.44
198	Ontario	M.	2.00	2.00	2.50	2.00	1.75		2.05
199	Newberg	F.	1.50	1.08	1.63	1.50	1.08	1.08	1.47
200	Kelso	F.	2.00	2.00	2.25	1.67	1.50	2.50	1.99
201	Olympia	F.	1.14	1.50	.97	1.10	1.10	1.50	1.22
202	Jefferson	M.	2.42	2.48	2.73	2.32	1.50	2.73	2.48
203	Grant	F.	1.47	1.00	1.87	1.83	.53	2.12	1.47
204	Corvallis	M.	.75	1.25	1.00	1.50	2.00	3.00	1.58
205	Washington	M.	.38	1.96	.67		.67	2.12	1.16
206	Imbler	M.	2.25	2.00	2.33	2.00	2.50	2.00	2.18
207	Grant	M.	2.03	2.41	2.24	1.45	1.50	2.00	1.94
208	Ashland	M.	2.11	2.17	2.17	2.17	2.17	2.17	2.17
209	Eugene	M.	1.50	1.33	2.00	2.50	2.00	1.00	1.72
210	Redmond	M.	1.50	2.00	2.00	2.00		1.33	1.76
211	Kellog	F.	2.20	2.10	2.25	2.50	2.00	2.40	2.24
212	Lacag	M.	.75	1.00	1.00	1.00		1.00	.95
213	Washington	F.	.85	1.91	.67	.85	1.33	1.50	1.18
214	Fresno	F.	2.25	2.00	2.20	2.00	2.00	2.00	2.08
215	Oregon City	M.	1.00	2.00	1.25	1.50	.50	1.50	1.29

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
216	Long Beach	M.	.53	1.75	1.50	1.50	1.50	1.50	1.38
217	Corvallis	M.	2.00	2.33	2.20	3.00	2.00	2.00	2.26
218	Silverton	F.	1.48	1.50	1.91	2.12	.20	1.79	1.50
219	Franklin	F.	2.48	2.32	2.73	2.73	2.32	2.12	2.45
220	Palo Alto	M.	.53		1.28		1.50	1.55	1.22
221	Corvallis	M.	.50	2.00	1.67	2.33	1.50	2.00	1.83
222	Crockett	M.	.85	.63	1.91	1.07		1.28	1.14
223	Marshfield	M.	2.17	1.25	1.95	2.17	2.17	1.42	1.89
224	Silverton	F.	2.75	2.00	2.60	2.67	1.33	2.00	2.26
225	Lincoln	M.	.85	.20	.85	1.28	1.50	1.50	1.03
226	Myrtle Creek	F.	1.50	.33	.67	1.33	1.75	2.00	1.26
227	Oregon City½	M.	1.25	.50	2.00	1.33	.33	3.00	1.40
228	Corvallis	M.	.50	1.67	1.00	1.67	2.00	1.67	1.42
229	Benson	M.	.20	.72	.85	1.50		2.01	.86
230	Washington	F.	1.18	2.42	1.91	1.28	2.42	2.12	1.95
231	Greely	F.	2.00	2.00	2.00	2.00		2.50	2.10
232	Hamilton	M.	2.00	2.00	1.00	2.25			1.55
233	Jefferson	M.	.53	.72	.85	2.73	.20	1.50	1.09
234	Pierce	M.	2.67	2.50	2.50	3.00	3.00	.75	2.40
235	Lincoln	M.	1.50	1.18	1.50	2.42	.85		1.50
236	Forest Grove	F.	1.50	1.25	1.67	1.67	1.00	1.00	1.35
237	Milwaukie	F.	1.75	2.00	2.00		2.00	2.00	1.95
238	Corvallis	F.	2.00	1.00	1.25	1.50	1.00	2.00	1.46
239	Grant	F.	2.42	2.73	2.73	2.73	2.73		2.68
240	Corvallis	F.	2.50	2.50	2.25			2.74	2.49
241	Holy Child Ac.	F.	2.00	2.67	2.80	2.00	2.60	2.41	2.41
242	Jefferson	M.	1.50	2.36	1.28	2.42		1.50	1.81
243	West Chester	M.	.50	.33	1.00	1.25	1.00	2.00	1.01
244	Los Angeles	M.	.85	1.18	2.73	1.71		2.12	1.71
245	Vernonia	M.	2.05	2.20	2.07	2.10	1.00	2.20	1.94
246	Dallas	M.	1.50	.85	.98	1.50	2.12	1.50	1.40
247	Castillia	F.	1.75	2.00	2.00	2.00	1.67	3.00	2.00
248	Weiser	M.	2.73	1.54	2.73	2.48	2.12		2.33
249	The Dalles	F.	2.00	2.00	2.00	2.00	2.00	2.25	2.05
250	Grant	M.	2.73	2.73	2.73	2.73	2.12		2.61
251	Brownsville	M.	1.16	2.12	1.49	.85	.20	2.12	1.33
252	Raymond	F.	.50	1.00	.50	2.00	1.00	1.33	1.05
253	Orange	M.	1.50	1.07	2.42	1.50	1.50	1.81	1.64
254	Corvallis	M.	1.75	2.50	1.75	1.20	1.25	.00	1.41
255	Sioux Falls	F.	2.72	2.38	2.38	3.00	2.79	3.00	2.70
256	Grants Pass	M.	.50	1.60	.67	2.00	.33	2.00	1.18
257	Seattle	M.	.50	1.50	1.48	.85	.20	1.16	.95
258	Hood River	M.	2.20	2.70	2.33	2.40	2.40	2.20	2.37

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
259	Franklin	M.	.85	1.11	1.99	1.06	.85	1.26	1.19
260	Port Orford	M.	2.73	2.73	2.73	2.73			2.73
261	Grant	M.	1.17	1.23	1.75	1.50	.20		1.17
262	Oregon City	F.	2.75	2.50	2.00	2.00	2.67	2.33	2.38
263	Corvallis	M.	1.00	.00	1.50	1.00		1.67	1.03
264	West Linn	M.	2.00	2.33	2.67	2.50	2.67	2.00	2.36
265	West Linn	M.	1.50	1.80	1.67	2.00	2.00	2.00	1.83
266	Eugene	M.	1.33	1.00	2.00	2.00	2.00	2.00	1.73
267	Ridgefield	M.	1.93	2.33	2.55	2.43	2.17	2.60	2.34
268	Corvallis	M.	2.25	2.50	2.60	2.33	2.00	1.50	2.22
269	Astoria	M.	2.12	2.73	2.73	2.73	1.50		2.37
270	Walla Walla	F.	1.72	1.83	1.39	.40	1.05		1.28
271	Corvallis	M.	1.25	1.00	2.00	1.50	1.00	1.80	1.43
272	Benson	M.	1.16	1.46	.20	1.07		1.50	1.09
273	Elma	M.	1.84	1.84	2.39	2.00		1.75	1.97
274	Medford	M.	1.19	1.58	1.61	2.21	1.50	2.31	1.73
275	Junction City	M.	1.25	1.00	1.40	1.50	1.50	2.00	1.44
276	Butte	M.	2.00	2.34	2.23	2.79	1.00		2.08
277	Orland	M.	1.18	1.07	1.17	.85	1.17	1.17	1.10
278	Salem	M.	2.50	2.30	1.85	2.30		2.51	2.29
279	San Monica	M.	.84	.72	1.44	1.63	.20	2.73	1.26
280	Myrtle Creek	F.	2.00	2.67	2.33	2.00	2.50	2.67	2.38
281	Myrtle Creek	M.	2.25	2.00	2.40	2.00	2.00	2.00	2.11
282	Mossyrock	M.	1.33	2.00	2.00	2.50	2.00	1.75	1.93
283	Santa Ana	M.	.63	.53	.98			1.18	.83
284	Culver	M.	.40	1.00	1.10	1.00	.33	1.25	.85
285	Wasco	M.	1.75	2.25	2.00	2.00	2.00	1.67	1.94
286	Tillamook	M.	1.00	1.33	1.67	1.00	1.50	2.00	1.42
287	Washougal	F.	2.21	3.00	2.17	3.00	2.79	3.00	2.52
288	Riverside	F.	2.32	2.48	2.12	2.73		2.73	2.48
289	Albany	M.	1.25	1.00	1.42	1.72		1.00	1.27
290	Corvallis	M.	1.75	1.00	2.00	1.67	1.00	2.00	1.57
291	Astoria	M.	.85	1.75	1.91	1.50		1.50	1.50
292	Lincoln	M.	2.33	2.40	1.75	2.67	2.50		2.33
293	Kerby	M.	1.75	2.00	2.16	2.25		1.00	1.83
294	Salem	F.	1.40	2.05	1.10	1.00	2.72	2.30	1.89
295	The Dalles	M.	1.25	1.00	2.25	2.00	1.00		1.50
296	Jefferson	M.	2.12	2.27	2.12	2.73	2.12	2.12	2.24
297	Forest Grove	M.	2.00	2.00	2.50	2.00	2.67		2.24
298	Scappoose	M.	1.91	2.73	2.73	2.73	2.73	2.73	2.59
299	Washington	M.	2.73	1.48	.53	.53	.85		1.22
300	Long Beach	M.	2.73	2.73	1.81	2.12	2.73	2.73	2.48
301	Clatsop County	M.	1.75	2.25	2.00	2.50	2.50	2.33	2.22
302	Marshfield	M.	2.79	3.00	3.00	3.00	2.79	3.00	2.93

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
303	Rickerall	M.	3.00	3.00	3.00	3.00	3.00	3.00	3.00
304	Marshfield	M.	2.21	2.58	2.06	2.38	1.84	2.17	2.23
305	Hollywood	M.	.85	1.18	1.07	1.50	1.07	1.50	1.19
306	Roosevelt	F.	2.73	2.73	2.73	2.73	2.73	1.50	2.53
307	Berkley	M.	1.46	1.50	.74		.20	.84	.95
308	Corvallis	F.	1.60	1.83	1.25	2.00		1.00	1.53
309	Hoquiam	M.	2.13	2.30	2.52	2.35	2.20		2.40
310	Kalama	F.	2.20	2.20	2.40	2.20		2.40	2.29
311	Silverton	F.	2.40	2.50	1.75	2.67	2.00	3.00	2.39
312	Etna	M.	.67	1.50	1.16	1.50	.20	1.17	1.04
313	Jefferson	M.	2.10	1.75	2.12	2.73	2.73	1.91	2.22
314	Washington	M.	.85	1.96	.85	2.12	1.81	2.73	1.72
315	Deming	M.	1.00	1.00	1.40	1.00		1.00	.90
316	Astoria	F.	2.12	1.86	1.75	1.50	.85	2.73	1.80
317	Commerce	F.	1.49	2.12	1.44			1.47	1.63
318	Corvallis	F.	2.00	2.50	1.75	2.00		2.33	2.11
319	Lincoln	M.	1.81	1.91	.85	2.12	1.81		1.70
320	Cottage Grove	M.	2.20	2.35	2.33	2.20		.40	1.90
321	Grants Pass	M.	1.25	1.50	.50	.67	.50	2.00	1.07
322	Aurora	M.	1.45	.70	.40	1.20	.40	1.60	.96
323	Washington	M.	.46	.46	.67	.85	2.12		.91
324	Palo Alto	M.	1.50	2.24	2.12	2.12	1.50	1.50	1.74
325	Lincoln	F.	2.42	2.12	2.12	2.73	1.91		2.26
326	Sandy	M.	2.00	2.50	2.40	3.00	1.50	2.00	2.23
327	Marshfield	M.	1.12	2.17	2.17	2.17	1.50	3.00	2.02
328	Clatskaine	F.	2.00	2.00	2.50	2.00	2.00		2.10
329	Los Angeles	M.	.85	.85	.53	.79	1.50	1.81	1.05
330	Chemawa	M.	2.50	.00	1.50	.50		1.50	1.29
331	Roosevelt	M.	1.18	1.81	1.18	1.50	1.50	.20	1.23
332	Cottage Grove	M.	1.85	2.35	1.90	3.00	.40	2.60	2.01
333	Corvallis	F.	2.50	3.00	2.25	2.50	3.00	2.00	2.54
334	Panahou	M.	1.00	.00	.50	1.00		1.67	.83
335	Corvallis	F.	2.00	2.33	2.20	2.00	1.80	1.50	1.97
336	Grat	F.	.46	.20	.85	1.17	1.50	1.48	.94
337	Parkrose	F.	1.75	.67	2.00	2.60	1.00	2.00	1.67
338	Tigard	F.	2.50	2.00	3.00		2.67	2.50	2.54
339	Franklin	M.	1.91		1.07			1.09	1.35
340	Corvallis	M.	1.90	1.33	1.33	2.10	1.67	2.50	1.80
341	Santa Ana	M.	.85	1.75	1.18	.98	1.50	1.50	1.31
342	Halfway	M.	2.50	2.75	3.00	2.50	3.00	3.00	2.79
343	Harney County	M.	2.73	2.73	2.73	2.73	2.73	2.73	2.73
344	Pasadena	F.	2.48	2.48	1.91	2.32	2.73	2.42	2.49
345	West Linn	M.	1.00	2.20	2.40	2.00	1.00		1.72

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
346	Placer Union	M.	1.84	1.72	2.17	1.50	1.50	2.17	1.82
347	Beaverton	M.	1.75	1.75	1.00	2.00	1.00	2.00	1.68
348	Ashland	F.	2.00	1.50	1.75	.00	1.00	1.50	1.30
349	McLoughlin	M.	1.50	2.50	1.50	2.00		3.00	2.10
350	Corvallis	M.	1.67	2.00	2.00			1.40	1.81
351	Astoria	M.	1.81	2.32	1.91	1.91		1.50	1.91
352	Castle Rock	F.	2.00	2.00	2.67	2.00	2.50	2.00	2.19
353	Corvallis	M.	1.75	2.50	2.00	2.50		1.80	2.11
354	Forest Grove	M.	1.50	2.25	2.00	2.00	1.00	2.00	1.79
355	Milwaukie	F.	1.98	1.87	2.05	1.15	1.32		1.65
356	Albany	F.	2.38	2.43	2.17	2.58	2.17	2.58	2.39
357	Enterprise	M.	1.67	1.84	1.45	1.50	1.08	1.22	1.46
358	Corvallis	M.	.75	1.67	1.25	1.00	1.50		1.23
359	Hood River	F.	2.45	2.10	2.43	1.63	1.50	2.13	2.04
360	Salem	M.	1.49	1.58	.68	1.40	1.10	2.30	1.42
361	Los Angeles	M.	.85	.67	.53	1.50		1.50	1.01
362	Roseburg	M.	2.30	2.85	1.96	2.00	2.20	2.50	2.30
363	Jefferson	M.	1.18	.46	1.50	1.50	.85	1.50	1.16
364	Jordan Valley	M.	1.50	2.00	2.00	2.00		2.00	1.90
365	Lakeview	M.	1.40	2.40	1.75	2.00	.50		1.61
366	Washington	M.	.53	1.07	.69	.67	2.12		1.19
367	Pendleton	F.	3.00	3.00	2.67	2.00	3.00	3.00	2.78
368	Washington	M.	1.01	1.28	1.33	.20	1.18	2.12	1.19
369	Franklin	M.	2.73	1.99	2.32	2.73	1.81		2.30
370	Sinclair	M.	1.75	1.00	2.00	1.67	1.00	1.50	1.15
371	Hood River	M.	2.40	2.20	2.20	2.20	2.20	2.40	2.38
372	John Muir	M.	1.01	.53	1.28	.98	.20	1.07	.84
373	North Park	M.	1.50	2.12	1.81	2.32	2.12	2.73	2.10
374	Benson	M.	1.07	2.42	1.50	1.91		1.07	1.59
375	Benson	M.	1.07	2.42	1.50	1.91		1.07	1.59
376	Corvallis	M.	.75	.67	1.00	1.00	.50	2.00	.99
377	Jefferson	M.	1.18	1.79	1.50	2.12	1.50	2.73	1.81
378	Klamath	M.	.10	2.17	1.31	1.08	.64	1.00	1.05
379	Tillamook	M.	2.50	3.00	2.50	2.00	2.00	3.00	2.50
380	Washington	M.	1.18	1.67	1.18	1.50	.20		1.14
381	Jefferson	M.	1.18	1.49	1.16	2.42	.85		1.42
382	Benson	M.	1.18	2.73	1.50	2.32		1.50	1.85
383	Albany	M.	2.00	2.83	2.17	2.58	1.00	2.58	2.19
384	Ashland	M.	1.25	1.00	1.40	1.00	1.00	2.00	1.28
385	Corvallis	M.	1.75	1.60	2.00	1.00	1.25	1.90	1.58
386	Corvallis	F.	1.75	2.50	2.75	2.20	1.67	2.25	2.19
387	Paisley	F.	2.20	1.40	1.25	1.50	.70	1.80	1.47
388	Bend	M.	2.79	2.58	2.17	2.17	3.00	3.00	2.62

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
389	Elgin	M.	1.87	1.30	1.80	1.25	1.00	2.00	1.54
390	Monrovia	M.	1.17	1.10	.50	.67		2.00	1.11
391	Benson	M.	1.50	1.99	2.73	2.32		1.91	2.09
392	Lincoln	F.	2.73	2.12	1.49	1.50	2.42	1.50	1.96
393	Grant	M.	1.74	1.23	1.50	1.28	.20	1.50	1.24
394	Ashland	M.	1.00	1.80	1.25	1.33	1.50	2.00	1.48
395	Myrtle Point	F.	2.12	.85	1.69	2.12	2.12	2.73	2.01
396	Ontario	M.	2.21	3.00	2.45	2.45	2.17	2.17	2.41
397	Col. Univ.	M.	2.50	1.67	3.00	3.00	3.00		2.63
398	Roseburg	M.	1.04	1.72	1.50	1.90	.70	2.00	1.48
399	Washington	M.	.46	.98	1.07	.85	.20	2.73	1.04
400	Franklin	M.	1.18	1.50	.72	2.12		1.50	1.41
401	Jefferson	F.	.85	.67	.67	1.50	1.07	2.73	1.25
402	Estacada	F.	2.25	2.67	2.50	1.00	2.50	2.10	2.17
403	St. Louis Col.	M.	2.12	1.73	2.73	2.12	1.91	2.73	2.22
404	Estacada	M.	2.00	2.50	2.00	2.33	2.00	2.00	2.14
405	Knappa	M.	2.50	2.50	3.00	2.67	3.00	2.33	2.66
406	Jefferson	M.	2.73	2.73	2.73	2.73	2.42		2.68
407	Clovis	M.	.25	1.00	.88	.67	1.00		.76
408	San Francisco	M.	.46	.85	.65	.85	1.50	1.50	.97
409	Hill Mil.Acad.	M.	1.50	1.99	1.28	1.50	1.50	1.50	1.54
410	Benson	M.	1.91	1.81	2.12	1.91		1.91	1.93
411	Grants Pass	M.	1.00	1.67	1.50	2.50		1.83	1.70
412	Huntington	M.	2.00	1.33	2.00	2.00	1.50	2.00	1.81
413	Tigard	M.	2.73	2.73	2.12	2.73		2.49	2.56
414	Grant	M.	.46	.98	1.81	1.50	.20	1.50	1.25
415	Vancouver	F.	2.17	2.33	1.70	1.20	1.40	2.20	1.97
416	Scotts Mill	M.	2.25	2.00	2.80	2.00	2.00		2.21
417	Lebanon	M.	1.00	1.25	.80	.50	1.00	1.00	.92
418	Benson	M.	1.91	2.73	2.12	2.12		1.81	2.14
419	Molalla	M.	2.75	3.00	3.00	3.00	3.00	3.00	2.96
420	Benson	M.	.67	.72	1.50	1.50		1.49	1.89
421	Kelso	M.	2.00	2.40	2.67	2.50			2.39
422	Jefferson	M.	2.12	1.48	2.12	2.32	2.24		2.05
423	Grants Pass	F.	3.00	3.00	2.75	2.50	3.00	2.67	2.82
424	Weiser	M.	1.09	1.42	1.83	.67	1.83	1.83	1.44
425	Hermiston	M.	1.90	2.35	1.20	2.10	2.13		1.93
426	Salem	M.	1.65	2.30	1.62	1.40	.93	2.65	1.75
427	Gresham	M.	1.33	1.75	2.00	1.67		1.83	1.72
428	Corvallis	M.	.63	.75	.70	1.00	.25	1.40	.79
429	Lincoln	M.	1.50	2.12	1.50	2.12	2.32	1.50	1.84
430	Ontario	M.	1.50	1.84	2.17	1.72	1.50	2.17	1.82
431	West Linn	F.	1.75		1.25			2.14	1.71
432	Baker	M.	3.00	3.00	3.00	3.00	3.00	3.00	3.00

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
433	Washington	F.	1.33	2.12	.85	.67	1.49	1.99	1.21
434	Wilbur	F.	2.73	2.32	2.42	2.73	2.73	2.73	2.61
435	Bend	M.	2.58	3.00	3.00	2.72	3.00	2.72	2.84
436	Lincoln	M.	.85	.67	.67	1.50	.85	2.73	1.21
437	Dallas	F.	2.25	2.75	2.33	2.00	2.50	2.50	2.39
438	Bakersfield	M.	1.67	1.79	2.38	2.07	1.72	2.58	1.97
439	Gresham	M.	2.00	2.50	1.75	2.67	1.50		2.07
440	Benson	M.	1.91	1.86	2.12	2.32		1.50	1.91
441	Eugene	M.	1.67	1.10	1.84	1.50	1.00	2.17	1.54
442	Jefferson	M.	.69	1.07	1.07	1.28	.53		.93
443	Lincoln	M.	1.50	.85	1.50	2.42	.20		1.29
444	Corvallis	M.	2.10	3.00	2.50	3.00	2.40	2.50	2.58
445	Long Beach	M.	.20	1.50	.85	.85	1.50	1.07	.97
446	Albany	F.	2.00	3.00	2.25	1.50	1.00	2.21	1.99
447	Benson	M.	2.42	2.73	2.73	2.73		2.73	2.66
448	Ore.Inst.Tech.	M.	1.87	2.62	2.50	1.75	1.67	2	2.08
449	El Derado	M.	2.73	2.73	2.73	2.12	2.73	2.73	2.62
450	Grant	M.	1.64	1.99	1.64	1.18	1.50		1.59
451	Jefferson	M.	1.50	1.49	1.50	2.32	1.50	1.91	1.71
452	Baker	M.	1.48	1.60	2.41	2.18	2.73	1.50	1.98
453	Corvallis	M.	3.00	2.33	2.20	2.50	1.50	1.50	2.16
454	Benson	M.	1.07	2.12	1.50	1.07		1.91	1.53
455	Ashland	M.	.75	.50	.70	1.00	.50	.50	.66
456	Nyssa	M.	2.38	2.17	2.72	2.72	2.17	1.50	2.28
457	Lincoln	M.	1.18	.20	2.12	1.50	.85	.85	1.12
458	Grants Pass	F.	2.00	1.25	1.75	2.00	2.00	3.00	2.00
459	Franklin	M.	2.65	2.12	2.12	1.94	.53	2.73	2.01
460	Benson	M.	1.91	2.73	1.91	2.73		2.32	2.32
461	Glendale	M.	1.00	1.00	2.00	1.33	.00	1.00	1.05
462	Parkrose	M.	1.75	1.75	.67	1.33		1.83	1.47
463	Salem	F.	2.80	2.65	2.63	2.33	3.00	2.60	2.67
464	Gold Beach	M.	1.75	1.50	2.12	2.25	1.00		1.72
465	White Fish	M.	2.00	1.50	2.50	2.00		1.50	1.90
466	Shedd	M.	2.00	2.00	1.80	2.00		2.00	1.96
467	Lakeview	M.	1.75	2.00	2.00	2.17	1.50	.00	1.57
468	Tigard	M.	1.12	1.67	2.17	1.83	1.50	2.00	1.71
469	Whittier	F.	1.50	.20	1.81	1.50	1.50	1.47	1.33
470	Salem	M.	1.60	1.92	2.00	1.25	2.15	2.20	1.84
471	Grant	M.	2.48	2.73	2.73	2.73	2.73	2.12	2.59
472	Woodland	M.	2.00	2.00	2.00	2.50	2.00	3.00	2.25
473	Glendale	M.	.20	.72	1.50	1.07	1.50	.85	.98
474	Washington	M.	.20	.63	.53	.67	.85		.58

No.	High School	Sex	Eng.	Math.	Soc. Sc.	Nat. Sc.	Lang.	Non-Acad.	Comp.
475	Klamath	M.	.52	.80	.52	1.88	.68	1.10	.91
476	Grant	M.	2.48	2.32	2.32	2.73	1.81	2.73	2.39
477	Silverton	M.	1.12	1.25	.50	2.33	.00	2.33	1.23
478	La Grande	M.	1.96	2.36	2.38	2.45	1.50	2.17	2.14
479	Kelso	M.	1.60	1.30	2.07	2.00	1.46	2.20	1.77
480	Washington	M.	.20	1.70	.53	1.49	2.12		1.20
481	Lincoln	M.	2.73	2.73	2.73	2.73	2.73	2.73	2.73
482	Corvallis	M.	1.25	2.33	1.25	2.00	.50	2.00	1.56
483	Jefferson	M.	1.50	1.86	.85	1.50	.85	1.91	1.41
484	Jefferson	M.	.20	.53	1.18	1.50	.20		.72
485	Klamath Falls	F.	3.00	3.00	3.00	3.00	3.00	3.00	3.00
486	Benson	M.	2.73	2.73	2.73	2.32		2.32	2.57
487	San Francisco	M.	2.00	1.96	2.19	2.00	2.17	2.00	2.06
488	Grant	M.	.72	1.00	.67	1.50	.20	1.18	.87
489	Benson	M.	1.50	1.50	.85	1.50		1.07	1.28
490	Jefferson	M.	2.12	1.91	2.12	2.73	2.12	2.12	2.18
491	Milwaukie	M.	1.19	.96	2.20	1.92	1.42	1.83	1.42
492	Grant	M.	1.07	.97	1.50	1.50	.83	1.99	1.06
493	Washington	F.	.51	.20	1.50	1.48	1.46	1.50	1.11
494	Grant	M.	1.65	2.32	1.48	2.12	1.81	1.50	1.81
495	Grant	M.	1.55	1.88	1.91	2.74	2.00	2.50	2.09
496	Beaverton	M.	2.75	2.25	2.60	2.90	3.00		2.69
497	Punahou Acad.	M.	1.00	1.20	1.00	.33	1.00	1.00	.92
498	Benson	M.	2.73	2.73	2.73	2.73		2.73	2.73
499	Jefferson	M.	.53	2.73	1.14	1.50	.67	1.50	1.34
500	Benson	M.	2.12	1.99	1.07	1.91		1.07	1.63
	Cases		500	495	499	485	396	429	500
	Mean		1.62	1.84	1.80	1.87	1.58	1.96	1.78

BASIC DATA OF STUDY

Cumulative College Marks

Quarters 1 to 9

No. represents the individual whose record is shown

APPENDIX B NO. II
BASIC DATA OF STUDY

No.	1	2	3	4	5	6	7	8	9
1	2.12	2.18	2.25	2.29	2.24	2.26	2.26	2.31	2.32
2	2.00	1.78	1.76	1.56	1.46	1.41	1.38	1.29	1.26
3	2.25	1.91	1.98	1.88	1.86	1.69	1.71	1.72	1.65
4	.00	.00	.71	.56	.79	.92	.83	.85	.94
5	.00	.50	.71	.82	.71	.80	.89	.84	.81
6	.62	.68	.84	1.22	1.32	1.31	1.30	1.34	1.36
7	2.12	2.18	2.21	2.25	2.25	2.21	2.22	2.24	2.22
8	.50	.96	1.17	1.27	1.27	1.23	1.24	1.26	1.23
9	1.14	1.42	1.70	1.80	1.76	1.72	1.82	1.69	1.68
10	1.00	1.00	.87	.86	.96	.99	1.02	1.07	1.09
11	2.50	2.54	2.41	2.45	2.35	2.33	2.29	2.33	2.33
12	1.43	1.02	.93	1.09	1.25	1.37	1.37	1.40	1.40
13	2.25	2.06	2.04	2.10	1.99	2.00	1.89	1.84	1.72
14	2.75	2.38	2.45	2.27	2.18	2.06	2.17	2.16	2.09
15	.88	.88	1.02	1.04	1.05	1.19	1.19	1.21	1.24
16	1.71	1.71	1.47	1.40	1.42	1.38	1.33	1.29	1.36
17	.00	.19	.13	.09	.20	.27	.32	.39	.44
18	2.00	2.25	2.29	2.12	2.02	1.96	1.93	1.90	1.87
19	.88	1.22	1.19	.89	.95	.96	1.05	1.04	1.05
20	1.43	1.72	1.67	1.64	1.55	1.61	1.60	1.57	1.50
21	2.12	1.99	1.95	1.84	1.92	1.99	1.96	1.92	1.95
22	.75	1.02	.97	.75	.72	.77	.77	.75	.84
23	1.29	1.70	1.84	1.75	1.87	1.94	2.04	2.12	2.22
24	2.00	1.94	1.81	1.93	1.99	2.00	2.02	1.96	1.94
25	.00	1.00	1.19	1.06	1.05	.94	.89	.84	.80
26	2.88	2.88	2.88	2.90	2.92	2.91	2.89	2.81	2.74
27	1.71	1.85	1.76	1.25	1.32	1.56	1.62	1.61	1.62
28	1.86	1.50	1.52	1.45	1.35	1.33	1.40	1.38	1.42
29	2.62	2.43	2.00	1.69	1.69	1.79	1.83	1.88	1.89
30	2.75	2.87	2.92	2.93	2.90	2.88	2.86	2.80	2.75
31	1.29	1.22	1.24	1.15	1.28	1.34	1.29	1.27	1.29
32	1.57	1.91	1.80	1.94	1.91	1.80	1.88	1.82	1.81
33	1.71	1.43	1.47	1.43	1.42	1.39	1.30	1.28	1.23
34	.88	.63	.94	.71	.74	.83	.90	.92	.97
35	.38	.25	.46	.47	.53	.56	.73	.75	.79
36	.88	.94	.92	.98	1.12	.94	.80	.78	.85
37	2.25	2.43	2.22	2.15	2.19	2.15	2.02	2.05	2.04
38	1.14	1.42	1.42	1.29	1.09	1.03	1.02	.94	.95
39	.00	.50	.63	.66	.65	.54	.56	.61	.69
40	.88	.57	.71	.72	.70	.77	.80	.74	.72
41	2.88	2.69	2.79	2.60	2.44	2.44	2.30	2.27	2.31
42	.00	.25	.29	.32	.33	.28	.49	.42	.54

No.	1	2	3	4	5	6	7	8	9
43	.75	.82	1.11	1.16	1.33	1.41	1.40	1.44	1.41
44	.75	.95	.63	.74	1.01	1.04	1.01	1.03	1.09
45	.00	.06	.37	.53	.60	.74	.85	.96	1.00
46	.25	.13	.08	.31	.35	.55	.56	.56	.62
47	1.29	1.22	1.29	1.06	.85	.97	.98	.94	.94
48	2.00	2.06	2.00	1.94	1.97	1.99	1.99	1.99	1.99
49	1.00	1.15	1.33	1.42	1.47	1.51	1.48	1.48	1.48
50	2.00	1.85	1.90	1.82	1.80	1.78	1.85	1.90	1.83
51	1.29	1.58	1.43	1.39	1.38	1.35	1.30	1.37	1.30
52	1.71	1.85	1.76	1.64	1.53	1.47	1.49	1.41	1.42
53	.62	.96	1.43	1.54	1.49	1.55	1.51	1.47	1.54
54	.50	.69	.89	.95	.99	1.01	1.01	.98	.96
55	2.00	2.12	2.25	2.09	2.06	1.97	2.00	2.02	2.04
56	2.50	2.25	2.25	2.09	2.08	2.07	2.07	2.03	2.05
57	.50	.56	.62	.66	.89	.87	.80	.78	.77
58	1.43	1.43	1.62	1.41	1.33	1.31	1.27	1.28	1.25
59	.38	.63	.64	1.03	1.22	1.28	1.28	1.22	1.20
60	.62	.44	.46	.53	.47	.67	.52	.49	.43
61	.75	.68	.89	.87	.94	.93	.95	1.04	1.04
62	2.75	2.69	2.66	2.65	2.60	2.50	2.47	2.50	2.50
63	1.14	1.50	1.62	1.50	1.51	1.59	1.69	1.76	1.70
64	1.86	2.05	2.03	2.01	1.88	1.89	1.80	1.72	1.73
65	.75	.82	.55	.50	.58	.70	.76	.77	.69
66	2.38	2.12	2.03	2.07	2.15	2.14	2.16	2.23	2.30
67	.38	.56	.79	.63	.79	.91	.88	.87	.96
68	2.12	2.43	2.49	2.59	2.62	2.67	2.69	2.71	2.70
69	2.38	2.19	1.71	1.68	1.68	1.69	1.67	1.49	1.46
70	2.00	1.65	1.72	1.66	1.60	1.60	1.59	1.64	1.67
71	2.12	2.25	2.25	2.30	2.26	2.28	2.19	2.11	2.02
72	1.43	1.57	1.62	1.43	1.19	1.08	1.05	.98	.96
73	1.71	.73	.87	.97	1.06	1.05	1.01	1.04	1.04
74	2.38	2.44	2.41	2.47	2.41	2.34	2.42	2.42	2.44
75	1.41	1.20	1.19	1.08	1.00	1.04	1.04	1.04	.95
76	1.71	1.98	1.94	2.05	2.09	2.06	2.02	2.05	2.00
77	.88	1.37	1.34	1.51	1.43	1.42	1.34	1.30	1.28
78	1.86	1.72	1.62	1.57	1.49	1.32	1.42	1.47	1.35
79	1.29	1.02	1.01	.98	.91	.97	.97	.98	1.08
80	1.43	1.72	1.85	1.92	1.98	1.98	1.89	1.70	1.58
81	1.43	1.72	1.67	1.60	1.60	1.56	1.44	1.44	1.47
82	1.14	.88	.59	.72	.81	.94	.83	.88-	.94
83	2.75	2.87	2.71	2.56	2.46	2.40	2.45	2.46	2.41
84	.88	1.15	1.43	1.33	1.40	1.48	1.41	1.38	1.32
85	1.14	1.69	1.61	1.60	1.52	1.43	1.52	1.55	1.57

No.	1	2	3	4	5	6	7	8	9
86	1.57	1.23	1.19	1.14	1.19	1.16	1.17	1.17	1.06
87	.38	.44	.38	.48	.69	.77	.83	.89	.94
88	.88	1.00	1.00	.89	1.14	1.18	1.18	1.20	1.24
89	.50	.63	.89	.80	.89	.93	.96	1.00	.91
90	1.14	1.09	1.28	1.31	1.33	1.33	1.43	1.52	1.52
91	1.43	1.43	1.70	1.58	1.53	1.54	1.56	1.56	1.52
92	1.00	.75	.93	.82	.87	1.00	1.13	1.17	1.18
93	2.25	1.72	1.89	1.93	1.90	1.85	1.80	1.77	1.72
94	1.57	1.72	1.57	1.59	1.55	1.50	1.32	1.28	1.21
95	1.00	1.07	1.24	1.28	1.13	1.22	1.23	1.28	1.25
96	.00	.44	.72	.81	.92	.92	.92	.95	.89
97	1.71	1.71	1.84	1.70	1.63	1.55	1.42	1.26	1.18
98	1.57	.98	.73	.80	.64	.53	.76	.87	.94
99	.38	.63	.85	.89	.92	1.02	1.09	1.15	1.17
100	2.12	1.78	2.06	2.07	1.86	1.70	1.67	1.62	1.71
101	1.43	1.90	1.93	2.14	2.25	2.30	2.12	2.12	2.14
102	1.71	1.50	1.25	1.30	1.27	1.27	1.17	1.09	1.07
103	2.00	2.00	1.81	1.68	1.69	1.69	1.62	1.64	1.57
104	.75	.69	.54	.59	.65	.62	.62	.67	.73
105	2.12	1.92	1.71	1.84	1.86	1.98	1.99	2.01	1.98
106	1.88	1.19	1.27	1.21	1.16	1.18	1.21	1.29	1.30
107	1.43	1.57	1.62	1.58	1.53	1.50	1.53	1.54	1.55
108	2.12	1.92	1.66	1.49	1.57	1.62	1.49	1.42	1.37
109	1.43	1.72	1.52	1.44	1.53	1.49	1.45	1.54	1.57
110	2.12	2.12	2.08	2.06	2.05	1.88	1.77	1.76	1.73
111	2.38	2.69	2.79	2.80	2.80	2.77	2.78	2.79	2.77
112	.75	.57	.63	.86	1.03	1.14	1.12	1.14	1.22
113	2.25	2.37	2.42	2.28	2.11-	2.02	1.95	1.84	1.75
114	2.12	2.00	1.71	1.64	1.63	1.52	1.52	1.54	1.53
115	.75	.82	.99	1.06	.95	1.06	1.09	1.14	1.22
116	1.57	1.50	1.62	1.44	1.46	1.54	1.49	1.50	1.53
117	1.29	1.36	1.61	1.61	1.55	1.54	1.46	1.43	1.51
118	1.57	1.69	1.69	1.57	1.42	1.41	1.40	1.36	1.41
119	1.43	1.57	1.67	1.65	1.54	1.54	1.47	1.41	1.37
120	1.71	1.29	1.24	.96	1.00	.99	1.01	1.04	.99
121	1.71	1.71	1.52	1.71	1.81	1.66	1.60	1.52	1.58
122	1.29	1.77	1.70	1.54	1.45	1.49	1.51	1.52	1.53
123	3.00	2.83	2.70	2.66	2.66	2.59	2.64	2.68	2.70
124	2.38	2.12	1.98	1.84	1.61	1.64	1.52	1.54	1.51
125	1.57	1.91	2.02	1.98	2.02	2.06	2.01	1.93	1.86
126	2.38	2.50	2.46	2.39	2.42	2.35	2.34	2.36	2.37
127	2.00	2.50	2.63	2.60	2.50	2.40	2.46	2.38	2.34
128	.38	.32	.50	.63	.90	1.06	1.08	1.20	1.28
129	1.00	1.15	1.19	1.18	1.07	1.14	1.11	1.01	.96

No.	1	2	3	4	5	6	7	8	9
130	2.12	2.06	1.89	1.83	1.78	1.77	1.71	1.64	1.65
131	1.29	1.29	1.53	1.39	1.32	1.14	1.05	.92	.82
132	1.43	1.78	1.80	1.88	1.90	1.91	1.86	1.90	1.92
133	1.14	.57	.86	1.00	.95	.92	.79	.80	.76
134	1.86	2.12	2.16	2.29	2.33	2.26	2.23	2.23	2.21
135	1.29	1.65	1.76	1.63	1.65	1.52	1.47	1.42	1.42
136	2.12	2.31	2.29	1.95	1.83	1.77	1.73	1.75	1.70
137	.88	.75	.58	.69	.87	.87	.89	.86	.86
138	1.14	.76	.80	.73	.82	.82	.80	.83	.85
139	1.71	1.57	1.48	1.36	1.56	1.59	1.58	1.62	1.72
140	1.57	1.57	1.52	1.32	1.34	1.42	1.36	1.34	1.36
141	2.00	2.12	2.21	2.19	2.19	2.18	2.19	2.29	2.30
142	2.00	2.06	2.12	2.25	2.22	2.06	2.07	2.01	2.06
143	2.62	2.37	2.16	1.77	1.68	1.67	1.67	1.72	1.72
144	.88	.94	1.06	1.19	1.25	1.42	1.46	1.46	1.46
145	2.88	2.88	2.88	2.86	2.87	2.84	2.81	2.80	2.74
146	1.29	.90	1.17	1.14	1.14	1.39	1.45	1.41	1.44
147	1.71	1.71	1.66	1.60	1.46	1.48	1.46	1.48	1.43
148	2.00	1.78	1.52	1.31	1.25	1.30	1.18	1.09	.99
149	1.29	1.09	1.43	1.43	1.45	1.45	1.54	1.56	1.63
150	3.00	2.87	2.75	2.66	2.61	2.61	2.57	2.51	2.48
151	1.86	1.64	1.76	2.08	2.13	2.08	2.07	2.02	1.95
152	2.00	2.12	1.98	1.82	1.79	1.76	1.82	1.79	1.95
153	1.14	1.28	1.23	1.39	1.32	1.38	1.35	1.36	1.34
154	.62	.62	.66	.89	.81	.96	.90	.94	.96
155	1.43	1.22	1.24	1.09	1.11	1.26	1.17	1.07	1.11
156	.12	.42	.77	.83	.74	.90	.88	.98	.94
157	2.00	1.79	1.89	1.99	2.06	1.94	1.83	1.86	1.82
158	1.57	1.50	1.48	1.31	1.34	1.31	1.38	1.35	1.39
159	1.43	1.50	1.38	1.46	1.40	1.41	1.37	1.35	1.32
160	2.38	2.19	1.94	1.60	1.43	1.43	1.50	1.52	1.42
161	2.00	2.00	2.08	1.97	1.85	1.84	1.77	1.71	1.68
162	2.00	2.19	2.22	1.96	1.93	1.94	1.97	1.90	1.93
163	1.86	1.99	2.08	1.98	1.91	1.93	1.90	1.94	1.93
164	.75	1.23	1.34	1.26	1.20	1.00	.86	.84	.89
165	.88	.82	.84	.92	1.13	1.29	1.38	1.42	1.47
166	1.43	1.78	1.71	1.56	1.50	1.45	1.46	1.45	1.44
167	2.75	2.68	2.62	2.58	2.55	2.60	2.63	2.64	2.68
168	1.29	1.65	1.72	1.83	1.82	1.73	1.71	1.70	1.77
169	1.29	1.02	.89	.99	1.00	1.06	1.11	1.20	.93
170	1.71	1.93	1.71	1.44	1.20	1.15	1.14	1.12	1.05
171	2.88	2.69	2.59	2.64	2.55	2.56	2.55	2.55	2.54
172	1.43	1.91	2.10	1.97	1.95	1.66	1.69	1.56	1.53
173	2.38	2.63	2.75	2.81	2.85	2.88	2.90	2.92	2.91

No.	1	2	3	4	5	6	7	8	9
174	.88	.75	.87	.96	.94	.95	1.01	1.03	1.05
175	2.00	2.19	2.13	1.98	2.02	2.03	1.99	1.80	1.85
176	2.12	2.06	2.12	1.88	1.62	1.54	1.49	1.43	1.35
177	1.43	1.50	1.67	1.68	1.70	1.64	1.63	1.62	1.62
178	2.62	2.69	2.54	2.51	2.57	2.60	2.52	2.50	2.41
179	2.12	2.18	2.25	2.20	2.25	2.23	2.18	2.26	2.28
180	2.25	2.50	2.58	2.59	2.60	2.60	2.55	2.50	2.38
181	1.43	1.50	1.43	1.39	1.39	1.42	1.39	1.36	1.43
182	1.43	1.50	1.17	1.00	.90	1.12	1.02	1.05	.96
183	1.29	1.57	1.76	1.82	1.74	1.74	1.76	1.83	1.80
184	.00	.44	.86	.87	1.03	1.08	1.08	1.09	1.11
185	2.50	2.37	2.25	2.25	2.21	2.13	2.02	1.94	1.97
186	.75	.75	1.19	1.05	1.00	.91	.97	.94	.95
187	1.43	1.22	1.33	1.47	1.57	1.70	1.78	1.81	1.89
188	2.00	2.00	1.81	1.78	1.63	1.59	1.48	1.53	1.47
189	2.50	2.25	1.93	1.84	1.70	1.75	1.82	1.92	1.86
190	.50	.25	.55	.86	.93	1.00	1.05	1.04	1.15
191	2.62	2.24	2.28	2.07	1.66	1.53	1.46	1.36	1.34
192	2.50	2.69	2.75	2.59	2.61	2.58	2.43	2.32	2.34
193	1.14	1.07	.88	.69	.59	.66	.75	.78	.84
194	1.71	1.86	1.90	1.92	1.96	2.00	2.10	2.14	2.14
195	2.12	2.31	2.37	2.34	2.35	2.24	2.21	2.20	2.20
196	2.38	2.38	2.46	2.50	2.48	2.55	2.56	2.54	2.53
197	1.71	1.92	1.94	2.10	2.04	1.92	1.88	1.79	1.77
198	2.12	1.99	1.85	1.85	1.78	1.76	1.69	1.65	1.58
199	2.25	2.32	2.34	2.39	2.36	2.33	2.24	2.21	2.21
200	.75	.75	.79	.92	.93	.99	.92	.89	.98
201	.50	.25	.60	.67	.79	.78	.73	.87	.99
202	2.38	2.19	2.09	2.11	2.09	2.12	2.19	2.25	2.23
203	.88	1.00	.96	1.00	.95	.96	.99	1.03	1.03
204	1.43	1.36	1.16	1.09	.87	.72	.90	.85	.89
205	1.86	1.65	1.48	1.23	1.06	1.01	.91	.80	.79
206	2.00	2.00	2.00	2.12	2.20	2.18	2.08	2.05	1.99
207	2.00	1.94	2.13	2.01	1.85	1.77	1.82	1.88	1.85
208	2.00	2.06	2.00	1.77	1.75	1.72	1.76	1.75	1.84
209	2.00	1.65	1.76	1.73	1.79	1.82	1.80	1.72	1.68
210	.62	.81	.78	.62	.50	.65	.66	.65	.69
211	2.12	1.92	1.65	1.42	1.41	1.44	1.47	1.54	1.59
212	1.57	1.38	1.38	1.25	1.23	1.26	1.35	1.26	1.17
213	.88	1.23	1.48	1.36	1.25	1.17	1.17	1.16	1.17
214	1.43	1.28	1.43	1.46	1.43	1.47	1.47	1.46	1.55
215	.00	.44	.96	1.08	1.01	.95	.93	.86	.94
216	1.43	1.57	1.80	1.76	1.69	1.70	1.63	1.56	1.60
217	2.25	2.63	2.71	2.73	2.75	2.73	2.75	2.79	2.73
218	.00	1.00	1.42	1.49	1.38	1.49	1.40	1.40	1.42
219	2.12	1.92	2.15	2.20	2.07	2.17	2.18	2.08	2.05

No.	1	2	3	4	5	6	7	8	9
220	2.00	1.38	1.44	1.24	1.26	1.26	1.25	1.25	1.22
221	.88	1.15	1.25	1.06	.97	.96	1.01	1.07	1.15
222	.75	.63	.71	.66	.65	.60	.65	.58	.68
223	2.38	2.69	2.79	2.58	2.56	2.40	2.30	2.29	2.24
224	2.25	2.31	2.21	2.29	2.23	2.14	2.17	2.18	2.11
225	1.43	.72	.48	.54	.58	.62	.75	.83	.92
226	.00	.00	.29	.51	.50	.59	.68	.70	.81
227	.62	.56	1.08	1.28	1.31	1.29	1.32	1.35	1.37
228	.83	1.05	1.39	1.21	1.25	1.47	1.40	1.29	1.21
229	.62	.56	.71	.89	1.08	1.16	1.14	1.13	1.13
230	2.38	2.31	2.25	1.97	1.99	2.05	2.07	2.03	2.06
231	1.57	1.91	1.98	1.98	2.14	2.17	2.25	2.25	2.24
232	1.00	1.00	1.05	1.00	1.15	1.15	1.06	.93	.92
233	.88	.57	.50	.81	.96	1.11	1.12	1.12	1.10
234	.88	1.01	1.38	1.36	1.34	1.26	1.28	1.25	1.23
235	1.57	1.28	1.23	1.11	1.01	1.08	1.13	1.23	1.25
236	1.29	1.02	.76	.7 3	.73	.82	.88	.82	.86
237	2.00	1.78	1.76	1.48	1.52	1.37	1.46	1.50	1.55
238	1.86	1.78	1.71	1.42	1.28	1.34	1.32	1.33	1.41
239	2.38	2.38	2.50	2.58	2.43	2.48	2.44	2.46	2.44
240	2.50	2.56	2.46	2.36	2.29	2.05	2.01	2.01	2.00
241	1.29	1.57	1.57	1.53	1.53	1.27	1.09	1.12	1.04
242	1.86	1.99	2.12	2.18	2.23	2.34	2.32	2.37	2.36
243	1.57	1.57	1.43	1.34	1.32	1.32	1.33	1.29	1.25
244	1.71	1.86	1.53	1.61	1.55	1.56	1.56	1.56	1.51
245	.21	.56	.62	.82	1.00	1.09	.96	.91	.92
246	.75	.88	1.20	1.19	1.24	1.25	1.19	1.14	1.09
247	1.29	1.36	1.34	1.25	1.20	1.22	1.29	1.29	1.26
248	1.86	1.86	1.72	1.94	1.85	1.73	1.72	1.77	1.79
249	1.57	2.03	1.93	1.87	1.77	1.85	1.73	1.72	1.73
250	2.38	2.63	2.50	2.53	2.30	2.36	2.32	2.29	2.20
251	.38	.76	.80	.84	.87	1.02	1.12	1.13	1.11
252	1.43	1.43	1.38	1.27	1.23	1.25	1.17	1.18	1.20
253	1.71	1.86	2.03	1.85	1.73	1.69	1.66	1.59	1.56
254	1.57	1.09	1.06	.95	.86	.91	1.02	1.02	1.08
255	2.75	2.62	2.54	2.59	2.60	2.54	2.53	2.50	2.47
256	.38	.19	.42	.71	.76	.81	.79	.83	.85
257	1.14	1.22	1.27	1.36	1.23	1.07	1.05	1.06	1.07
258	2.12	2.12	2.04	2.04	2.09	2.10	2.07	2.16	2.21
259	2.61	2.61	2.69	2.59	2.58	2.65	2.58	2.52	2.49
260	2.50	2.03	1.88	1.94	1.95	1.99	1.99	1.89	1.83

No.	1	2	3	4	5	6	7	8	9
261	1.29	1.29	1.15	1.11	.95	1.06	.99	.94	.92
262	2.50	2.69	2.59	2.61	2.56	2.57	2.73	2.64	2.65
263	1.43	1.16	.98	1.02	1.24	1.36	1.42	1.37	1.39
264	1.29	1.70	1.71	1.73	1.81	1.85	1.70	1.72	1.70
265	.88	.75	.67	.89	.91	.89	.78	.71	.71
266	1.57	1.35	1.33	1.38	1.53	1.45	1.49	1.51	1.50
267	2.25	1.91	1.75	1.74	1.59	1.52	1.41	1.48	1.47
268	1.71	1.80	1.72	1.69	1.68	1.58	1.55	1.48	1.51
269	2.25	2.19	1.89	1.95	2.00	2.00	1.88	1.80	1.73
270	1.86	1.99	2.12	2.68	2.31	2.28	2.23	2.26	2.28
271	1.86	1.57	1.57	1.50	1.40	1.40	1.34	1.40	1.46
272	.62	.44	.29	.58	.80	.86	.88	.89	.87
273	2.12	1.99	1.71	1.66	1.71	1.77	1.83	1.88	1.92
274	1.57	1.91	2.02	2.02	1.85	1.71	1.77	1.83	1.77
275	1.71	1.80	1.89	1.86	1.52	1.50	1.54	1.58	1.53
276	2.12	2.00	1.90	1.82	1.79	1.72	1.74	1.66	1.59
277	.75	.82	.84	1.05	.95	.96	1.05	1.11	1.14
278	2.25	1.57	1.75	1.53	1.37	1.39	1.33	1.32	1.30
279	.88	1.08	1.29	1.51	1.60	1.61	1.66	1.67	1.68
280	1.43	1.36	1.61	1.77	1.76	1.73	1.66	1.74	1.80
281	1.57	1.57	1.67	1.81	1.90	1.93	1.83	1.76	1.77
282	.67	.72	.77	1.18	1.35	1.54	1.75	1.89	1.94
283	.38	.57	.63	.62	.62	.65	.67	.73	.74
284	1.00	.75	.88	1.01	1.07	1.18	1.11	1.12	1.13
285	1.71	1.57	1.57	1.60	1.68	1.73	1.71	1.72	1.68
286	1.29	1.43	1.47	1.30	1.20	1.26	1.25	1.26	1.33
287	2.75	2.56	2.63	2.50	2.47	2.43	2.43	2.43	2.41
288	2.50	2.44	2.50	2.46	2.47	2.45	2.49	2.45	2.47
289	.38	.90	1.08	1.13	1.14	1.08	1.14	1.15	1.17
290	.62	.31	.46	.42	.67	.70	.72	.71	.74
291	.38	1.24	1.07	.85	.88	.94	.86	.84	.86
292	2.88	2.56	2.50	2.29	2.20	2.16	1.99	1.86	1.82
293	1.29	1.43	1.33	1.25	1.20	1.29	1.33	1.32	1.32
294	2.25	1.98	1.70	1.67	1.58	1.52	1.45	1.33	1.34
295	.25	.44	.50	.40	.35	.62	.74	.78	.79
296	1.43	1.57	1.48	1.40	1.28	1.23	1.21	1.25	1.24
297	2.25	2.12	2.29	2.16	2.15	2.14	2.16	2.25	2.26
298	.62	1.03	1.02	.89	.83	.80	.77	.78	.74
299	1.43	1.28	1.19	1.21	1.13	1.20	1.29	1.29	1.27
300	2.12	2.00	1.86	1.71	1.56	1.51	1.51	1.53	1.55
301	1.71	1.64	1.52	1.40	1.33	1.29	1.32	1.32	1.31
302	2.38	2.69	2.79	2.84	2.80	2.74	2.73	2.70	2.80

No.	1	2	3	4	5	6	7	8	9
303	3.00	3.00	2.96	2.97	2.96	2.97	2.97	2.97	2.97
304	2.12	2.50	2.50	2.43	2.42	2.44	2.45	2.34	2.32
305	.25	.70	.84	.82	1.03	1.09	1.01	1.11	1.16
306	2.25	2.32	2.46	2.53	2.50	2.47	2.50	2.51	2.47
307	.12	.31	.41	.67	.80	.80	.90	.88	.88
308	.25	.38	.38	.68	.74	.74	.75	.67	.73
309	2.12	2.12	1.89	1.42	1.31	1.31	1.18	1.09	1.00
310	2.38	2.44	2.46	2.10	2.16	2.06	2.06	2.08	2.02
311	2.38	2.25	2.29	2.18	2.15	2.11	2.09	2.05	1.98
312	1.14	.95	.63	.47	.60	.67	.73	.74	.80
313	2.38	2.50	2.58	2.54	2.51	2.39	2.36	2.39	2.33
314	1.88	2.00	1.85	1.84	1.85	1.87	1.93	1.98	2.01
315	1.71	.98	.94	.74	.77	.64	.62	.59	.61
316	1.57	1.36	1.38	1.34	1.45	1.56	1.61	1.70	1.71
317	.62	.96	1.16	.87	.94	.82	.73	.79	.81
318	2.12	1.78	1.71	1.64	1.61	1.54	1.49	1.51	1.49
319	1.00	.94	1.00	.85	.85	.90	.84	.91	.94
320	2.12	1.85	1.90	1.82	1.81	1.82	1.84	1.87	1.89
321	.25	.38	.35	.38	.44	.55	.68	.76	.81
322	2.00	1.72	1.48	1.26	1.24	1.16	1.20	1.21	1.29
323	.50	.97	1.01	1.09	1.13	1.09	1.16	1.21	1.29
324	2.25	2.25	2.37	2.39	2.44	2.49	2.49	2.45	2.44
325	1.86	1.78	1.66	1.51	1.53	1.55	1.52	1.59	1.69
326	2.00	2.00	2.17	2.12	2.01	1.93	1.91	1.93	1.96
327	2.12	2.25	2.25	2.19	2.13	2.04	1.95	2.01	2.04
328	2.75	2.81	2.79	2.72	2.74	2.69	2.73	2.72	2.74
329	.88	.82	.92	.94	1.07	1.06	1.04	1.04	1.05
330	.00	.37	.25	.34	.50	.68	.68	.77	.83
331	2.00	1.50	1.62	1.48	1.22	1.19	1.16	1.15	1.15
332	1.14	.76	1.13	1.11	1.07	1.08	1.15	1.19	1.10
333	2.38	2.25	2.33	2.13	2.04	1.96	1.99	1.99	2.02
334	1.14	1.14	1.08	1.11	1.09	1.21	1.23	1.23	1.22
335	1.71	1.98	1.84	1.74	1.71	1.75	1.76	1.74	1.74
336	.50	.96	1.08	.93	.75	.77	.85	.96	.92
337	.00	.44	.30	.54	.58	.66	.73	.80	.82
338	1.86	2.06	2.00	1.71	1.53	1.46	1.33	1.28	1.21
339	1.71	1.98	1.80	1.85	1.71	1.66	1.58	1.56	1.50
340	1.71	1.36	1.03	.90	.92	1.12	1.21	1.24	1.11
341	1.71	1.50	1.29	1.27	1.35	1.28	1.25	1.25	1.17
342	2.50	2.50	2.46	2.48	2.56	2.60	2.59	2.59	2.60
343	2.12	1.78	1.85	1.79	1.81	1.91	1.83	1.83	1.97
344	2.62	2.44	2.37	2.28	2.26	2.32	2.30	2.33	2.38
345	1.00	.81	.37	.77	.62	.52	.67	.85	.77
346	2.50	2.38	2.33	2.18	2.21	2.25	2.29	2.36	2.41

No.	1	2	3	4	5	6	7	8	9
347	1.29	1.15	1.10	.82	.78	.80	.85	.95	.98
348	.38	.25	.83	.86	.97	.99	1.07	1.09	1.11
349	.50	1.25	1.35	1.64	1.63	1.58	1.54	1.55	1.55
350	1.86	1.50	1.29	1.53	1.54	1.55	1.51	1.48	1.54
351	.88	.94	.83	.69	.67	.56	.62	.72	.79
352	2.25	1.84	1.35	1.45	1.47	1.45	1.50	1.58	1.58
353	1.14	1.28	1.33	1.34	1.40	1.45	1.42	1.48	1.37
354	2.00	1.85	1.71	1.59	1.53	1.45	1.36	1.28	1.24
355	2.00	2.06	1.80	1.68	1.71	1.66	1.64	1.62	1.67
356	1.86	1.76	1.50	1.29	1.25	1.31	1.34	1.30	1.29
357	1.57	1.57	1.48	1.46	1.43	1.36	1.39	1.31	1.34
358	2.00	1.50	1.48	1.55	1.54	1.52	1.48	1.41	1.34
359	1.71	1.50	1.62	1.26	1.13	1.08	1.07	1.03	1.07
360	.00	.44	.72	.69	.63	.61	.78	.79	.82
361	.12	.85	1.09	1.10	1.11	1.01	1.03	1.08	1.04
362	2.00	2.19	2.09	1.84	1.67	1.57	1.48	1.44	1.47
363	.65	.88	.86	.95	.95	.74	.73	.84	.86
364	1.59	1.50	1.43	1.56	1.56	1.47	1.49	1.46	1.46
365	1.33	1.30	1.38	1.28	1.26	1.17	1.11	1.07	1.05
366	2.00	2.17	2.12	2.13	2.21	2.29	2.25	2.33	2.31
367	1.26	1.51	1.58	1.61	1.53	1.66	1.73	1.70	1.71
368	1.61	1.93	1.83	1.80	1.68	1.65	1.70	1.73	1.78
369	2.65	2.42	2.48	2.43	2.38	2.37	2.38	2.38	2.33
370	1.00	.75	.64	.68	.61	.68	.61	.70	.86
371	1.72	1.50	1.31	1.38	1.29	1.19	1.17	1.13	1.15
372	.82	.63	.66	.66	.73	.67	.72	.70	.74
373	1.29	1.38	1.16	1.14	1.07	.87	.94	.95	.98
374	1.12	1.06	1.10	.95	1.01	1.03	1.12	1.08	1.07
375	1.12	1.03	1.02	1.19	1.32	1.40	1.39	1.36	1.32
376	.38	.19	.69	.68	.81	.87	.90	.90	.94
377	2.75	2.68	2.75	2.65	2.61	2.51	2.45	2.36	2.38
378	.75	.67	.61	.64	.76	.91	.94	.90	1.09
379	2.33	2.46	2.50	2.55	2.63	2.69	2.74	2.77	2.75
380	1.82	1.53	1.39	1.45	1.48	1.46	1.54	1.59	1.60
381	.47	.94	1.12	1.06	1.12	1.06	.91	.83	.76
382	1.94	1.97	2.04	2.01	2.05	1.95	1.94	1.89	1.83
383	1.77	1.65	1.61	1.62	1.58	1.51	1.55	1.59	1.64
384	1.27	.99	.95	1.13	1.09	1.16	1.05	1.04	1.01
385	1.44	1.63	1.64	1.53	1.48	1.45	1.48	1.49	1.50
386	2.11	2.11	2.12	2.16	2.27	2.32	2.27	2.27	2.29
387	1.00	1.00	1.10	.92	.86	.90	1.00	.98	.99
388	1.86	2.06	2.04	2.01	2.04	2.12	2.19	2.14	2.10
389	1.72	1.80	1.83	1.62	1.53	1.51	1.52	1.47	1.43

No.	1	2	3	4	5	6	7	8	9
390	.21	.84	1.05	.90	.92	1.06	1.11	1.12	1.16
391	1.59	1.85	1.65	1.58	1.53	1.40	1.41	1.41	1.36
392	1.13	1.30	1.33	1.38	1.46	1.40	1.34	1.32	1.35
393	2.00	2.06	2.13	2.23	2.33	2.38	2.26	2.23	2.20
394	1.71	1.86	1.67	1.60	1.61	1.52	1.44	1.51	1.54
395	2.12	1.85	1.80	1.81	1.79	1.93	1.85	1.85	1.83
396	2.28	2.15	2.30	2.33	2.37	2.43	2.43	2.48	2.48
397	2.60	2.55	2.51	2.63	2.70	2.74	2.76	2.77	2.79
398	1.95	1.81	2.03	2.04	2.05	2.12	2.05	2.00	2.23
399	1.29	1.30	1.03	1.06	1.13	1.16	1.21	1.22	1.18
400	1.35	1.32	1.15	1.04	.99	.90	.81	.88	.85
401	1.47	1.37	1.31	1.00	1.00	.91	.94	1.04	1.05
402	1.29	1.08	1.29	1.28	1.26	1.22	1.19	1.22	1.29
403	1.57	1.22	1.29	1.22	1.11	1.05	1.01	.98	.98
404	1.18	.84	.71	.71	.66	.69	.71	.80	.84
405	1.43	1.84	1.97	1.98	2.01	2.01	1.97	2.02	2.06
406	2.18	2.29	2.34	2.43	2.53	2.61	2.60	2.57	2.58
407	.88	1.44	1.23	1.38	1.44	1.41	1.49	1.37	1.44
408	1.14	1.21	1.19	1.14	1.19	1.18	1.21	1.23	1.24
409	.88	.82	.92	.94	.94	1.08	1.03	.99	.95
410	1.00	1.50	1.23	1.31	.94	1.23	1.20	1.27	1.24
411	.12	1.12	1.22	1.03	.97	1.03	1.14	1.14	1.19
412	1.53	1.47	1.14	1.00	.97	1.00	1.05	1.09	1.11
413	1.82	1.72	1.83	1.77	1.78	1.76	1.89	1.93	1.94
414	1.07	1.45	1.44	1.63	1.72	1.86	1.93	2.01	2.04
415	1.40	1.56	1.73	1.55	1.58	1.66	1.63	1.70	1.73
416	2.24	2.27	2.08	2.19	2.32	2.35	2.33	2.31	2.27
417	.00	.25	.58	.79	.73	.61	.58	.55	.49
418	2.12	1.92	1.90	2.01	2.07	2.08	2.07	2.05	2.02
419	2.37	2.21	1.95	1.89	1.96	1.96	1.89	1.89	1.83
420	.94	.88	.73	.79	.91	.86	.91	.92	.93
421	2.00	1.94	1.96	1.72	1.63	1.60	1.62	1.69	1.73
422	2.44	2.19	2.17	1.98	1.69	1.56	1.60	1.50	1.48
423	2.47	2.58	2.65	2.51	2.49	2.44	2.40	2.44	2.43
424	1.14	1.35	1.24	1.25	1.32	1.40	1.42	1.48	1.49
425	1.71	1.57	1.80	1.63	1.70	1.68	1.68	1.71	1.81
426	1.11	1.22	1.52	1.45	1.40	1.31	1.26	1.23	1.19
427	1.14	1.50	1.79	1.72	1.77	1.70	1.72	1.73	1.75
428	.35	.43	.46	.57	.63	.83	.85	.87	.92
429	1.83	1.63	1.46	1.50	1.51	1.54	1.65	1.65	1.69
430	1.06	1.03	1.00	1.08	1.21	1.26	1.22	1.30	1.38
431	1.86	1.71	1.71	1.45	1.23	1.14	1.05	1.04	1.06
432	2.41	2.61	2.41	2.40	2.41	2.36	2.40	2.46	2.46
433	2.00	1.86	1.82	1.66	1.67	1.62	1.70	1.67	1.64

No.	1	2	3	4	5	6	7	8	9
434	2.00	1.78	1.76	1.80	1.72	1.71	1.80	1.75	1.73
435	2.56	2.58	2.64	2.67	2.71	2.65	2.61	2.61	2.57
436	.12	.13	.11	.37	.55	.64	.66	.63	.61
437	2.53	2.37	2.39	2.40	2.46	2.51	2.58	2.58	2.56
438	1.78	1.80	1.79	1.74	1.76	1.68	1.65	1.66	1.69
439	1.12	1.23	1.16	1.03	1.03	1.91	.92	.85	.90
440	1.71	1.16	1.07	1.10	1.29	1.43	1.42	1.40	1.33
441	.82	1.03	1.00	.98	1.05	.97	.92	.95	1.01
442	1.12	1.33	1.20	1.15	1.09	1.11	.99	.95	.94
443	.75	.68	.62	.74	.87	.76	.72	.74	.73
444	2.06	2.20	2.26	2.34	2.37	2.35	2.27	2.26	2.26
445	1.41	1.37	1.14	1.02	.96	.93	1.01	1.03	1.08
446	2.07	1.74	1.76	1.60	1.61	1.51	1.46	1.45	1.42
447	2.53	2.62	2.55	2.61	2.52	2.55	2.59	2.57	2.54
448	1.00	1.07	.92	.95	.91	.89	.91	.99	1.03
449	2.75	2.67	2.32	2.06	1.90	1.86	1.81	1.77	1.71
450	.76	1.05	1.29	1.36	1.46	1.50	1.58	1.58	1.55
451	1.57	1.50	1.08	.94	1.08	1.07	1.21	1.20	1.14
452	1.74	1.87	1.81	1.84	1.83	1.81	1.81	1.86	1.86
453	1.44	1.32	1.34	1.28	1.49	1.56	1.62	1.59	1.59
454	1.07	1.16	1.18	1.14	1.27	1.34	1.31	1.32	1.42
455	.25	.38	.50	.61	.69	.74	.76	.76	.84
456	1.13	1.42	1.26	1.05	.92	.82	.70	.66	.70
457	2.00	1.85	1.63	1.51	1.49	1.51	1.45	1.49	1.49
458	1.00	.90	1.00	1.02	1.05	1.10	1.11	.97	.94
459	2.00	2.28	2.23	2.16	2.24	2.23	2.18	2.24	2.17
460	1.88	1.82	1.69	1.69	1.68	1.66	1.63	1.55	1.53
461	.00	.25	.33	.47	.75	.69	.62	.62	.57
462	.53	.83	.82	.88	.92	.83	.71	.80	.74
463	2.62	2.31	2.21	2.24	2.34	2.23	2.27	2.08	2.09
464	.88	.44	.54	.66	.66	.58	.63	.68	.62
465	.88	1.08	1.34	1.25	1.33	1.40	1.33	1.34	1.38
466	1.06	1.26	1.20	1.29	1.31	1.27	1.21	1.35	1.27
467	1.18	1.03	1.06	1.25	1.31	1.24	1.20	1.27	1.24
468	1.00	.56	.87	.85	.93	.89	.93	.93	.91
469	1.77	1.79	1.78	1.66	1.75	1.79	1.82	1.87	1.87
470	.81	1.03	1.04	1.18	1.21	1.26	1.33	1.33	1.37
471	2.76	2.52	2.28	2.03	1.90	1.80	1.83	1.86	1.89
472	2.25	2.32	2.25	2.26	2.26	2.33	2.30	2.26	2.21
473	1.14	.95	.67	1.25	1.20	1.20	1.17	1.16	1.14
474	1.06	.81	.75	.75	.75	.70	.70	.71	.70
475	.00	.50	.46	.69	.71	.82	.76	.70	.66
476	1.47	1.56	1.63	1.79	1.87	1.94	1.72	1.73	1.70
477	1.00	1.28	1.28	1.37	1.32	1.23	1.13	1.10	1.11

No.	1	2	3	4	5	6	7	8	9
478	1.59	1.44	1.55	1.47	1.46	1.45	1.48	1.54	1.63
479	1.00	.71	.72	.77	.67	.71	.75	.81	.87
480	1.00	.76	.78	.88	.97	.93	.79	.69	.71
481	2.71	2.85	2.86	2.83	2.87	2.83	2.79	2.76	2.76
482	1.73	1.63	1.72	1.67	1.69	1.70	1.67	1.69	1.65
483	2.00	1.25	1.31	1.32	1.27	1.32	1.23	1.17	1.19
484	.00	.30	.41	.37	.63	.72	.84	.86	.82
485	2.13	1.95	2.17	2.37	2.43	2.49	2.49	2.47	2.49
486	2.17	2.33	2.35	2.45	2.42	2.46	2.51	2.55	2.49
487	2.12	2.00	1.96	1.70	1.62	1.56	1.51	1.36	1.23
488	.25	.18	.60	.65	.58	.68	.64	.74	.79
489	1.12	1.09	.83	1.09	1.13	1.13	1.07	1.01	1.05
490	1.29	1.29	1.53	1.47	1.40	1.31	1.25	1.27	1.34
491	.94	1.05	1.35	1.43	1.36	1.40	1.39	1.40	1.41
492	1.53	1.66	1.58	1.48	1.51	1.55	1.51	1.45	1.44
493	1.00	1.09	1.27	1.34	1.32	1.29	1.23	1.15	1.11
494	1.77	1.97	1.84	1.63	1.52	1.50	1.55	1.58	1.61
495	1.30	1.04	1.22	1.38	1.38	1.39	1.29	1.14	1.28
496	1.53	1.58	1.75	1.68	1.85	1.88	1.79	1.78	1.83
497	1.29	1.28	1.28	1.36	1.36	1.30	1.13	1.17	1.15
498	1.88	2.32	2.44	2.23	2.21	2.13	2.11	2.17	2.15
499	1.82	1.85	1.70	1.60	1.67	1.56	1.53	1.51	1.52
500	1.24	1.50	1.61	1.56	1.51	1.45	1.46	1.46	1.45
Cases	500	500	500	500	500	500	500	500	500
Mean	1.50	1.52	1.53	1.51	1.51	1.51	1.50	1.50	1.50

BASIC DATA OF STUDY

Cumulative College Marks

Quarter 10 to 15

and

Psychological Examination Scores

No. represents the individual whose record is shown

APPENDIX B NO. III
BASIC DATA OF STUDY

No.	10	11	12	13	14	15	Final	Freshman
1	2.37	2.35	2.38				2.38	180
2	1.27	1.28	1.30				1.30	147
3	1.69	1.68	1.72				1.72	90
4	.96	.96	.96	.97			.97	265
5	.79	.74	.75	.77	.83	.86	.86	143
6	1.38	1.41	1.41	1.42			1.42	120
7	2.19	2.18	2.21				2.21	150
8	1.24	1.29	1.35	1.38			1.38	195
9	1.70	1.66	1.69	1.66			1.66	64
10	1.17	1.24	1.31				1.31	84
11	2.29	2.32	2.34	2.35			2.35	115
12	1.39	1.50	1.47	1.45	1.46	1.44	1.44	61
13	1.72	1.74	1.73				1.73	180
14	1.99	1.94					1.94	151
15	1.29	1.29	1.29				1.29	57
16	1.36	1.37	1.37				1.37	97
17	.48	.52	.58	.64	.70	.71	.71	90
18	1.81	1.80	1.77				1.77	110
19	1.10	1.13	1.09				1.09	264
20	1.45	1.48	1.52				1.52	84
21	1.94	1.91	1.95				1.95	194
22	.86	.82	.86				.86	153
23	2.22	2.24	2.24				2.24	221
24	1.92	1.86	1.80				1.80	186
25	.78	.82	.92				.92	188
26	2.75	2.73	2.72				2.72	192
27	1.59	1.59	1.55				1.55	116
28	1.49	1.54	1.63				1.63	169
29	1.90	1.91	1.92	1.96	2.00		2.00	255
30	2.72	2.74	2.78	2.72			2.72	194
31	1.31	1.38	1.44				1.79	154
32	1.77	1.80	1.79				1.79	138
33	1.22	1.21	1.23				1.23	190
34	1.01	.98	1.04				1.04	72
35	.88	.86	.82	.75	.78	.83	.83	198
36	.90	.96	.90	.90	.99		.99	210
37	2.01	2.05	2.03				2.03	248
38	.93	.96	1.04				1.04	91
39	.70	.72	.79				.79	48
40	.78	.79	.96				.96	127
41	2.32	2.24	2.23				2.23	147
42	.56	.56	.58	.69	.75	.83	.83	260

No.-	10	11	12	13	14	15	Final	Freshman
43	1.40	1.40	1.36	1.35	1.36		1.36	121
44	.98	1.05	1.10				1.10	91
45	1.05	1.12	1.12	1.20			1.20	102
46	.70	.69	.82	.83	.78	.82	.82	143
47	.95	1.04	1.07				1.07	104
48	1.99	2.02	2.07				2.07	173
49	1.52	1.57	1.59				1.59	189
50	1.79	1.75	1.73	1.73	1.72	.	1.72	118
51	1.27	1.18	1.18				1.18	174
52	1.49	1.53	1.58				1.58	158
53	1.56	1.53	1.45	1.44	1.43	1.45	1.45	143
54	.97	.97	.99				.99	110
55	2.00	2.02	2.03				2.03	120
56	2.08	2.08	2.07				2.07	144
57	.78	.78	.83	.93			.93	259
58	1.23	1.19	1.20				1.20	102
59	1.07	1.04	.96				.96	148
60	.47	.52	.55	.53	.56	.70	.70	112
61	1.09	1.10	1.13				1.13	56
62	2.50	2.52	2.51				2.51	174
63	1.78	1.82	1.81	1.81			1.81	49
64	1.71	1.67	1.68				1.68	199
65	.78	.84	.87	.90	.95		.95	129
66	2.30	2.33					2.33	158
67	.98	1.01	1.00				1.00	290
68	2.72	2.74	2.69				2.69	173
69	1.46	1.46	1.37				1.37	94
70	1.63	1.63	1.65				1.65	98
71	1.97	2.01	2.00				2.00	168
72	.90	.92	.90	.99			.99	118
73	1.03	1.11	1.18				1.18	135
74	2.38	2.34	2.32				2.32	185
75							.95	70
76	1.98	2.02	1.98	1.94	1.93		1.93	224
77	1.32	1.34	1.34				1.34	248
78	1.31	1.22	1.19	1.21	1.16		1.16	135
79	1.02	1.04	1.06				1.06	85
80	1.48	1.48	1.42	1.43	1.43	1.43	1.43	68
81	1.50	1.52	1.58				1.58	97
82	.94	.98	.98	.99			.99	121
83	2.39	2.35	2.33				2.33	220
84	1.32	1.24	1.16				1.16	76
85	1.54	1.53	1.55				1.55	77
86	1.09	1.12	1.20				1.20	102

No.	10	11	12	13	14	15	Final	Freshman
87	.93	.97	.99				.99	144
88	1.25	1.26	1.33				1.33	50
89	.89	.94	1.00				1.00	142
90	1.57	1.56	1.61	1.65			1.65	268
91	1.51	1.51	1.50				1.50	96
92	1.21	1.19	1.18				1.18	110
93	1.73	1.73	1.80				1.80	113
94	1.11	1.10	1.04				1.04	108
95	1.22	1.18	1.20				1.20	175
96	1.01	1.04	1.03				1.03	39
97	1.17	1.14	1.17				1.17	108
98	1.06	1.07	1.11	1.14			1.14	84
99	1.17	1.16	1.17				1.17	105
100	1.67	1.62	1.68	1.72	1.76	1.78	1.78	125
101	2.12	2.12					2.12	105
102	1.14	1.14	1.17				1.17	130
103	1.57	1.51	1.47	1.47	1.52	1.57	1.57	238
104	.72	.73	.77	.79	.83	.92	.92	66
105	2.03	2.02	2.06				2.06	203
106	1.35	1.42					1.42	115
107	1.53	1.59	1.62				1.62	120
108	1.36	1.33	1.39				1.39	48
109	1.64	1.66	1.69				1.69	120
110	1.69	1.74	1.76	1.79			1.79	114
111	2.77	2.79	2.80				2.80	214
112	1.22	1.17	1.16				1.16	178
113	1.70	1.69	1.68	1.63	1.62		1.62	130
114	1.52	1.52	1.69	1.54			1.54	112
115	1.24	1.28	1.33				1.33	73
116	1.56	1.60	1.64				1.64	208
117	1.55	1.64	1.71				1.71	116
118	1.44	1.40	1.39				1.39	120
119	1.38	1.32	1.32				1.32	110
120	.98	.96	.98	1.02	1.09		1.09	212
121	1.60	1.63	1.68				1.68	90
122	1.48	1.49	1.43				1.43	89
123	2.67						2.67	139
124	1.48	1.40	1.38				1.38	156
125	1.89	1.87	1.88				1.88	175
126	2.42	2.48					2.48	189
127	2.25	2.17					2.17	200
128	1.37	1.46	1.50	1.52	1.56	1.62	1.62	135
129	.96	.97	1.01				1.01	127
130	1.61	1.51	1.62				1.62	139

No.	10	11	12	13	14	15	Final	Freshman
131	.83	.83	.90				.90	56
132	1.98	1.97	2.09				2.09	151
133	.74	.75					.75	85
134	2.22	2.22	2.25				2.25	135
135	1.43	1.47	1.49				1.49	31
136	1.67	1.60	1.48				1.48	120
137	.85	.88	.83				.83	172
138	.89	.91	1.04				1.04	118
139	1.78	1.80	1.82				1.82	118
140	1.40	1.36					1.36	128
141	2.22	2.17	2.04				2.04	103
142	1.98	2.04	2.08	2.05			2.05	250
143	1.72	1.72	1.74				1.74	100
144	1.47	1.50	1.54				1.54	70
145	2.74	2.73	2.76				2.76	180
146	1.33	1.24	1.36				1.36	46
147	1.37	1.38	1.43				1.43	128
148	1.01	1.01	1.00				1.00	106
149	1.68	1.72					1.72	152
150	2.46	2.44	2.43				2.43	282
151	1.88	1.91	1.87	1.84			1.84	85
152	1.98	1.96	1.94				1.94	107
153	1.32	1.25	1.17	1.20			1.20	42
154	.94	.94	1.03	1.08	1.07		1.07	90
155	1.14	1.14	1.13				1.13	79
156	.98	1.04	1.11				1.11	138
157	1.70	1.72	1.71				1.71	156
158	1.36	1.34					1.34	160
159	1.33	1.33	1.36				1.36	127
160	1.38	1.42	1.42	1.39	1.51	1.51	1.51	36
161	1.63	1.68	1.74				1.74	114
162	1.96	2.00	2.00				2.00	175
163	1.99	2.01	2.06				2.06	147
164	.93	.97	1.05	1.08	1.07	1.06	1.06	187
165	1.49	1.54	1.55				1.55	91
166	1.44	1.46	1.52				1.52	156
167	2.69	2.72	2.73				2.73	160
168	1.73	1.73	1.74				1.74	88
169	1.20	1.23	1.31				1.31	41
170	1.08	1.09	1.08	1.09	1.12		1.12	115
171	2.52	2.50	2.46				2.46	173
172	1.46	1.44					1.44	68
173	2.90						2.90	260
174	1.10	1.18	1.21				1.21	75

No.	10	11	12	13	14	15	Final	Freshman
175	1.90						1.90	163
176	1.34	1.28	1.32				1.32	139
177	1.64	1.66	1.69				1.69	125
178	2.36	2.31	2.29				2.29	190
179	2.22						2.22	240
180	2.29	2.29	2.28				2.28	200
181	1.42	1.41	1.45				1.45	35
182	.95	1.01	1.03				1.03	124
183	1.78	1.66					1.66	100
184	1.15	1.13	1.09	1.08			1.08	129
185	1.94	2.01	1.99				1.99	88
186	1.05	1.09	1.13				1.13	28
187	1.91	1.93	1.98				1.98	135
188	1.43	1.43	1.43				1.43	122
189	1.91	1.95	1.96	1.96	1.98	1.96	1.96	100
190	1.11	1.07	1.04				1.04	192
191	1.33	1.39	1.44				1.44	88
192	2.33	2.33	2.30				2.30	82
193	.90	.93	.97	1.04			1.04	108
194	2.15	2.13	2.19				2.19	114
195	2,27	2.30	2.35				2.35	187
196	2.54	2.54	2.56				2.56	139
197	1.77	1.77	1.79				1.79	99
198	1.58	1.60	1.60				1.60	156
199	2.21	2.23	2.28				2.28	108
200	.96	.99	1.03				1.03	136
201	.98	1.01	1.04				1.04	75
202	2.21	2.20	2.21				2.21	164
203	1.00	1.00					1.00	83
204	.97	1.01	1.01	1.00	1.00	1.03	1.03	88
205	.87	.94	1.01	1.06	1.10		1.10	141
206	1.90	1.85	1.86				1.86	136
207	1.88	1.83	1.79				1.79	220
208	1.87	1.90	1.89				1.89	153
209	1.64	1.63	1164				1.64	187
210	.72	.75	.85	.93	.95	1.02	1.02	112
211	1.56	1.58	1.60				1.60	143
212	1.23	1.25	1.29				1.29	143
213	1.21	1.22	1.29				1.29	70
214	1.57	1.61					1.61	114
215	.99	1.06	1.10	1.14	1.14		1.14	88
216	1.54	1.46	1.42				1.42	180
217	2.71	2.71	2.67				2.67	148
218	1.34	1.31	1.29	1.32	1.37		1.37	55
219	2.06	2.10	2.08				2.08	184

No.	10	11	12	13	14	15	Final	Freshman
220	1.23	1.23	1.19				1.19	66
221	1.21	1.29	1.36				1.36	157
222	.67	.68	.69	.70	.77	.84	.84	91
223	2.15	2.09	2.08				2.08	185
224	1.99	1.93	1.86				1.86	166
225	1.08	1.15	1.17	1.23			1.23	110
226	.88	.93	.99				.99	40
227	1.33	1.33	1.38	1.37			1.37	130
228	1.21	1.18	1.14				1.14	42
229	1.16	1.23	1.26				1.26	123
230	2.09	2.11	2.13				2.13	115
231	2.18	2.13	2.39				2.39	85
232	.93	.98	1.00	.98	.95	1.04	1.04	166
233	1.10	1.08	1.07				1.07	70
234	1.25	1.33	1.35				1.35	137
235	1.32	1.36	1.40	1.42	1.44	1.48	1.48	162
236	.96	1.01	1.15	1.26			1.26	121
237	1.64	1.68	1.71				1.71	63
238	1.50	1.56	1.56				1.56	96
239	2.41	2.40	2.35				2.35	120
240	2.00	2.00	1.98				1.98	112
241	.99	.94	.92				.92	122
242	2.36	2.35	2.33				2.33	260
243	1.19	1.01	1.01				1.01	135
244	1.53	1.48	1.45	1.48			1.48	124
245	.93	.98	1.05				1.05	83
246	1.11	1.18	1.20				1.20	78
247							1.26	40
248	1.82	1.82	1.86	1.92			1.92	94
249	1.69	1.64	1.66				1.66	70
250	2.06	2.00	1.99				1.99	145
251	1.18	1.23	1.27				1.27	126
252	1.16	1.14	1.15				1.15	119
253	1.56	1.56	1.49				1.49	134
254	1.07	1.15	1.19	1.23	1.28	1.28	1.28	118
255	2.45	2.34	2.33	2.30			2.30	122
256	.96	.99	1.05	1.11	1.19		1.19	75
257	1.10	1.11	1.08	1.20			1.20	248
258	2.18	2.17	2.20				2.20	186
259							2.49	162
260	1.80	1.82	1.82				1.82	126
261	.92	.96	1.05				1.05	150
262	2.65	2.65	2.66				2.66	130
263	1.38	1.38	1.39	1.39			1.39	156

No.	10	11	12	13	14	15	Final	Freshman
264	1.70	1.69	1.80				1.80	121
265	.66	.65	.71	.81	.95		.95	36
266	1.47	1.46	1.42				1.42	140
267	1.47	1.46	1.46	1.48			1.48	148
268	1.53	1.62	1.67				1.67	142
269	1.72	1.75	1.78	1.88			1.88	150
270	2.23	2.21					2.21	122
271	1.52	1.59	1.66				1.66	143
272	.96	1.06	1.14	1.18			1.18	106
273	1.93	1.90	1.91				1.91	163
274	1.80	1.79	1.77				1.77	215
275	1.47	1.45					1.45	117
276	1.56	1.54	1.55				1.55	158
277	1.14	1.12	1.17				1.17	108
278	1.26	1.29	1.28	1.32			1.32	92
279	1.68	1.68	1.67				1.67	198
280	1.80	1.77	1.72	1.73	1.70		1.70	140
281	1.78	1.80	1.80				1.80	45
282	1.96						1.96	210
283	.79	.79	.88	.96			.96	157
284	1.08	1.08	1.08				1.08	193
285	1.58	1.55	1.55	1.57			1.57	138
286	1.35	1.39	1.42				1.42	95
287	2.38	2.39	2.33				2.33	165
288	2.49						2.49	214
289	1.16	1.17	1.25				1.25	76
290	.83	.81	.85				.85	97
291	.95	1.01	.98	1.03	1.04		1.04	84
292	1.81	1.79	1.76				1.76	242
293	1.27	1.27	1.25				1.25	75
294	1.22	1.22	1.27				1.27	52
295	.82	.90	.91	.94	1.01		1.01	126
296	1.25	1.19	1.23				1.23	111
297	2.27	2.31	2.33				2.33	140
298	.70	.75	.79	.83	.89	1.01	1.01	143
299	1.20	1.22	1.22				1.22	175
300	1.55	1.60	1.64				1.64	160
301	1.33	1.40	1.51				1.51	110
302	2.71	2.72	2.72				2.72	196
303	2.98	2.98	2.98				2.98	260
304	2.28	2.25	2.25				2.25	158
305	1.21	1.20	1.18	1.19			1.19	125
306	2.45	2.42	2.40				2.40	137
307	.92	.93	.94	.97			.97	188

No.	10	11	12	13	14	15	Final	Freshman
308	.73	.77	.83	.84	.92		.92	80
309	.99	.95	.94	.97	.95	.90	.90	164
310	1.97	1.92					1.92	86
311	2.00	1.99	2.00				2.00	150
312	.84	.90	.96	.97	.98		.98	72
313	2.33	2.30	2.30				2.30	200
314	2.10	2.13	2.10				2.10	178
315	.75	.80	.90	.94	.95	1.03	1.03	116
316	1.73	1.72	1.78				1.78	196
317	.88	.91	.94				.94	44
318	1.47	1.46	1.42				1.42	93
319	1.00	1.12	1.14	1.13			1.13	143
320	1.93	1.95	1.96				1.96	143
321	.83	.84					.84	44
322	1.35	1.38	1.44	1.43			1.43	226
323	1.32	1.31	1.35				1.35	148
324	2.45	2.44	2.42				2.42	260
325	1.68	1.63					1.63	155
326	1.95	1.89	1.88	1.85			1.85	146
327	2.02	2.04	2.12				2.12	145
328	2.76	2.73	2.72				2.72	204
329	1.05	1.07	1.11	1.12			1.12	248
330	.82	.90	.90	.88	.87		.87	54
331	1.13	1.16	1.19				1.19	130
332	1.12	1.09	1.09				1.09	130
333	2.02	2.05	2.02				2.02	143
334	1.26	1.24	1.22				1.22	194
335	1.70	1.68	1.69				1.69	139
336	1.00	.95					.95	114
337	.86	.88	.82	.83	.88		.88	78
338	1.19	1.17	1.22				1.22	71
339	1.50	1.58	1.57	1.54			1.54	95
340	1.19	1.29	1.31				1.31	146
341	1.24	1.33	1.38				1.38	126
342	2.57	2.61	2.61				2.61	157
343	1.81	1.78	1.81				1.81	63
344	2.38	2.44	2.47				2.47	147
345	.83	.86	.88	.86	.89	.89	.89	92
346	2.43	2.45	2.46				2.46	268
347	.94	.93	.91	.90	.90	.94	.94	126
348	1.09						1.09	45
349	1.48	1.43	1.40				1.40	150
350	1.50	1.48	1.50	1.55			1.55	42
351	.81	.97	1.06	1.02			1.02	118

No.	10	11	12	13	14	15	Final	Freshman
352	1.56	1.54	1.54				1.54	109
353	1.35	1.30	1.29				1.29	115
354	1.20	1.17	1.21				1.21	121
355	1.60	1.61	1.60				1.60	141
356	1.34	1.35	1.42				1.42	64
357	1.32	1.29	1.24				1.24	120
358	1.34	1.43					1.43	132
359	1.09	1.14	1.11				1.11	82
360	.84	.88	.90				.90	126
361	1.11	1.08	1.09	1.17			1.17	109
362	1.44	1.43	1.48				1.48	36
363							.86	140
364							1.46	77
365							1.05	128
366							2.31	289
367							1.71	212
368							1.78	216
369							2.33	210
370							.86	93
371							1.15	79
372							.74	106
373							.98	112
374							1.07	38
375							1.32	145
376	.94						.94	48
377							2.38	136
378							1.09	134
379							2.75	224
380							1.60	160
381							.76	158
382							1.83	183
383							1.64	229
384							1.01	118
385							1.50	164
386							2.29	169
387							.99	107
388	2.06	2.08	2.05				2.05	177
389							1.43	129
390							1.16	156
391							1.36	110
392							1.35	170
393							2.20	168
394							1.54	152
395							1.90	114

No.	10	11	12	13	14	15	Final	Freshman
396							2.48	215
397							2.79	209
398							22.23	174
399							1.18	133
400							.85	190
401							1.05	76
402							1.29	168
403							1.03	61
404							.84	183
405							2.06	168
406							2.58	242
407	1.40	1.42					1.42	252
408	1.28						1.28	140
409	.95	.93	1.00				1.00	134
410							1.24	83
411	1.17	1.22					1.22	97
412							1.11	77
413							1.94	159
414							2.04	116
415							1.73	186
416							2.27	246
417	.54	.57	.65				.65	132
418							2.02	176
419							1.83	213
420							.93	127
421							1.73	155
422							1.48	255
423							2.43	134
424	1.50	1.53					1.53	135
425							1.81	132
426							1.19	114
427	1.75	1.72					1.72	107
428							.92	194
429							1.69	190
430							1.38	133
431	.99	.95	.95				.95	90
432							2.46	191
433							1.64	194
434							1.73	123
435							2.57	212
436							.61	139
437							2.56	203
438							1.69	142
439							.90	200
440							1.33	137

No.	10	11	12	13	14	15	Final	Freshman
441							1.01	92
442							.94	100
443	.69	.66	.69				.69	128
444							2.26	201
445							1.08	172
446							1.42	139
447							2.54	210
448							1.03	50
449	1.66	1.60					1.60	159
450							1.55	328
451	1.10	1.02	.94				.94	88
452							1.86	164
453							1.59	227
454							1.42	152
455							.84	205
456							.70	123
457							1.49	191
458							.94	109
459							2.17	239
460							1.53	146
461	.60	.61	.73				.73	96
462							.74	120
463							2.09	137
464							.62	165
465	1.38						1.38	66
466							1.27	69
467							1.24	195
468							.91	205
469							1.87	206
470							1.37	152
471							1.89	247
472							2.21	169
473	1.11	1.04					1.04	150
474	.70	.72					.72	131
475	.60						.60	138
476							1.70	175
477	1.11	1.09	1.10				1.10	105
478							1.63	209
479							.87	87
480							.71	130
481							2.76	246
482							1.65	168
483	1.22	1.21					1.21	138
484							.82	166
485							2.49	155

No.	10	11	12	13	14	15	Final	Freshman
486							2.49	175
487	1.20						1.20	110
488	.79	.79	.80				.80	106
489							1.05	140
490	1.35	1.25	1.23				1.23	110
491							1.41	111
492							1.44	166
493							1.11	120
494							1.61	124
495							1.28	157
496							1.83	213
497							1.15	223
498							2.15	140
499							1.52	165
500							1.45	186
Cases	384	373	342	94	50	27	500	500
Mean	1.49	1.48	1.50	1.27	1.16	1.15	1.50	139

TAYLOR'S PERCENTILE OF INDEX OF EXCELLENCE

For method of computing Index of Excellence see pages 32 to 35

APPENDIX C
TAYLOR'S PERCENTILE OF INDEX OF EXCELLENCE

Score	No. Cases	Percentile
0	81	.081
1/2	8	.170
2/3	22	.200
1	19	.239
1 1/3	30	.290
1 1/2	13	.333
2	38	.384
2 1/2	14	.436
2 2/3	12	.462
3	21	.495
3 1/3	11	.527
3 1/2	5	.543
4	16	.564
4 1/2	5	.585
4 2/3	8	.598
5	10	.608
5 1/3	6	.632
5 1/2	8	.646
6	12	.666
6 1/2	3	.681
6 2/3	6	.690
7	12	.708
7 1/3	5	.725
7 1/2	4	.734
8	18	.756
8 1/2	8	.782
8 2/3	5	.795
9	10	.810
9 1/3	4	.824
9 1/2	1	.829
10	10	.840
10 1/2	8	.858
10 2/3	2	.868
11	9	.879
11 1/3	3	.891
11 1/2	9	.903
12	5	.917
12 1/2	1	.923
12 2/3	3	.927
13	1	.931
13 1/3	1	.933
13 1/2	1	.935

Score	No. Cases	Percentile
14	6	.942
14 2/3	6	.954
16	5	.965
16 2/3	1	.971
17	1	.973
17 1/3	1	.975
18	•	.977
18 2/3	1	.979
19	1	.981
21	1	.983
21 1/3	1	.985
23	2	.988
24	2	.992
29	1	.995
33	2	.998

PERCENTILE RANK OF CUMULATIVE COLLEGE MARKS

PERCENTILE RANK OF A CUMULATIVE COLLEGE SCHOLASTIC RECORD

Score	No. Cases	Percentile
.60	1	.002
.61	1	.004
.62	1	.006
.65	1	.008
.69	1	.010
.70	2	.012
.71	2	.016
.72	1	.020
.73	1	.022
.74	2	.024
.75	1	.028
.76	1	.030
.79	1	.032
.80	1	.034
.82	2	.036
.83	3	.041
.84	4	.048
.85	2	.054
.86	4	.060
.87	2	.066
.88	1	.070
.89	1	.072
.90	4	.076
.91	1	.082
.92	5	.087
.93	2	.094
.94	6	.102
.95	5	.113
.96	3	.121
.97	2	.126
.98	2	.130
.99	7	.139
1.00	5	.151
1.01	6	.162
1.02	2	.170
1.03	7	.179
1.04	10	.196
1.05	5	.211
1.06	2	.218
1.07	4	.224
1.08	3	.231
1.09	5	.239
1.10	3	.247
1.11	4	.254
1.12	2	.260

Score	No. Cases	Percentile
1.13	4	.266
1.14	3	.273
1.15	3	.279
1.16	4	.286
1.17	5	.295
1.18	5	.305
1.19	5	.315
1.20	8	.328
1.21	3	.339
1.22	4	.346
1.23	4	.354
1.24	3	.361
1.25	2	.366
1.26	3	.371
1.27	3	.377
1.28	3	.383
1.29	5	.391
1.30	1	.398
1.31	3	.401
1.32	4	.408
1.33	3	.415
1.34	2	.420
1.35	3	.425
1.36	6	.434
1.37	5	.445
1.38	5	.455
1.39	3	.463
1.40	1	.468
1.41	1	.470
1.42	10	.480
1.43	7	.497
1.44	5	.509
1.45	4	.518
1.46	1	.524
1.48	6	.530
1.49	3	.539
1.50	2	.544
1.51	2	.548
1.52	3	.553
1.53	2	.558
1.54	5	.565
1.55	6	.576
1.56	1	.584
1.57	2	.586
1.58	2	.590
1.59	2	.594

Score	No. Cases	Percentile
1.60	5	.603
1.61	2	.608
1.62	4	.614
1.63	3	.621
1.64	5	.629
1.65	3	.637
1.66	4	.644
1.67	2	.650
1.68	2	.654
1.69	5	.661
1.70	2	.669
1.71	4	.674
1.72	4	.682
1.73	4	.690
1.74	3	.697
1.76	1	.702
1.77	3	.705
1.78	3	.711
1.79	3	.717
1.80	4	.724
1.81	3	.731
1.82	2	.736
1.83	3	.741
1.84	1	.746
1.85	1	.748
1.86	3	.751
1.87	1	.756
1.88	2	.758
1.89	2	.762
1.90	2	.766
1.91	1	.770
1.92	2	.772
1.93	1	.776
1.94	3	.779
1.95	1	.784
1.96	3	.787
1.98	2	.792
1.99	2	.796
2.00	4	.802
2.02	2	.808
2.03	2	.812
2.04	2	.816
2.05	2	.820
2.06	3	.825
2.07	2	.830
2.08	2	.834
2.09	2	.838

Score	No. Cases	Percentile
2.10	1	.842
2.12	2	.844
2.13	1	.848
2.15	1	.850
2.17	2	.852
2.19	1	.856
2.20	2	.858
2.21	4	.864
2.22	1	.870
2.23	1	.872
2.24	1	.876
2.25	2	.878
2.26	1	.882
2.27	1	.884
2.28	2	.886
2.29	2	.890
2.30	3	.895
2.31	1	.900
2.32	1	.902
2.33	5	.907
2.35	4	.916
2.38	2	.922
2.39	1	.926
2.40	1	.928
2.42	1	.930
2.43	2	.932
2.46	3	.937
2.47	1	.942
2.48	2	.944
2.49	4	.950
2.51	1	.956
2.54	1	.958
2.56	2	.960
2.57	1	.964
2.58	1	.966
2.61	1	.968
2.66	1	.970
2.67	2	.972
2.69	1	.976
2.72	4	.980
2.73	1	.986
2.75	1	.988
2.76	2	.992
2.79	1	.994
2.80	1	.995
2.90	1	.997
2.98	1	.999

TABLES FOR USE WITH DVORAK FORMULA

The factor is the constant the high school mark or psychological examination score is multiplied by in weighting it for use in the Dvorak Formula

APPENDIX E
TABLE OF VALUES - DVORAK FORMULA

Factor	.0959	.0157	.2464	.0977	.1159	.0029
Grade	Eng.	Math.	Soc.Sc.	Nat.Sc.	Lang.	Non-Ac.
3.00	.2877	.0471	.7392	.2931	.3477	.0087
2.95	.2829	.463	.7269	.2882	.3419	.0085
2.90	.2781	.0455	.7146	.2883	.3361	.0084
2.85	.2733	.0448	.7022	.2785	.3303	.0082
2.80	.2685	.0440	.6899	.2736	.3245	.0081
2.75	.2637	.0432	.6776	.2687	.3187	.0079
2.70	.2589	.0424	.6653	.2638	.3129	.0078
2.65	.2541	.0416	.6529	.2589	.3071	.0076
2.60	.2493	.0408	.6406	.2540	.3013	.0075
2.55	.2445	.0400	.6283	.2491	.2956	.0074
2.50	.2397	.0393	.6160	.2442	.2898	.0073
2.45	.2350	.0385	.6037	.2394	.2840	.0071
2.40	.2302	.0377	.5914	.2345	.2782	.0069
2.35	.2254	.0369	.5790	.2296	.2724	.0068
2.30	.2206	.0361	.5667	.2247	.2666	.0067
2.25	.2158	.0353	.5544	.2198	.2608	.0065
2.20	.2110	.0345	.5421	.2149	.2550	.0064
2.15	.2062	.0337	.5297	.2101	.2492	.0062
2.10	.2014	.0330	.5174	.2052	.2434	.0061
2.05	.1966	.0322	.5051	.2003	.2376	.0059
2.00	.1918	.0314	.4928	.1954	.2318	.0058
1.95	.1870	.0306	.4805	.1905	.2260	.0056
1.90	.1822	.0298	.4682	.1856	.2202	.0055
1.85	.1774	.0290	.4558	.1808	.2144	.0053
1.80	.1726	.0283	.4435	.1759	.2086	.0052
1.75	.1678	.0275	.4312	.1709	.2028	.0050
1.70	.1630	.0267	.4189	.1660	.1970	.0049
1.65	.1582	.0259	.4065	.1612	.1912	.0047
1.60	.1534	.0251	.3942	.1563	.1854	.0046
1.55	.1486	.0243	.3813	.1515	.1797	.0045
1.50	.1438	.0236	.3696	.1466	.1739	.0044
1.45	.1391	.0228	.3573	.1417	.1681	.0042
1.40	.1343	.0220	.3450	.1368	.1623	.0041
1.35	.1295	.0212	.3326	.1319	.1565	.0039
1.30	.1247	.0204	.3203	.1270	.1507	.0038
1.25	.1199	.0196	.3080	.1221	.1449	.0036
1.20	.1151	.0188	.2957	.1172	.1391	.0035
1.15	.1103	.0180	.2833	.1124	.1333	.0033
1.10	.1055	.0173	.2710	.1075	.1275	.0032
1.05	.1007	.0165	.2587	.1026	.1217	.0030
1.00	.0959	.0157	.2464	.0977	.1159	.0029

Factor	.0959	.0157	.2464	.0977	.1159	.0029
Grade	Eng.	Math.	Soc.Sc.	Nat.Sc.	Lang.	Non.Ac.
1.00	.0959	.0157	.2464	.0977	.1159	.0029
.95	.0911	.0149	.2341	.0928	.1101	.0027
.90	.0863	.0141	.2218	.0879	.1043	.0026
.85	.0815	.0133	.2094	.0831	.0985	.0024
.80	.0767	.0126	.1971	.0782	.0927	.0023
.75	.0719	.0118	.1848	.0733	.0869	.0021
.70	.0671	.0110	.1725	.0684	.0811	.0020
.65	.0623	.0102	.1601	.0635	.0753	.0018
.60	.0575	.0094	.1478	.0586	.0695	.0017
.55	.0528	.0086	.1355	.0538	.0638	.0016
.50	.0480	.0079	.1232	.0489	.0580	.0015
.45	.0432	.0071	.1109	.0440	.0522	.0013
.40	.0384	.0063	.0986	.0391	.0464	.0019
.35	.0336	.0055	.0862	.0342	.0406	.0010
.30	.0288	.0047	.0739	.0293	.0348	.0009
.25	.0240	.0039	.0616	.0244	.0290	.0007
.20	.0192	.0031	.0493	.0195	.0232	.0006
.15	.0144	.0023	.0369	.0147	.0174	.0004
.10	.0096	.0016	.0246	.0098	.0116	.0003
.05	.0048	.0008	.0123	.0049	.0058	.0001
.00	.0000	.0000	.0000	.0000	.0000	.0000

TABLE OF VALUES - DVORAK FORMULA
PSYCHOLOGICAL EXAMINATION SCORE BY PERCENTILES
Factor = .0022

1 to 40		40 to 80	
1	.0022	41	.0902
2	.0044	42	.0924
3	.0066	43	.0946
4	.0088	44	.0968
5	.0110	45	.0990
6	.0132	46	.1012
7	.0154	47	.1034
8	.0176	48	.1056
9	.0198	49	.1078
10	.0220	50	.1100
11	.0242	51	.1122
12	.0264	52	.1144
13	.0286	53	.1166
14	.0308	54	.1188
15	.0330	55	.1210
16	.0352	56	.1232
17	.0374	57	.1254
18	.0396	58	.1276
19	.0418	59	.1298
20	.0440	60	.1320
21	.0462	61	.1342
22	.0484	62	.1364
23	.0506	63	.1386
24	.0528	64	.1408
25	.0550	65	.1430
26	.0572	66	.1452
27	.0594	67	.1474
28	.0616	68	.1496
29	.0638	69	.1518
30	.0660	70	.1540
31	.0682	71	.1562
32	.0704	72	.1584
33	.0726	73	.1606
34	.0748	74	.1628
35	.0770	75	.1650
36	.0792	76	.1672
37	.0814	77	.1694
38	.0836	78	.1716
39	.0858	79	.1738
40	.0880	80	.1760

81 to 90		91 to 100	
81	.1782	91	.2002
82	.1804	92	.2024
83	.1826	93	.2046
84	.1848	94	.2068
85	.1870	95	.2090
86	.1892	96	.2112
87	.1914	97	.2134
88	.1936	98	.2156
89	.1958	99	.2178
90	.1980	100	.2200

PREDICTIONS

APPENDIX F

PREDICTIONS

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
1	2.11	.27		1.30	1.08		.922	.719
2	1.17	.13		.75	.55		.398	.311
3	1.78		.06	1.36	.36		.682	.418
4	.91	.06		.50	.47		.126	.532
5	.85	.01		.48	.38		.060	.311
6	1.74		.32	1.28	.14		.480	.247
7	2.20	.01		1.22	.99		.864	.635
8	1.34	.04		.74	.64		.455	.554
9	2.54		.88	1.98		.32	.644	.494
10	2.26		.95	1.56		.24	.401	.450
11	2.46		.11	1.84	.51		.916	.595
12	1.72		.28	1.35	.09		.509	.335
13	2.14		.39	1.64	.09		.690	.726
14	2.38		.44	1.91	.03		.779	.789
15	1.60		.31	1.37		.08	.391	.308
16	1.95		.58	1.29	.08		.445	.418
17	.99		.28	.72		.01	.016	.259
18	2.28		.51	1.76	.01		.705	.642
19	1.04	.05		.66	.43		.239	.532
20	1.41	.11		.93	.59		.553	.351
21	1.68	.27		1.32	.63		.784	.554
22	1.58		.72	1.10		.24	.060	.422
23	2.60		.36	1.95	.29		.876	.942
24	2.23		.43	1.65	.15		.724	.815
25	.83	.09		.57	.35		.087	.427
26	2.42	.30		1.14	1.58		.980	.814
27	2.36		.81	1.70		.15	.576	.595
28	1.31	.32		1.05	.58		.621	.796
29	1.92	.08		.88	1.12		.802	.734
30	2.45	.27		1.85	.89		.980	.838
31	1.86		.42	1.54		.10	.509	.447
32	2.03		.24	1.50	.29		.717	.488
33	1.28		.05	1.03	.20		.354	.509
34	1.11		.07	.77	.27		.196	.182
35	.75	.08		.50	.33		.041	.509
36	.95	.04		.54	.45		.139	.487
37	1.25	.78		.93	1.13		.812	.672
38	1.20		.16	.88	.16		.196	.345
39	1.37		.58	.97		.18	.032	.055
40	1.41		.45	1.15		.19	.121	.297
41	2.42		.19	1.85	.38		.872	.753

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
42	.77	.06		.51	.32		.041	.532
43	1.61		.25	1.37		.01	.434	.454
44	1.08	.02		.70	.40		.247	.232
45	1.62		.42	1.08	.12		.328	.443
46	.70	.12		.63	.19		.036	.311
47	1.04	.03		.88	.19		.224	.263
48	2.30		.23	1.55	.52		.830	.715
49	2.39		.80	1.52	.07		.594	.740
50	2.24		.52	1.70	.02		.682	.595
51	1.58		.40	1.12	.06		.305	.480
52	1.11	.47		.75	.83		.590	.680
53	1.61		.16	1.18	.27		.518	.463
54	1.75		.76	1.48		.49	.139	.553
55	1.44	.59		1.00	1.03		.812	.438
56	2.64		.57	1.89	.18		.830	.757
57	1.09		.16	.90	.03		.044	.527
58	1.72		.52	1.34		.14	.328	.489
59	.96			.73	.23		.121	.311
60	1.94		1.24	1.40		.70	.012	.718
61	2.28		1.15	1.41		.28	.266	.404
62	2.30	.21		1.75	.76		.956	.773
63	2.32		.51	1.67	.14		.731	.443
64	2.80		1.12	1.99		.31	.654	.849
65	1.42		.47	.74	.21		.113	.398
66	1.92	.41		1.41	.92		.907	.748
67	1.04		.04	.75	.25		.151	.539
68	2.12	.57		1.45	1.24		.976	.624
69	2.00		.63	1.39		.02	.445	.380
70	1.73		.08	1.30	.35		.637	.155
71	2.60		.60	1.94	.06		.802	.784
72	1.67		.68	1.30		.31	.139	.438
73	1.18			.99	.19		.305	.358
74	2.60		.28	1.91	.41		.092	.879
75	1.38		.43	.92	.03		.113	.229
76	1.56	.37		1.19	.74		.776	.605
77	1.04	.30		.56	.78		.420	.650
78	1.21		.05	.67	.49		.286	.279
79	1.20		.14	.78	.28		.218	.128
80	1.75		.32	1.07	.36		.497	.306
81	1.60		.02	1.20	.38		.590	.259
82	1.65		.66	1.28		.29	.139	.454
83	2.56		.23	1.84	.49		.097	.911
84	1.42		.26	.98	.18		.286	.280

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
85	2.53		.98	1.83		.28	.576	.550
86	1.61		.41	1.01	.19		.328	.184
87	1.05		.06	.76	.23		.139	.311
88	1.00	.33		.91	.42		.415	.126
89	1.09		.09	.80	.20		.151	.311
90	1.51	.14		1.05	.60		.637	.611
91	1.31	.19		1.04	.46		.544	.155
92	1.10	.08		.66	.52		.305	.259
93	2.40		.60	1.50	.30		.724	.656
94	1.78		.74	1.45		.41	.196	.426
95	1.13	.07		.87	.33		.328	.506
96	1.42		.39	1.00	.03		.179	.199
97	1.58		.41	1.06	.11		.295	.375
98	1.16		.02	1.00	.14		.273	.207
99	2.00		.83	1.31		.14	.295	.522
100	1.74	.04		1.23	.55		.711	.506
101	1.69	.43		1.25	.87		.844	.263
102	1.33		.16	1.00	.17		.295	.279
103	1.36	.21		.74	.83		.586	.663
104	1.16		.24	.96		.04	.087	.083
105	1.30	.76		.82	1.24		.825	.693
106	2.20		.78	1.60		.18	.480	.457
107	1.92		.30	.76	.86		.614	.585
108	1.63		.24	.98	.41		.463	.262
109	1.28	.41		1.79		.10	.661	.636
110	1.43	.34		1.65	.12		.705	.595
111	2.40	.40		1.39	1.41		.995	.824
112	1.12	.04		.90	.26		.286	.401
113	1.62			1.05	.57		.614	.431
114	2.09		.55	1.52	.02		.565	.320
115	1.21	.12		.95	.38		.415	.103
116	1.12	.52		1.08	.56		.629	.469
117	1.63	.08		1.23	.48		.674	.367
118	1.12	.27		.57	.82		.463	.307
119	2.06		.74	1.49		.17	.408	.575
120	1.02	.07		.85	.24		.239	.486
121	2.08		.40	1.48	.20		.654	.579
122	1.27	.16		1.06	.37		.497	.138
123	2.30	.37		1.94	.73		.972	.668
124	2.32		.94	1.71		.33	.455	.754
125	1.60	.28		1.04	.84		.758	.401
126	2.42	.06		1.74	.74		.944	.872
127	2.22		.05	1.26	.91		.852	.745

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
128	1.03	.58		.69	.93		.614	.358
129	1.42		.41	1.00	.01		.162	.454
130	2.24		.62	1.59	.03		.614	.555
131	1.69		.79	1.03		.13	.076	.274
132	2.24		.15	1.99	.10		.838	.707
133	.80		.05	.70	.05		.028	.187
134	2.05	.20		1.35	.90		.878	.658
135	1.22	.27		.96	.53		.539	.278
136	1.23	.25		.98	.50		.530	.247
137	1.36		.53	1.08		.25	.041	.401
138	1.47		.43	1.19		.15	.196	.406
139	1.43	.39		.63	1.19		.736	.215
140	1.98		.62	1.45		.09	.434	.574
141	2.00	.04		1.12	.92		.816	.549
142	1.93	.12		1.42	.63		.820	.572
143	2.11		.37	1.44	.30		.697	.563
144	1.85		.31	1.37	.17		.565	.229
145	2.44	.32		1.26	1.50		.992	.473
146	1.49		.13	1.32	.04		.434	.206
147	1.07	.36		.60	.83		.497	.326
148	2.33		1.33	1.80		.80	.151	.522
149	1.62	.10		1.11	.61		.682	.494
150	2.19	.24		1.51	.92		.932	.855
151	1.86		.02	1.28	.56		.746	.420
152	1.86	.08		1.27	.67		.779	.362
153	1.48		.28	1.07	.13		.328	.182
154	2.02		.95	1.19		.12	.224	.467
155	2.01		.88	1.53		.40	.266	.416
156	1.01	.08		.70	.41		.254	.279
157	1.38	.33		.99	.72		.674	.494
158	1.18	.14		.87	.47		.420	.433
159	2.18		.82	1.23	.13		.434	.627
160	1.78		.27	1.40	.11		.548	.339
161	2.27		.53	1.41	.33		.697	.620
162	1.00	1.00		.84	1.16		.802	.401
163	2.24		.18	1.69	.37		.825	.648
164	1.10		.04	1.05	.01		.218	.486
165	1.07	.48		.69	.86		.567	.155
166	2.08		.56	1.65		.13	.553	.700
167	2.72	.01		1.95	.78		.986	.827
168	1.95		.21	1.02	.72		.697	.450
169	1.38		.07	.98	.33		.401	.055
170	1.11	.01		.99	.13		.260	.422

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
171	2.30	.16		1.71	.75		.937	.812
172	1.46		.02	.99	.45		.509	.234
173	2.34	.56		1.53	1.37		.997	.773
174	1.39		.18	1.01	.20		.339	.254
175	1.39	.51		.83	1.07		.766	.525
176	1.60		.28	1.22	.10		.408	.432
177	1.88		.19	1.31	.38		.661	.454
178	2.21	.08		1.65	.64		.890	.800
179	2.04	.18		1.24	.98		.870	.773
180	2.34		.06	1.77	.51		.886	.660
181	1.22	.23		.91	.54		.578	.047
182	1.72		.69	1.34		.31	.179	.561
183	1.87		.21	1.47	.19		.644	.511
184	1.73		.65	1.35		.27	.231	.399
185	2.13		.14	1.58	.41		.796	.432
186	2.01		.88	1.37		.24	.266	.348
187	1.60	.38		.97	1.01		.792	.384
188	1.81		.38	1.31	.12		.497	.499
189	1.49	.47		.99	.97		.787	.395
190	1.07		.03	.76	.28		.196	.494
191	1.35	.09		.87	.57		.509	.279
192	2.62		.32	1.88	.42		.895	.579
193	1.51		.47	.98	.06		.196	.310
194	2.00	.19		1.37	.82		.856	.457
195	1.90	.45		1.19	1.16		.916	.719
196	2.54	.02		1.86	.70		.960	.721
197	2.23		.44	1.71	.08		.717	.512
198	1.97		.37	1.54	.06		.603	.494
199	1.28	1.00		1.08	1.20		.886	.184
200	1.89		.86	1.40		.37	.179	.561
201	1.15		.11	.80	.24		.196	.103
202	2.26		.05	1.67	.54		.864	.791
203	1.38		.38	1.07		.07	.151	.351
204	1.48		.45	.93	.10		.179	.279
205	1.20		.10	.60	.50		.247	.534
206	2.06		.20	1.59	.17		.751	.593
207	1.83		.04	1.48	.31		.717	.652
208	2.08		.19	1.54	.35		.762	.625
209	1.74		.10	1.49	.05		.629	.668
210	1.66		.64	1.11		.09	.170	.393
211	2.12		.52	1.59	.01		.603	.648
212	1.13	.16		.72	.57		.391	.311
313	1.12	.17		.71	.58		.391	.254

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
214	1.94		.33	1.47	.14		.608	.508
215	1.23		.09	.86	.28		.273	.305
216	1.44		.02	1.11	.31		.480	.486
217	2.14	.53		1.59	1.08		.972	.604
218	1.36	.01		1.03	.34		.445	.298
219	2.32		.24	1.83	.25		.834	.863
220	1.10	.09		.44	.75		.315	.083
221	1.65		.29	1.20	.16		.434	.584
222	1.10		.26	.89		.05	.048	.214
223	1.88	.20		1.67	.41		.834	.427
224	2.14		.28	1.67	.19		.751	.681
225	1.04	.19		.85	.38		.354	.215
226	1.14		.15	.83	.16		.139	.286
227	1.38		.01	1.08	.29		.445	.483
228	1.27		.13	.89	.25		.273	.055
229	1.08	.18		.65	.61		.371	.247
230	1.91	.22		1.28	.85		.848	.520
231	1.90	.49		1.13	1.26		.926	.420
232	1.58		.54	1.01	.03		.196	.656
233	1.03	.04		.77	.30		.224	.207
234	2.25		.90	1.83		.48	.425	.617
235	1.52		.04	1.18	.30		.530	.433
236	1.33		.07	1.11	.15		.371	.373
237	1.73		.02	1.12	.59		.674	.234
238	1.39	.17		1.01	.55		.584	.233
239	2.42		.07	1.80	.55		.916	.696
240	2.22		.24	1.09	.89		.792	.614
241	2.21		1.29	1.68		.76	.087	.598
242	1.94	.39		1.13	1.20		.907	.791
243	1.06		.05	.82	.19		.162	.279
244	1.64		.16	1.21	.27		.530	.506
245	1.78		.73	1.39		.34	.211	.127
246	1.32		.12	1.00	.20		.328	.207
247	1.77		.51	1.27		.01	.371	.138
248	2.09		.17	1.67	.25		.772	.591
249	1.85		.19	1.35	.31		.644	.366
250	2.41		.42	1.62	.63		.796	.748
251	1.31		.04	.89	.38		.377	.470
252	1.07	.08		.75	.40		.279	.215
253	1.59		.10	1.35	.14		.539	.431
254	1.37		.09	1.15	.13		.383	.422
255	2.50		.20	1.77	.53		.895	.636

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
256	1.12	.07		.67	.57		.315	.179
257	1.17	.03		.93	.27		.328	.625
258	2.29		.09	1.69	.51		.858	.815
259	1.25	1.24		1.11	1.38		.950	.525
260	2.43		.61	1.51	.31		.736	.684
261	1.22		.17	1.02	.03		.211	.447
262	2.22	.44		1.58	1.08		.970	.678
263	1.12	.27		.87	.52		.463	.343
264	2.19		.39	1.70	.10		.724	.597
265	1.62		.67	1.18		.23	.113	.278
266	1.67		.25	1.36	.06		.480	.390
267	2.21		.73	1.64		.16	.530	.676
268	2.09		.42	1.65	.02		.650	.210
269	2.21		.33	1.67	.21		.758	.242
270	1.27	.94		.96	1.25		.864	.373
271	1.43	.23		1.18	.48		.644	.463
272	1.08	.10		.52	.66		.305	.288
273	1.91			1.32	.59		.770	.433
274	1.79		.02	1.30	.47		.705	.694
275	1.40	.05		1.04	.41		.518	.341
276	1.96		.41	1.47	.08		.576	.584
277	1.10	.07		.87	.30		.295	.184
278	2.06		.74	1.18	.14		.408	.306
279	1.36	.31		.99	.68		.650	.640
280	2.22		.52	1.59	.11		.668	.648
281	1.73	.07		1.45	.35		.724	.355
282	1.96			1.50	.46		.787	.837
283	.98		.02	.62	.34		.121	.343
284	1.00	.08		.82	.26		.231	.450
285	1.86		.29	1.40	.17		.586	.630
286	1.35	.07		1.02	.40		.480	.199
287	2.40		.07	1.73	.60		.907	.784
288	2.42	.07		1.41	1.08		.950	.844
289	1.19	.06		.86	.39		.366	.147
290	1.48		.63	1.18		.33	.054	.233
291	1.39		.35	.94	.10		.196	.318
292	2.34		.58	1.62	.14		.702	.871
293	1.65		.40	1.15	.10		.366	.380
294	1.69		.42	1.11	.16		.377	.342
295	1.46		.45	1.26		.25	.162	.425
296	2.08		.85	1.52		.29	.354	.572
297	2.10	.23		1.63	.70		.907	.736
298	2.43		1.42	1.79		.78	.162	.668
299	1.31		.09	.90	.32		.346	.706

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
300	2.35		.71	1.60	.04		.629	.804
301	2.06		.55	1.47	.04		.548	.575
302	2.79		.07	2.04	.68		.980	.907
303	2.95	.03		2.11	.87		.999	.989
304	2.12	.13		1.51	.74		.878	.550
305	1.20		.01	.89	.30		.315	.247
306	2.42		.02	1.85	.55		.928	.702
307	1.10		.13	.71	.26		.126	.486
308	1.41		.49	.90	.02		.087	.207
309	2.27		1.37	1.68		.78	.076	.738
310	2.04		.12	1.27	.65		.772	.507
311	2.26		.26	1.50	.50		.802	.656
312	.99		.01	.74	.24		.130	.162
313	2.19	.11		1.71	.59		.895	.863
314	1.73	.37		1.07	1.03		.842	.659
315	1.09		.06	.80	.23		.179	.393
316	1.82		.04	1.29	.49		.711	.725
317	1.39		.45	.72	.22		.102	.278
318	1.91		.49	1.09	.33		.480	.362
319	1.65		.52	1.11	.02		.266	.489
320	1.82	.14		1.33	.63		.787	.518
321	.98		.14	.57	.27		.048	.055
322	1.14	.29		.79	.64		.497	.678
323	1.01	.34		.84	.51		.425	.502
324	1.80	.62		1.47	.95		.930	.774
325	2.14		.51	1.57	.06		.621	.656
326	2.12		.27	1.58	.27		.748	.662
327	1.94	.18		1.35	.77		.844	.437
328	2.09	.63		1.63	1.09		.980	.621
329	1.12			.87	.25		.260	.600
330	1.09		.22	.84	.03		.066	.244
331	1.24		.05	1.04	.15		.315	.339
332	1.91		.82	1.38		.29	.239	.652
333	2.38		.36	1.73	.29		.808	.753
334	1.02	.20		.67	.55		.346	.450
335	1.88		.19	1.45	.24		.661	.431
336	.87		.02	.79	.16		.113	.275
337	1.54		.66	1.24		.36	.070	.366
338	2.23		1.01	1.52		.30	.346	.502
339	1.26	.28		.67	.87		.565	.259
340	1.75		.44	1.22	.09		.401	.518
341	1.30	.08		.94	.44		.455	.307
342	2.62		.01	1.92	.69		.968	.707

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
343	2.43		.62	1.77	.04		.731	.541
344	2.26	.21		1.59	.88		.942	.742
345	1.58		.69	1.25		.36	.072	.306
346	1.94	.52		1.45	1.01		.937	.532
347	1.62		.68	1.02		.08	.102	.326
348	1.19		.10	.94	.15		.239	.055
349	2.00		.60	1.06	.34		.468	.494
350	1.58		.03	1.06	.49		.576	.055
351	1.77		.75	1.11		.09	.170	.491
352	2.04		.50	1.66		.12	.565	.522
353	1.91		.62	1.20	.09		.391	.422
354	1.71		.50	1.25		.04	.339	.499
355	1.61		.01	1.27	.33		.603	.594
356	2.13		.71	1.50		.08	.480	.482
357	1.42		.18	1.08	.16		.361	.247
358	1.25	.18		.95	.48		.497	.358
359	1.87		.76	1.42		.31	.254	.478
360	1.40		.50	.81	.03		.076	.352
361	1.03	.14		.61	.56		.295	.184
362	2.02		.54	1.38	.10		.530	.374
363	1.19		.33	1.03		.17	.060	.311
364	1.71		.25	1.07	.39		.524	.103
365	1.55		.50	1.12		.07	.211	.454
366	1.33	.98		.94	1.37		.900	.689
367	2.68		.97	1.91		.20	.674	.942
368	1.32	.46		.96	.82		.711	.591
369	2.28	.07		1.70	.65		.916	.905
370	1.12		.56	1.18		.32	.060	.281
371	2.05		.90	1.48		.33	.279	.502
372	.88		.14	.78		.04	.024	.184
373	1.99		1.01	1.34		.36	.130	.479
374	1.39		.32	.87	.20		.224	.238
375	1.57		.25	.99	.33		.408	.416
376	.92	.02		.67	.27		.102	.055
377	1.74	.64		1.18	1.20		.922	.411
378	1.09			.82	.27		.239	.279
379	2.46	.29		1.71	1.04		.988	.879
380	1.22	.38		.92	.68		.603	.478
381	1.44		.68	1.06		.30	.030	.565
382	1.84		.01	1.10	.73		.741	.685
383	2.20		.56	1.51	.13		.629	.838
384	1.26		.25	.95	.06		.162	.259
385	1.59		.09	1.25	.25		.544	.637
386	2.12	.17		1.61	.68		.890	.687

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
387	1.41		.42	1.01		.02	.139	.362
388	2.49		.44	1.73	.32		.820	.812
389	1.50		.07	1.15	.28		.497	.489
390	1.16			.62	.54		.286	.422
391	1.92		.56	1.33	.03		.434	.491
392	1.92		.57	1.42		.07	.425	.739
393	1.30	.90		1.02	1.18		.858	.478
394	1.49	.05		1.05	.49		.565	.343
395	1.96		.06	1.32	.58		.766	.553
396	2.37	.11		1.72	.76		.944	.836
397	2.54	.25		2.00	.79		.994	.752
398	1.52	.71		1.10	1.13		.872	.579
399	1.09	.09		.70	.48		.305	.339
400	1.48		.63	.88		.03	.054	.554
401	1.18		.13	.72	.33		.211	.162
402	2.10		.81	1.58		.29	.391	.711
403	1.98		.95	1.52		.49	.179	.409
404	2.09		1.25	1.53		.69	.048	.506
405	2.52		.46	1.98	.08		.825	.791
406	2.63		.05	1.91	.67		.966	.957
407	1.05	.37		.82	.60		.480	.527
408	1.03	.35		.77	.51		.383	.311
409	1.51		.51	1.10		.10	.151	.384
410	1.74		.50	1.13	.11		.361	.369
411	1.58		.36	.96	.26		.346	.334
412	1.65		.54	1.28		.17	.254	.310
413	2.39		.45	1.40	.54		.779	.736
414	1.23	.81		.92	1.12		.816	.275
415	1.96		.23	1.29	.44		.690	.719
416	2.25	.02		1.75	.52		.884	.909
417	.98		.33	.76		.11	.008	.279
418	2.07		.05	1.28	.94		.808	.723
419	2.84		1.01	2.07		.24	.741	.885
420	1.19		.26	.85	.08		.094	.307
421	2.22		.47	1.43	.30		.690	.656
422	2.14		.66	1.61		.13	.530	.898
423	2.61		.18	1.89	.54		.932	.690
424	1.43	.10		1.14	.39		.558	.279
425	1.81			1.55	.26		.731	.405
426	1.67		.48	1.09	.10		.315	.320
427	1.61	.11		1.05	.67		.682	.331
428	.94		.02	.72	.20		.087	.427
429	1.85		.16	1.37	.32		.661	.731

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
430	1.75		.37	1.32	.06		.455	.279
431	1.50		.55	.70	.25		.113	.233
432	2.82		.36	1.73	.73		.937	.900
433	1.48	.16		1.00	.64		.629	.691
434	2.41		.68	1.75		.02	.690	.678
435	2.59		.02	2.02	.55		.964	.917
436	1.23		.62	.78		.17	.004	.324
437	2.34	.22		1.69	.87		.960	.849
438	1.94		.25	1.47	.22		.661	.553
439	2.06		1.16	1.45		.55	.076	.783
440	1.84		.51	1.23	.10		.415	.538
441	1.45		.44	1.12		.11	.162	.155
442	.94			.77	.17		.102	.184
443	1.29		.60	1.04		.35	.010	.373
444	2.50		.24	1.80	.46		.882	.920
445	1.10		.02	1.00	.08		.231	.401
446	1.91		.49	1.34	.08		.480	.543
447	2.57		.03	1.59	.95		.958	.891
448	1.80		.77	1.38		.35	.179	.367
449	2.48		.88	1.82		.22	.603	.779
450	1.86		.31	1.28	.27		.576	.845
451	1.59		.65	1.15		.21	.102	.318
452	1.93		.07	1.61	.25		.751	.632
453	2.18		.59	1.66		.07	.594	.918
454	1.53		.11	.91	.51		.480	.494
455	.86		.02	.77	.07		.048	.469
456	2.14		1.44	1.74		1.04	.012	.612
457	1.23	.26		1.25	.24		.539	.494
458	1.87		.93	1.33		.39	.102	.426
459	2.07	.10		1.44	.73		.852	.849
460	2.17		.64	1.25	.28		.558	.683
461	1.04		.31	.96		.23	.022	.382
462	1.42		.68	.75		.01	.024	.452
463	2.48		.39	1.82	.27		.838	.697
464	1.71		1.09	1.36		.74	.006	.637
465	1.69		.31	1.22	.16		.455	.346
466	1.74		.47	1.06	.21		.377	.289
467	1.62		.38	1.43		.19	.361	.691
468	1.76		.85	1.38		.47	.082	.621
469	1.43	.44		1.27	.60		.756	.574
470	1.80		.43	1.36	.01		.445	.402
471	2.57		.68	1.94		.05	.762	.951
472	2.17	.04		1.52	.69		.864	.656

No.	Jones Pred.	Deviation -	Deviation +	Dvorak Pred.	Deviation -	Deviation +	Percentile Actual	Percentile Taylor
473	1.05		.01	.98	.06		.196	.343
474	.70		.02	.60	.12		.020	.279
475	.98		.38	.73		.13	.002	.358
476	2.30		.60	1.66	.02		.668	.824
477	1.22		.12	.72	.38		.247	.362
478	2.13		.50	1.59	.04		.621	.834
479	1.64		.77	1.26		.39	.066	.128
480	1.22		.51	.85		.14	.016	.470
481	2.69	.07		1.96	.80		.992	.942
482	1.58	.07		1.04	.61		.637	.525
483	1.41		.20	.91	.30		.339	.411
484	.88		.06	.80	.02		.036	.373
485	2.65		.16	2.03	.46		.950	.753
486	2.43	.06		1.54	.95		.950	.827
487	1.91		.71	1.46		.26	.328	.366
488	.90		.10	.65	.15		.034	.244
489	1.30		.25	.82	.23		.211	.311
490	2.03		.80	1.51		.28	.354	.586
491	1.33	.08		1.28	.13		.470	.496
492	1.15	.29		1.05	.39		.509	.525
493	1.12		.01	1.00	.11		.254	.352
494	1.73		.12	1.25	.36		.608	.539
495	2.02		.74	1.46		.18	.383	.635
496	2.60		.77	1.94		.11	.741	.940
497	1.11	.04		.89	.26		.279	.579
498	2.51		.36	1.55	.60		.850	.753
499	1.39	.13		.92	.60		.553	.615
500	1.67		.22	1.02	.43		.518	.690

SUMMARY

Cases	500	163	327	500	395	105
Mean	1.70	-.25	.40	1.23	-.44	.25
Greatest		-1.24	1.44		-1.58	1.04
S.D.		.44			.52	

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