

A STUDY OF HIGH SCHOOL SENIORS'
VOCATIONAL INTERESTS AND ABILITIES

SEP 22 1939

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VOCATIONAL INTERESTS AND ABILITIES

By

JOHN P. LOUGHLIN

Bachelor of Science

Oklahoma Agricultural And Mechanical College

Stillwater, Oklahoma

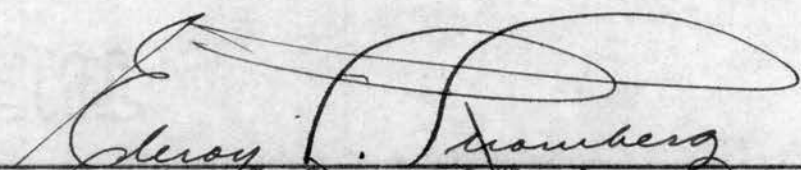
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Submitted to the Department of Education
Oklahoma Agricultural and Mechanical College
In Partial Fulfillment of the Requirements
For the degree of
MASTER OF SCIENCE

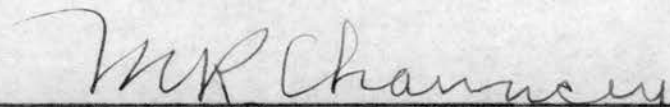
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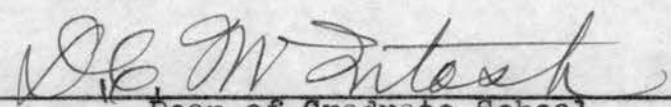
APPROVED:



Leroy C. Stromberg
In Charge of Thesis



W. R. Channery
Head of Department of Major Subject



J. B. White
Dean of Graduate School

118353

ACKNOWLEDGMENTS

I wish gratefully to acknowledge my indebtedness to the many persons who so generously assisted in the making of this study. To Dr. Eleroy L. Stromberg, my adviser, I am deeply indebted for valuable suggestions, guidance, and encouragement; to Dr. M. R. Chauncey for directing my attention to the field from which this investigation grew and for his helpful criticism and encouragement as the study progressed; to both Dr. Chauncey and Dr. Stromberg for their assistance in obtaining information and materials.

The Oklahoma Agricultural and Mechanical College supplied invaluable aid by granting me the use of machinery and materials in the College Administrative Research Laboratory, and I express my appreciation to those in charge of that department and to the workers in that laboratory for their assistance.

The high school seniors who gave considerable time and thought in creating the data for this investigation and who have shown such stimulating interest in the findings of the study, deserve no small amount of credit for inspiring the writer to expand much effort in attempting to secure reliable data and to interpret results truthfully and accurately.

J. P. L.

John P. Loughlin

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CHAPTER I
INTRODUCTION

Many school administrators and teachers, all of whom have come into contact with the student guidance problem in their college training and through professional literature, who are all aware of the high percentage of scholastic mortality of students, who all know of the many occupational mal-adjustments outside school, still seem to regard vocational and educational guidance as being merely a passing "fad" of modern educational theory. Even with that attitude toward guidance they administer vocational and educational guidance quite freely, based only on a subjective and off-hand estimate of the factors involved.¹ The tools of measurement which have been proved to give a reasonably accurate diagnosis and prognosis when applied by those who understand their administration and interpretation, are viewed as being too complicated, expensive, and laborious to be practical. Then, too, the fact that these tools of guidance are subject to certain errors and limitations may be still another reason for their not having been used to any appreciable extent by high schools of this section.

The writer has carried on this investigation with the

1. E. G. Williamson and J. G. Darley, Student Personnel Work, page 44.

hope that it might supply some concrete evidence as to the effectiveness, or ineffectiveness, of such systems of student guidance.

In view of the fact that counselors have little control over the factor of "opportunity" and economic problems limiting placement possibilities, it has seemed advisable to delimit this investigation to the other two principal factors involved,² that is, determining whether high school seniors' selection of future vocations harmonize with their diagnosed abilities and interests.

Statement of Problem: To what extent is there discrepancy between the, (1) ambitions and abilities, (2) claimed interests and measured interests, (3) abilities and measured interests of high school seniors?

Definition of Principal Elements of the Study: Wherever the following defined words are used in this paper their meaning will be in keeping with the definitions given here, and always, whether expressed, or unexpressed, they may be understood to pertain to occupations or vocations.

Ability: means the power to perform responsive acts, without restriction as to whether the power is already acquired (proficiency) or is potential power (capacity).

Ambition: refers to a strong desire or longing to engage in the activities of one or perhaps more than one occupa-

2. Walter Dill Scott, Robert C. Clothier, and Stanley B. Mathewson, *Personnel Management*, pp 17-31

tion. The definition implies that an attempt for attainment of that desire will result, and that considerable disappointment for the individual will accompany an unsuccessful attempt to attain the set vocational goal or ambition.

Interest: means the sum and total of the feelings of pleasantness (like), unpleasantness (Dislike), or indifference that one brings to bear upon any occupational career.

Preference: for an occupation is closely related to ambition for and interest in that occupation, in that it indicates that the individual likes or desires to work at that specific occupation more than any other.³ Preference means that a person by self-estimate concludes that he likes, or values, one of two or more situations more than any of the alternative situations.

Importance of the Problem: With such meager guidance programs as schools of this section carry out, in making the final decision as to their vocational and educational plans, the student must be guided in forming those plans almost entirely by their own conception of their abilities and interests. On that premise this study should be a direct indication of the effectiveness of the guidance program of the schools of this section. The study will also be of value to the students that participated in supplying

3. Marlin Ray Chauncey, The Educational and Occupational Preference of College Seniors, p 2

data for the investigation. Not only will they perhaps profit from counsel based on their measured abilities and interests, but also from the thought regarding vocations, which is evoked in the student as he fills out Strong's Interest Blank and answers questions in creating data for this study.

Results of Similar Investigations: Research in this field is very meager. However, there are some investigations which are closely related and should be presented here.

A very extensive study,⁴ almost identical to the part of this investigation dealing with ambition and abilities was carried on as part of the testing program of the association of Minnesota Colleges, conducted for high school seniors. A large number of cases was involved, as the study was carried on for seniors during the five year period from 1929 to 1933 inclusive. The number investigated in each of the five years ranged from 9,249 up to 19,513 in 1933. The College Aptitude Rating was used as the measure of ability.⁵ The Minnesota Occupational Rating Scale was used to arrive at the amount of ability required for succeeding in the different occupations.⁶

4. E. G. Williamson and J. G. Darley, "Matching Abilities to Jobs", pp 347-349.

5. The average of the percentile rank of high school marks and the percentile rank on a general intelligence test.

6. Walter Van Dyke Bingham, Aptitudes and Aptitude Testing, pp. 365-380.

Many low aptitude students select "high" professions such as law and engineering, while, conversely many high aptitude seniors are selecting occupations requiring lower occupational intelligence than they possess. Twenty-seven percent of the senior boys and one percent of the women choose "high" professional and executive occupations. Twenty percent of the senior boys and about forty percent of the girls choose lower professional and business executive occupations requiring next to the highest level of intelligence. Providing all those who have occupational intelligence as high as those required for the two occupational levels described above, choose occupations in those groups, there would be sixteen percent choosing them.⁷ In contrast to the sixteen percent that have ability enough to succeed in those occupations there are sixty-eight percent of the group selecting those occupations. No one chooses occupations requiring as low an aptitude as the "lowest" sixteen percent⁸ of the group will possess.

Much research has been devoted to the construction and validation of vocational interest tests, supplemented by

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7. Assuming a normal distribution of intelligence within the group.
 8. Some allowance should be made for the elimination from school some of those students who would make up that "lowest" sixteen percent in aptitude. Then too, success will not be based entirely upon the college aptitude rating; hence, we should not expect an exact conformity to norms.

extensive research in studies of masculinity and feminity of vocational interests, stability of interests with age and multiple factor analysis. There are also many cases on record in which the measurement of vocational interests has been made for clinical purposes. But there has not been enough work done in comparing high school seniors' claimed and measured interests that a report on such can be included here. However, considering that rather flimsy and superficial factors are often the basis of a high school senior's claimed vocational interests, it is not to be expected that there would be exceptionally high agreement between claimed and measured vocational interests.

From twenty-one correlations reported from comparison of interests tests and a measure of abstract abilities,¹⁰ Fryer concludes:

"The interpretation might be drawn that the relationship between information tests of interests and tests of abstract abilities, including general intelligence tests, is low".

H. R. Douglas collected data which show a low positive correlation between men's vocational interest test scores and the college grades of those registered in pro-

9. E. K. Strong, Jr., "Attitudes versus Aptitudes in Vocational Guidance", *Journal of Applied Psychology*, pp. 77-90

10. Douglas Fryer, *The Measurement of Interests*, p. 282.

11

fessional colleges.

Strong reports low correlation of interest ratings

12.

and intelligence test ratings.

11. E. G. Williamson and Darley, J. G., Student Personnel Work, p. 151

12. E. K. Strong, Jr., "Attitudes versus Aptitudes in Vocational Guidance", Journal of Applied Psychology, pp. 77-90.

CHAPTER II

THE METHOD

Source of Data: Every high school senior eligible¹ for graduation with the class of 1938 from Manchester, Medford, and Wakita Public Schools cooperated in supplying the data for this study. These schools graduated sixteen, twenty, and eighteen seniors, respectively; although the number of seniors used in the study was later cut down to an even fifty to make a convenient number, and because Strong's Vocational Interest Test which had to be scored for each individual is so laborious to score. Four were eliminated from the Medford² group by a pure chance method so that the "sample" would remain an unselect group of high school graduating seniors.

Determining Interests and Ambitions: Each senior under investigation recorded his vocational interests and ambitions on a questionnaire like the ones given in the two case studies included in Chapter III.³ The fact that many members of the group apparently had not given much thought to their vocational interests and ambitions, made the determin-

1. The three schools are independent schools located in the very northern part of Oklahoma.
2. All four were chosen from this group because this group was probably less interested in their test results than the others.
3. See Page 50 and Page 53.

ing of a valid measure of claimed interests and ambitions somewhat difficult to obtain.

However, the splendid classification of occupations made by Williamson and Darley furnished a valuable form which was quite advantageously included in the questionnaire.⁴ When the questionnaire was given, it was explained in detail and thus served not only as a very convenient record of each individual's claimed interests and ambitions, but undoubtedly aided in the self-evaluation of the rank of the individual's different interests and ambitions.

Determining Ability: Since ability as it is used in this paper means power to perform responsive acts without restriction as to whether that power is potential or actual, the estimate of ability must be in terms of probabilities determined by comparing past and present performance of an individual with that of his predecessors who have already made good or failed. Recognizing that fact, it becomes necessary to use measures that can best be depended upon to determine that probability. Authorities quite uniformly agree that high school marks and a good test of general intelligence are the most accurate means of predicting ability to do college work.⁵

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4. E. G. Williamson and J. G. Darley, Student Personnel Work, p. 106.
 5. Ibid. pp. 125-128
 5. Walter Van Dyke Bingham, Aptitudes and Aptitude Testing, pp. 19-23

It is not uncommon in the literature in the field of vocational and educational guidance to encounter the abbreviation, C. A. R., which is used to represent College Aptitude Rating.⁶ That rating is the average of percentile rank on high school scholarship and percentile rank on a college aptitude test.⁷ Research⁸ also indicates that the mental test is equally as valuable in predicting success in vocations as it is in predicting success in school work.

The relationship between scholarship and vocational success is not quite so well established. School people tend to exaggerate the importance of scholastic success as a factor of later vocational success.⁹ However, since mental tests and school marks show some positive correlation and research also shows that scholastic success and subsequent vocational success correlate rather highly, it seems justifiable to use C. A. R. Rating in this study as the measure of ability.¹⁰

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6. E. G. Williamson and J. G. Darley, Student Personnel Work, p. 89.
 7. An individual percentile rank of "n" or any number from one to one hundred exceeds exactly "n" percent of the group in scholarship, or whatever trait to which the percentile is applied.
 8. Walter Dill Scott and Robert G. Clothier, Personnel Management, pp. 257-261.
 9. Leonard V. Koos and Grayson E. Kefauver, Guidance in Secondary Education, p. 297.
 9. Ibid., pp. 268-269.
 10. Ibid., pp. 268-269.
 10. Irving Lorge, "The Prediction of Vocational Success", Personnel Journal.

The writer personally administered the 1937 edition of the American Council on Education Psychological Test to each of the three groups. Particular care was given to maintain uniform conditions for each of the groups and to administer and score the test exactly as the instruction manual prescribed.¹¹

The American Council on Education Psychological Test, often referred to as A. C. E. Test, was designed for use in distinguishing between college freshmen's mental abilities and their high school preparation.¹² The test requires one hour to administer. It is made up of five sub-tests: a completion test with a ten-minute time limit, an arithmetic test with a twenty-minute time limit, an artificial language test with a thirteen-minute time limit, a test of analogies with a ten-minute time limit, and a test of opposites with a seven-minute time limit.

The authors of the test report a high degree of reliability and validity for their test.¹³ Based on the Spearman-Brown formula, a coefficient of reliability of .95 was obtained. Similar reliabilities of the sub-tests range from .31 to .98. As to validity, the average of correlation coefficients between total scores on the A. C. E. Test and college grades of freshmen in over 50 colleges is about .50.

11. American Council on Education, Manual of Instructions

12. Ibid.

13. L. L. Thurstone and J. G. Thurstone, "The 1937 Psychological Examination for College Freshmen", Educational Record.

An official transcript of each senior's high school work showing the grades and the number of units earned in each subject in which he had enrolled was prepared and used in determining each senior's ability rating (C. A. R.).

Determining Ability Necessary to Realize Ambition:

Ability, as it is defined, will not be measured completely by the technique employed here since some of the tasks an individual will need to learn are not greatly dependent upon such elements as are measured by scholarship and general intelligence tests alone. Such elements as social, mechanical, musical, and artistic faculties would need to be measured more completely if a detailed individual analysis were being made for some of the seniors involved in the study.

The technique employed here is more definitely a measure of abstract intelligence. A certain minimum¹⁴ "critical" limit of intelligence has been determined for most of the different occupations, i.e., an employee with intelligence below that critical level has practically no chance to succeed in that occupation.¹⁵ If an individual does not possess enough abstract intelligence to attain

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14. There is also a maximum "critical" level.
 15. Walter Dill Scott and Robert C. Clothier, *Personnel Management*, pp. 253-257.
 15. Leonard V. Koos and Grayson N. Kefauver, *Guidance in Secondary Education*, pp. 302-307.

his ambition, it is logical to conclude that the individual is deficient in ability without any further measurement as to other faculties that go to make up ability. On the other hand, some may be judged satisfactory in ambition-ability adjustment which would not have been so judged if the other faculties previously referred to were taken into consideration. Although an examination of the results would indicate that small weight should be attached to that probability.

The most modern, complete, and convenient scale for determining the level of ability required for succeeding in the different occupations is the Minnesota Occupational Rating Scale.¹⁶ The clearness and exactness of the scale, and the divisions that make it up, along with an understanding of how the scale was compiled, gives one considerable confidence in the accuracy of the scale. This scale was prepared by Elenor S. Brussell, Harold Cisney, and the Minnesota Mechanical Abilities Research Staff under the direction of Donald G. Paterson.¹⁷

An estimate of the amount of ability required for succeeding in the different occupations was secured through the census of opinion of twenty or more of the most com-

16. Walter Van Dyke Bingham, *Aptitudes and Aptitude Testing*, pp. 370-380.

17. *Ibid.*, pp. 165-169.

petent raters it was possible to procure. The ratings found in the Minnesota Rating Scale are the median rating of the different raters. Where definite agreement of the raters was not apparent for a particular occupation, no rating is given for it in the scale. However, there seems to be no serious gap left in the scale.

The Minnesota scale divides the workers in all occupations into six levels or categories of abstract intelligence ranging from those of very superior intelligence to those of very inferior intelligence. The latter group is defined as being able to do routine manual work under supervision, requiring no skill or technical knowledge, such as day laborers, etc. Perhaps the scale can best be described further by briefly defining each of the six categories of ability and giving a few typical examples of those classified under each category.

Definition of Category	Illustrative Occupations
I. High profession and executive	surgeon or physician, college president, engineer
II. Lower professional and large business	accountant, bank official, dentist
III. Technical, clerical, and supervisory	salesman, politician, elementary school teacher
IV. Skilled tradesmen and lower clerical	professional musician, policeman, farmer.

Definition of Category	Illustrative Occupations
V. Semi-skilled	janitor, newsdealer, waiter in cafe
VI. Unskilled	Street sweeper, day laborer, garbage collector

The questionnaire already described supplies the data evidencing each senior's vocational ambition. Since vocational ambition is regarded as pertaining not only to the vocation one prefers to pursue, but also to the vocation which one will try to follow, it seems that his ambitions are interminglings of the vocations that he indicates he prefers to follow and those that he indicates he expects to follow.¹⁸ Hence, in arriving at the amount of ability required for an individual to attain his vocational ambition the three occupations listed as the individual's occupational preferences and the three listed as those he expected to pursue were rated from I to VI on the abstract intelligence division of the Minnesota Occupational Rating Scale. Then the arithmetic mean or average of the ratings was taken as the ability requirement index.

18. This should not be understood to be a wide mark designating his ambitions, because there were never more than four occupations involved and usually these required about the same ability.

Ambition versus Ability: With the ability possessed by each individual in terms of college aptitude ratings, and the ability required for attaining their ambition in terms of the six categories of abstract intelligence, the individual's ability-ambition adjustment would still not be apparent. So, applying the general principle that is commonly used when one wishes to compare the size or amounts of any two, or more quantities, the quantities under consideration are to be expressed in a common unit.

These fifty seniors being an "unselect" group should distribute their abilities according to the frequency expressed by the normal distribution curve.¹⁹ Also this group, according to Bingham's definition of his six categories of abstract intelligence upon which the Minnesota Rating Scale is based, is approximately equal in intelligence to the group from which the scale was derived.²⁰ These two facts supply a method for dividing the group into sub-groups that should be identical to the six levels of abstract intelligence used to designate the ability required by the different occupations in the Minnesota Occupational Rating Scale. That is, the base line of a normal distribution curve is practically six sigma²¹ in length, and the area²²

19. Henry E. Garrett, *Statistics in Psychology and Education* p. 107

20. Walter Van Dyke Bingham, *Aptitudes and Aptitude Testing*, p. 366

21. Standard Deviation of the group.

22. Read from tables which may be found in any text in elementary statistics.

under the curve above each of the sigma units, measured along the base line, will represent the percentage of the group to be included in each of the six categories of ability.

On that basis, each of the fifty seniors were assigned an ability rating of I, II, III, IV, V, VI, -- I being the rating of those of very superior intelligence, and the rating of those with the least ability being VI. With this much accomplished, the senior's ability rating and the ability requirement for attaining his (or her) ambition as given by the Minnesota Rating Scale are directly comparable.

Measurement of Interests: In comparing any two items which do not agree, if one does not know in which item to place the most confidence as to accuracy, the comparison only adds to one's confusion and has no real value. For instance the measured ability, the Minnesota Rating Scale, and the measured interests must be reasonably dependable and correct before it can be shown whether the students' self-estimate of their abilities and interests are satisfactory, or in error. For that reason the reader is cited a relatively complete description of the rating scale and the tests that were used, and the reasons given for one placing confidence in their validity.

Strong's Vocational Interest Blank was used to measure the interests of the individuals. Different type blanks were used for men and women; actual copies of the blanks are included immediately following this discussion. On the last page of each blank the different occupations are given

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for which each test is scored. It also may be noted that specific vocational experience would not greatly influence an individual's responses to the items and a person taking the test cannot tell how an item will be scored. Consequently, the test is purely one that measures interests, and is not influenced a great deal by a person's self-estimate of his interests nor his training and ability. For further understanding of what the test purports to do, and how it is used, it is necessary to examine some of the theory involved in the making and the scoring of the test.

The basis of Strong's Interest Blank depends upon the fact that people who are satisfied and happy working in a particular occupation have a set of likes and dislikes peculiar to that group, and these likes and dislikes are relatively stable.²⁴ Scoring weights for each of the 420 (or 410) items have been determined in the following manner.²⁵

Rather large criterion groups made up of successful persons in the different occupations have filled out the interest blank.²⁶ Then for example, suppose forty percent

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23. In this study the women's blank was not scored for housewife, nor the men's blank for vacuum cleaner salesmen.
24. E. K. Strong, "Changes of Interest with Age", p 162 He reports that the changes of interest after the age of 25 years are surprisingly small.
25. Donald G. Paterson, Gwendolen G. Schneider, Edmund G. Williamson, "Student Guidance Techniques" pp 177-179
26. E. K. Strong, Jr., "Vocational Interest Test", Educational Record, p. 109.

of the men in general, i.e., the average of all the different occupational groups, indicate that they like the item "actor", and fifty percent of the minister group, thirty percent of the engineering group, and sixty percent of the salesmen group, etc., indicate their liking for that item. Then the difference of percentage of men in "general" and those of a particular occupation supplies the weight for that item scored for that particular occupation. Assuming the example to be a true case, an individual indicating that he liked "actor" being scored for the minister occupation would receive ten, scored for a salesman, the item would be counted twenty, etc. Then the person's score for a particular vocation would be the sum of the scores on the 420 (or 410) items.

Those whose total score on the interest blank for a particular occupation is within the range of scores made by the upper three-fourths of the criterion group receive an A rating for that occupation; those whose score is in the range of scores made by the lower one-fourth of the criterion group are rated as B; those who make a score less than the lower two percent $\frac{B}{27}$ of the criterion group are

27. This would make more than one hundred percent, if the divisions were strictly adhered to, but there are evidently some slight deviations from the above divisions.

Group.....

Form WB. For Students

Key number.....

Date.....

VOCATIONAL INTEREST BLANK FOR WOMEN

By **EDWARD K. STRONG, JR.**

Professor of Psychology, Stanford University

Published by **STANFORD UNIVERSITY PRESS**, Stanford University, California

It is possible with a fair degree of accuracy to determine by this test whether one would like certain occupations or not. The test is not one of intelligence or school work. It measures the extent to which one's interests agree or disagree with those of successful women in a given occupation.

Your response will, of course, be held strictly confidential.

Name..... Age..... Sex.....

Present address.....

Permanent address.....

Father: where born..... Years in U.S..... Occupation.....

Mother: where born..... Years in U.S..... Occupation.....

Grade I am now in: Grammar School 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7
(Put a circle around appropriate grade)

Grade completed by

Father: Grammar School 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

Mother: Grammar School 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

School grade I expect to complete..... If you plan to leave school soon, is it because of lack of interest?.....

Lack of money?..... Want to go to work?.....

School subjects I am now interested in.....

School subjects I expect to specialize in later on.....

Occupation I am planning to enter..... Sure of this..... Not sure.....

Reasons for choice..... Date of decision.....

Jobs I have been employed at (e.g., clerical, retail selling, farming, etc.)	Location	Number of Months Employed	Inclusive Dates (e.g., '24-'26)	Monthly Income

Occupations I have formerly considered or day-dreamed of	Age	Sure of it then	Rather sure	Merely considered it

Occupations suggested to you by others	By whom?	Why haven't you agreed with them?

If you could do just as you please, what would you like to be doing 10 to 15 years from now?.....

Before turning the page record the time (e.g., 10 minutes after 3 o'clock).....

Parts Ia, Ib, and Ic. Occupations. Indicate after each occupation listed below whether you would like that kind of work or not. Disregard considerations of salary, social standing, future advancement, etc. Consider only whether or not you should like to do what is involved in the occupation. You are not asked if you would take up the occupation permanently, but merely whether or not you would enjoy that kind of work, regardless of any necessary skills, abilities or training which you may or may not possess.

Draw a circle around L if you like that kind of work

Draw a circle around I if you are indifferent to that kind of work

Draw a circle around D if you dislike that kind of work

Work rapidly. Your first impressions are desired here. Answer all the items. Many of the seemingly trivial and irrelevant items are very useful in diagnosing your real attitude.

1 Actress (movie).....	L	I	D	41 Florist	L	I	D
2 Actress (stage).....	L	I	D	42 Foreign Correspondent.....	L	I	D
3 Accountant	L	I	D	43 Governess	L	I	D
4 Advertiser	L	I	D	44 Government Clerk.....	L	I	D
5 Architect	L	I	D	45 Governor of a State.....	L	I	D
6 Artist	L	I	D	46 Hostess	L	I	D
7 Artist's Model.....	L	I	D	47 Hotel Manager	L	I	D
8 Athletic Director.....	L	I	D	48 Housekeeper	L	I	D
9 Author of Children's Books.....	L	I	D	49 Illustrator	L	I	D
10 Author of Novel.....	L	I	D	50 Interior Decorator	L	I	D
11 Author of Technical Book.....	L	I	D	51 Interpreter	L	I	D
12 Aviatrix	L	I	D	52 Inventor	L	I	D
13 Bacteriologist	L	I	D	53 Judge	L	I	D
14 Bank Teller.....	L	I	D	54 Laboratory Technician	L	I	D
15 Beauty Specialist.....	L	I	D	55 Landscape Gardener.....	L	I	D
16 Biologist	L	I	D	56 Lawyer, Corporation	L	I	D
17 Bookkeeper	L	I	D	57 Lawyer, Criminal	L	I	D
18 Buyer of Merchandise.....	L	I	D	58 Librarian	L	I	D
19 Cartoonist	L	I	D	59 Life Insurance Salesman.....	L	I	D
20 Cashier	L	I	D	60 Magazine Writer	L	I	D
21 Caterer	L	I	D	61 Manager, Women's Style Shop.....	L	I	D
22 Chemist	L	I	D	62 Manikin	L	I	D
23 Civil Service Employee.....	L	I	D	63 Manufacturer	L	I	D
24 College Professor	L	I	D	64 Mechanical Engineer	L	I	D
25 Companion (to elderly person).....	L	I	D	65 Milliner	L	I	D
26 Confectioner	L	I	D	66 Minister	L	I	D
27 Cook	L	I	D	67 Missionary	L	I	D
28 Costume Designer.....	L	I	D	68 Museum Director	L	I	D
29 Dean of Women.....	L	I	D	69 Music Composer	L	I	D
30 Dentist	L	I	D	70 Musician	L	I	D
31 Dietitian	L	I	D	71 Naturalist	L	I	D
32 Draftsman	L	I	D	72 Nurse, Graduate General.....	L	I	D
33 Dramatist	L	I	D	73 Nurse, Public Health.....	L	I	D
34 Dressmaker	L	I	D	74 Office Clerk.....	L	I	D
35 Editor	L	I	D	75 Office Manager.....	L	I	D
36 Educational Director	L	I	D	76 Opera Singer.....	L	I	D
37 Employment Manager	L	I	D	77 Pharmacist	L	I	D
38 Factory Manager	L	I	D	78 Physician	L	I	D
39 Factory Worker	L	I	D	79 Playground Director	L	I	D
40 Farmer	L	I	D	80 Poet	L	I	D

Part Ic. Occupations, continued.

81	Politician	L	I	D
82	Postmistress	L	I	D
83	Private Secretary	L	I	D
84	Probation Officer	L	I	D
85	Proof Reader	L	I	D
86	Professional Dancer	L	I	D
87	Psychiatrist	L	I	D
88	Psychologist	L	I	D
89	Publisher	L	I	D
90	Purchasing Agent	L	I	D
91	Radio Lecturer	L	I	D
92	Radio Program Director	L	I	D
93	Radio Singer	L	I	D
94	Real Estate Saleswoman	L	I	D
95	Registrar	L	I	D
96	Reporter, General	L	I	D
97	Reporter, Women's Page	L	I	D
98	Retailer	L	I	D
99	Sales Manager	L	I	D
100	Scenario Writer	L	I	D
101	Scientific Illustrator	L	I	D
102	Scientific Research Worker	L	I	D
103	Sculptress	L	I	D
104	School Principal	L	I	D
105	Secret Service Woman	L	I	D
106	Social Worker	L	I	D
107	Specialty Saleswoman	L	I	D
108	Statistician	L	I	D
109	Stenographer	L	I	D
110	Stock Broker	L	I	D
111	Surgeon	L	I	D
112	Teacher, Art	L	I	D
113	Teacher, Commercial	L	I	D
114	Teacher, Dancing	L	I	D
115	Teacher, Domestic Science	L	I	D
116	Teacher, Grade School	L	I	D
117	Teacher, High School	L	I	D
118	Teacher, Kindergarten	L	I	D
119	Teacher, Music	L	I	D
120	Tea Room Proprietor	L	I	D
121	Telephone Operator	L	I	D
122	Traveling Saleswoman	L	I	D
123	Typist	L	I	D
124	Vocational Counsellor	L	I	D
125	Waitress	L	I	D
126	Wholesaler	L	I	D
127	Wife	L	I	D
128	Y.W.C.A. Secretary	L	I	D

Part II. Amusements. Indicate in the same manner as in Part I whether you like the following or not. If in doubt, consider your most frequent attitude. Work rapidly. Do not think over various possibilities. Record your first impressions.

129	Dancing	L	I	D
130	Swimming	L	I	D
131	Taking long walks	L	I	D
132	Tennis	L	I	D
133	Camping	L	I	D
134	Golf	L	I	D
135	Riding horses	L	I	D
136	Driving an automobile	L	I	D
137	Bridge	L	I	D
138	Poker	L	I	D
139	Afternoon teas	L	I	D
140	Observing birds (nature study)	L	I	D
141	Travel cross country in an auto	L	I	D
142	Solving mechanical puzzles	L	I	D
143	Playing a musical instrument	L	I	D
144	Amusement parks	L	I	D
145	Picnics	L	I	D
146	Conventions	L	I	D
147	Formal affairs	L	I	D
148	Fortune tellers	L	I	D
149	Animal zoos	L	I	D
150	Art galleries	L	I	D
151	Museums	L	I	D
152	Attending lectures	L	I	D
153	Musical comedy	L	I	D
154	Symphony concerts	L	I	D
155	Plays	L	I	D
156	Movies	L	I	D
157	Financial pages	L	I	D
158	Women's pages	L	I	D
159	Poetry	L	I	D
160	Romantic stories	L	I	D
161	Detective stories	L	I	D
162	Movie magazines	L	I	D
163	"American Magazine"	L	I	D
164	"Atlantic Monthly"	L	I	D
165	"Good Housekeeping" magazine	L	I	D
166	"House and Garden" magazine	L	I	D
167	"Ladies Home Journal"	L	I	D
168	"National Geographic Magazine"	L	I	D
169	"New Republic"	L	I	D
170	"Reader's Digest"	L	I	D
171	"True Story" magazine	L	I	D
172	"Vanity Fair"	L	I	D

Part III. Activities. Indicate your interest as in Part II.

173	Being the first to wear the very latest fashions	L	I	D
174	Being head of a civic improvement program	L	I	D
175	Expressing judgments publicly, regardless of criticism.....	L	I	D
176	Giving "first-aid" assistance.....	L	I	D
177	Raising flowers and vegetables.....	L	I	D
178	Operating machinery	L	I	D
179	Repairing electrical wiring.....	L	I	D
180	Doing your own laundry work....	L	I	D
181	Decorating a room with flowers....	L	I	D
182	Arguments	L	I	D
183	Interviewing men for a job.....	L	I	D
184	Interviewing clients	L	I	D
185	Attending church	L	I	D
186	Making a speech.....	L	I	D
187	Cooking	L	I	D
188	Sewing	L	I	D
189	Organizing a play.....	L	I	D
190	Opening a conversation with a stranger	L	I	D
191	Preparing dinner for guests.....	L	I	D
192	Teaching children	L	I	D
193	Teaching adults	L	I	D
194	Discussions of economic affairs....	L	I	D
195	Discussions of politics.....	L	I	D
196	Reading editorial columns.....	L	I	D
197	Meeting and directing people.....	L	I	D
198	Taking responsibility	L	I	D
199	Meeting new situations.....	L	I	D
200	Adjusting difficulties of others.....	L	I	D
201	Doing research work.....	L	I	D
202	Acting as yell-leader.....	L	I	D
203	Writing reports	L	I	D
204	Entertaining others	L	I	D
205	Writing personal letters.....	L	I	D
206	Buying at an auction sale.....	L	I	D
207	Trying new cooking recipes.....	L	I	D
208	Looking at shop windows.....	L	I	D
209	Displaying merchandise in a store..	L	I	D
210	Being left to yourself.....	L	I	D
211	Regular hours for work.....	L	I	D
212	Continually changing activities....	L	I	D
213	Saving money	L	I	D
214	Contributing to charities.....	L	I	D
215	Raising money for a charity.....	L	I	D
216	Looking at a collection of rare laces	L	I	D
217	Studying the latest hobby, e.g., Einstein's theory, Freud, etc.....	L	I	D

Part IV. Peculiarities of People. Record your first impression. Do not think of various possibilities or of exceptional cases. "Let yourself go" and record the feeling that comes to your mind as you read the item.

218	Progressive people	L	I	D
219	Conservative people	L	I	D
220	Energetic people	L	I	D
221	Absent-minded people	L	I	D
222	People who borrow things.....	L	I	D
223	Very self-confident people.....	L	I	D
224	Optimists	L	I	D
225	Pessimists	L	I	D
226	People who are natural leaders....	L	I	D
227	People who assume leadership.....	L	I	D
228	Very intellectual people.....	L	I	D
229	Emotional people	L	I	D
230	Thrifty people	L	I	D
231	Religious people	L	I	D
232	Irreligious people	L	I	D
233	People who are unconventional....	L	I	D
234	People who have done you favors..	L	I	D
235	People who take life seriously.....	L	I	D
236	Witty people	L	I	D
237	Foreigners	L	I	D
238	Negroes	L	I	D
239	Cautious people	L	I	D
240	Sick people	L	I	D
241	People with physical disabilities....	L	I	D
242	Self-conscious people	L	I	D
243	People who always agree with you	L	I	D
244	People who tell you their troubles..	L	I	D
245	People who talk very loudly.....	L	I	D
246	People who talk about themselves..	L	I	D
247	Methodical people	L	I	D
248	Fashionably dressed people.....	L	I	D
249	Carelessly dressed people.....	L	I	D
250	"Mannish" women	L	I	D
251	Socialists	L	I	D
252	Independents in politics.....	L	I	D
253	Men who are indifferent to you....	L	I	D
254	Nervous people	L	I	D
255	Very old people.....	L	I	D
256	Teetotalers	L	I	D
257	Women cleverer than you are.....	L	I	D
258	People who chew gum.....	L	I	D
259	Men who drink.....	L	I	D
260	Women who smoke.....	L	I	D
261	Athletic women	L	I	D
262	People who take chances on situations of doubtful outcome.....	L	I	D
263	People who have made fortunes in business	L	I	D

Part V. Order of Preference of Activities. Indicate which three of the following ten activities you would enjoy most by checking (✓) opposite them in column one; also indicate which three you would enjoy least by checking opposite them in column two. Be sure to mark 3 in each column.

- 264 () () Design a new home
 265 () () Have responsibility for care of new home
 266 () () Discover an improvement in the design of the house
 267 () () Determine the cost of building and furnishing the house
 268 () () Supervise the furnishing of the house
 269 () () Plan the landscaping
 270 () () Sell "ideal" houses
 271 () () Prepare the advertising for new houses to be offered for sale
 272 () () Teach others how to furnish their homes
 273 () () Interest the public in building their own homes through public addresses

Indicate in the same way what you consider are the three most important factors affecting your work; also the three least important factors. Be sure to mark 3 in each column.

- 274 () () Salary received for work
 275 () () Steadiness and permanence of work
 276 () () Opportunities for promotion
 277 () () Courteous treatment from superiors
 278 () () Opportunity to make use of all of one's knowledge and experience
 279 () () Opportunity to ask questions and to consult about difficulties
 280 () () Opportunity to understand just how one's superior expects work to be done
 281 () () Certainty one's work will be judged by fair standards
 282 () () Freedom in working out one's own methods of doing the work
 283 () () Co-workers—congenial, competent, and adequate in number

Indicate in the same way the three women you would most like to have been; also the three you would least like to have been.

- 284 () () Jane Addams, social worker
 285 () () Ethel Barrymore, actress
 286 () () Madame Curie, scientist
 287 () () Amelia Earhart, aviatrix
 288 () () Edna Ferber, author
 289 () () Mrs. F. D. Roosevelt, "first lady"
 290 () () Madame Schumann Heink, singer
 291 () () Helen Wills Moody, tennis champion
 292 () () Frances Perkins, U.S. Secretary of Labor
 293 () () Lillian M. Gilbreth, industrial engineer

Indicate in the same way the three positions you would most prefer to hold in club or society; also the three you least prefer to hold.

- 294 () () President of a Society
 295 () () Secretary of a Society
 296 () () Treasurer of a Society
 297 () () Member of a Society
 298 () () Chairman, Arrangement Committee
 299 () () Chairman, Educational Committee
 300 () () Chairman, Entertainment Committee
 301 () () Chairman, Membership Committee
 302 () () Chairman, Program Committee
 303 () () Chairman, Publicity Committee

Part VI. Comparison of Interest between Two Items. Indicate your choice of the following pairs by checking (✓) in the first space if you prefer the item to the left, in the second space if you like both equally well, and in the third space if you prefer the item to the right. Assume other things are equal except the two items to be compared.

Work rapidly.

- | | | | | |
|--|-----|-----|-----|--|
| 804 Physical education director..... | () | () | () | Magazine writer |
| 805 Statistician | () | () | () | Social worker |
| 806 Aviatrix | () | () | () | Stenographer |
| 807 Teacher | () | () | () | Saleswoman |
| 808 House to house canvassing..... | () | () | () | Retail selling |
| 809 Permanence of residence..... | () | () | () | Frequent change of residence |
| 810 Develop plans | () | () | () | Execute plans |
| 811 Do a job yourself..... | () | () | () | Delegate job to another |
| 812 Persuade others..... | () | () | () | Order others |
| 813 Evenings in company of women friends..... | () | () | () | Evenings in company of men friends |
| 814 Deal with things..... | () | () | () | Deal with people |
| 815 Many men friends..... | () | () | () | Few men friends |
| 816 Activity which produces tangible returns.... | () | () | () | Activity which is enjoyed for its own sake |
| 817 Preparing a meal..... | () | () | () | Making a dress |
| 818 Taking a chance..... | () | () | () | Playing safe |
| 819 Work for yourself..... | () | () | () | Carry out general program of superior who is respected |
| 820 Work which interests you with modest income | () | () | () | Work which does not interest you with large income |
| 821 Follow own career after marriage..... | () | () | () | Follow home and social activities after marriage |
| 822 Work involving few details..... | () | () | () | Work involving many details |
| 823 Be married with small income..... | () | () | () | Be single and earn your own living |
| 824 Working for men..... | () | () | () | Working for women |
| 825 Change from place to place..... | () | () | () | Work in one location |
| 826 Great variety of work..... | () | () | () | Similarity in work |
| 827 Physical activity | () | () | () | Mental activity |
| 828 Be married..... | () | () | () | Remain single |
| 829 Travel alone and make preparations for the trip yourself | () | () | () | Travel with someone who will make the necessary preparations for you |
| 830 Present a report in writing..... | () | () | () | Present a report verbally |
| 831 Listening to a story..... | () | () | () | Telling a story |
| 832 Do your own housework..... | () | () | () | Have someone else do your housework |
| 833 Amusement where there is a crowd..... | () | () | () | Amusement alone or with one or two others |
| 834 People who are slow in making decisions.... | () | () | () | People who are quick in making decisions |
| 835 People who are always prompt and expect others to be on time also..... | () | () | () | People who are seldom on time and who do not mind if others are late |
| 836 Nights spent at home..... | () | () | () | Nights spent away from home |
| 837 Reading a book..... | () | () | () | Going to movies |
| 838 Going to a play..... | () | () | () | Going to a dance |
| 839 Activities possessing thrills and uncertainties | () | () | () | Activities of a conservative nature |
| 840 Belonging to many societies..... | () | () | () | Belonging to few societies |
| 841 Few intimate friends..... | () | () | () | Many acquaintances |

Part VII. Rating of Present Abilities and Characteristics. Indicate below what kind of a person you are right now and what you have done. Check in the first column ("Yes") if the item really describes you, in the third column ("No") if the item does not describe you, and in the second column (?) if you are not sure. (Be frank in pointing out your weak points, for selection of a vocation must be made in terms of them as well as your strong points.)

	YES	?	NO
842 Usually start activities of my group.....	()	()	()
843 Usually drive myself steadily (do not work by fits and starts)	()	()	()
844 Win friends easily.....	()	()	()
845 Usually get other people to do what I want done.....	()	()	()
846 Am quite sure of myself.....	()	()	()
847 Usually liven up the group on a dull day.....	()	()	()
848 Accept just criticism without getting sore.....	()	()	()
849 Have mechanical ingenuity (inventiveness).....	()	()	()
850 Can carry out plans assigned by other people.....	()	()	()
851 Can discriminate between more or less important matters.....	()	()	()
852 Am inclined to keep silent (reticent) in confidential and semi-confidential affairs.....	()	()	()
853 Am always on time with my work.....	()	()	()
854 Remember faces, names, and incidents better than the average person	()	()	()
855 Can correct others without giving offense.....	()	()	()
856 Able to meet emergencies quickly and effectively.....	()	()	()
857 Get "rattled" easily.....	()	()	()
858 Can write a concise, well-organized report.....	()	()	()
859 Have good judgment in appraising values.....	()	()	()
860 Plan my work in detail.....	()	()	()
861 Stimulate the ambition of my associates.....	()	()	()
862 Win confidence and loyalty.....	()	()	()
863 Smooth out tangles and disagreements between people.....	()	()	()
864 Discuss my ideals with others.....	()	()	()

Check (✓) in the (a), (b) or (c) column at the right according as the (a), (b), or (c) statement in each item below applies to you.

	(a)	(b)	(c)
865 (a) Worry considerably about mistakes (b) Worry very little (c) Do not worry.....	()	()	()
866 (a) Feelings easily hurt (b) Feelings hurt sometimes (c) Feelings rarely hurt....	()	()	()
867 (a) Usually ignore the feelings of others (b) Consider them sometimes (c) Carefully consider them	()	()	()
868 (a) Loan money to acquaintances (b) Loan only to certain people (c) Rarely loan money....	()	()	()
869 (a) Borrow frequently for personal use (b) Borrow occasionally (c) Practically never borrow	()	()	()
870 (a) Tell jokes well (b) Seldom tell jokes (c) Practically never tell jokes	()	()	()
871 (a) Frequently make wagers (b) Occasionally make wagers (c) Practically never make wagers	()	()	()

PLEASE TURN TO LAST PAGE.

Group.....

Form B. For Students

Key number.....

Date.....

VOCATIONAL INTEREST BLANK

By EDWARD K. STRONG, JR.

Professor of Psychology, Stanford University

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It is possible with a fair degree of accuracy to determine by this test whether one would like certain occupations or not. The test is not one of intelligence or school work. It measures the extent to which one's interests agree or disagree with those of successful men in a given profession.

Your responses will, of course, be held strictly confidential.

Name Age..... Sex.....

Present address.....

Permanent address.....

Place of birth..... Years in U.S.....

Father: where born..... Years in U.S..... Occupation.....

Mother: where born..... Years in U.S..... Occupation.....

Grade I am now in: Grammar School 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7
(Put a circle around appropriate grade)

Grade completed by

Father: Grammar School 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

Mother: Grammar School 1 2 3 4 5 6 7 8 High School 1 2 3 4 College 1 2 3 4 5 6 7

School grade I expect to complete..... If you plan to leave school soon, is it because of lack of interest?.....

Lack of money?..... Want to go to work?.....

School subjects I am now most interested in.....

School subjects I expect to specialize in later on.....

Occupation I am planning to enter..... Sure of this..... Not sure.....

Reasons for choice..... Date of decision.....

Jobs I have been employed at (e.g., clerical, retail selling, farming, etc.)	Location	Number of Months Employed	Inclusive Dates (e.g., '24-'26)	Monthly Income
.....
.....
.....
.....
.....
.....
.....
.....
.....
.....

Occupations I have formerly considered or day-dreamed of	Age	Sure of it then	Rather sure	Merely considered it
.....
.....
.....
.....
.....

Occupations suggested to you by others	By whom?	Why haven't you agreed with them?
.....
.....
.....
.....
.....

If you could do just as you please, what would you like to be doing 10 to 15 years from now?.....

Before turning the page record the time (e.g., 10 minutes after 3 o'clock)

Parts Ia and Ib. Occupations. Indicate after each occupation listed below whether you would like that kind of work or not. Disregard considerations of salary, social standing, future advancement, etc. Consider only whether you would like to do what is involved in the occupation.

Draw a circle around L if you like that kind of work.

Draw a circle around I if you are indifferent to that kind of work.

Draw a circle around D if you dislike that kind of work.

Work rapidly. Your first impressions are desired here. Answer all the items. Many of the seemingly trivial and irrelevant items are very useful in diagnosing your real attitude.

Actor (not movie).....	L	I	D	Lawyer, Criminal.....	L	I	D
Advertiser.....	L	I	D	Lawyer, Corporation.....	L	I	D
Architect.....	L	I	D	Librarian.....	L	I	D
Army Officer.....	L	I	D	Life Insurance Salesman.....	L	I	D
Artist.....	L	I	D	Locomotive Engineer.....	L	I	D
Astronomer.....	L	I	D	Machinist.....	L	I	D
Athletic Director.....	L	I	D	Magazine Writer.....	L	I	D
Auctioneer.....	L	I	D	Manufacturer.....	L	I	D
Author of novel.....	L	I	D	Marine Engineer.....	L	I	D
Author of technical book.....	L	I	D	Mechanical Engineer.....	L	I	D
Auto Salesman.....	L	I	D	Mining Superintendent.....	L	I	D
Auto Racer.....	L	I	D	Musician.....	L	I	D
Auto Repairman.....	L	I	D	Music Teacher.....	L	I	D
Aviator.....	L	I	D	Office Clerk.....	L	I	D
Bank Teller.....	L	I	D	Office Manager.....	L	I	D
Bookkeeper.....	L	I	D	Orchestra Conductor.....	L	I	D
Building Contractor.....	L	I	D	Pharmacist.....	L	I	D
Buyer of merchandise.....	L	I	D	Photo Engraver.....	L	I	D
Carpenter.....	L	I	D	Physician.....	L	I	D
Cartoonist.....	L	I	D	Playground Director.....	L	I	D
Cashier in bank.....	L	I	D	Poet.....	L	I	D
Certified Public Accountant.....	L	I	D	Politician.....	L	I	D
Chemist.....	L	I	D	Printer.....	L	I	D
Civil Engineer.....	L	I	D	Private Secretary.....	L	I	D
Civil Service Employee.....	L	I	D	Railway Conductor.....	L	I	D
Clergyman.....	L	I	D	Rancher.....	L	I	D
College Professor.....	L	I	D	Real Estate Salesman.....	L	I	D
Consul.....	L	I	D	Reporter, general.....	L	I	D
Dentist.....	L	I	D	Reporter, sporting page.....	L	I	D
Draftsman.....	L	I	D	Retailer.....	L	I	D
Editor.....	L	I	D	Sales Manager.....	L	I	D
Electrical Engineer.....	L	I	D	School Teacher.....	L	I	D
Employment Manager.....	L	I	D	Scientific Research Worker.....	L	I	D
Explorer.....	L	I	D	Sculptor.....	L	I	D
Factory Manager.....	L	I	D	Secretary, Chamber of Commerce.....	L	I	D
Factory Worker.....	L	I	D	Secret Service Man.....	L	I	D
Farmer.....	L	I	D	Ship Officer.....	L	I	D
Floorwalker.....	L	I	D	Shop Foreman.....	L	I	D
Florist.....	L	I	D	Social Worker.....	L	I	D
Foreign Correspondent.....	L	I	D	Specialty Salesman.....	L	I	D
Governor of a State.....	L	I	D	Statistician.....	L	I	D
Hotel Keeper or Manager.....	L	I	D	Stock Broker.....	L	I	D
Interior Decorator.....	L	I	D	Surgeon.....	L	I	D
Interpreter.....	L	I	D	Toolmaker.....	L	I	D
Inventor.....	L	I	D	Traveling Salesman.....	L	I	D
Jeweler.....	L	I	D	Typist.....	L	I	D
Judge.....	L	I	D	Undertaker.....	L	I	D
Labor Arbitrator.....	L	I	D	Watchmaker.....	L	I	D
Laboratory Technician.....	L	I	D	Wholesaler.....	L	I	D
Landscape Gardener.....	L	I	D	Worker in Y.M.C.A., K. of C., etc.....	L	I	D

Part II. Amusements. Indicate in the same manner as in Part I whether you like the following or not. If in doubt, consider your most frequent attitude. *Work rapidly.* Do not think over various possibilities. Record your first impression.

Golf	L	I	D
Fishing	L	I	D
Hunting	L	I	D
Tennis	L	I	D
Driving an automobile.....	L	I	D
Taking long walks.....	L	I	D
Boxing	L	I	D
Checkers	L	I	D
Chess	L	I	D
Poker	L	I	D
Bridge	L	I	D
Solitaire	L	I	D
Billiards	L	I	D
Observing birds (nature study).....	L	I	D
Solving mechanical puzzles.....	L	I	D
Playing a musical instrument.....	L	I	D
Performing sleight-of-hand tricks.....	L	I	D
Collecting postage stamps.....	L	I	D
Drilling in a company.....	L	I	D
Chopping wood	L	I	D
Amusement parks	L	I	D
Picnics	L	I	D
Excursions	L	I	D
Smokers	L	I	D
"Rough house" initiations.....	L	I	D
Conventions	L	I	D
Full-dress affairs.....	L	I	D
Auctions	L	I	D
Fortune tellers.....	L	I	D
Animal zoos.....	L	I	D
Art galleries.....	L	I	D
Museums	L	I	D
Vaudeville	L	I	D
Musical comedy.....	L	I	D
Symphony concerts.....	L	I	D
Pet canaries.....	L	I	D
Pet monkeys.....	L	I	D
Snakes	L	I	D
Sporting pages.....	L	I	D
Poetry	L	I	D
Detective stories.....	L	I	D
"Literary Digest"	L	I	D
"Life"	L	I	D
"New Republic"	L	I	D
"System"	L	I	D
"National Geographic Magazine".....	L	I	D
"American Magazine"	L	I	D
"Popular Mechanics".....	L	I	D
"Atlantic Monthly".....	L	I	D
"Arts and Crafts".....	L	I	D
Cowboy movies	L	I	D
Educational movies.....	L	I	D
Travel movies	L	I	D
Social problem movies.....	L	I	D

Part III. School Subjects. Indicate as in Part II your interest when in school.

Algebra	L	I	D
Agriculture	L	I	D
Arithmetic	L	I	D
Art	L	I	D
Bible Study	L	I	D
Bookkeeping	L	I	D
Botany	L	I	D
Calculus	L	I	D
Chemistry	L	I	D
Civics	L	I	D
Dramatics	L	I	D
Economics	L	I	D
English Composition.....	L	I	D
Geography	L	I	D
Geology	L	I	D
Geometry	L	I	D
History	L	I	D
Languages, ancient.....	L	I	D
Languages, modern.....	L	I	D
Literature	L	I	D
Mathematics	L	I	D
Manual Training.....	L	I	D
Mechanical Drawing.....	L	I	D
Military Drill.....	L	I	D
Music	L	I	D
Nature Study.....	L	I	D
Penmanship	L	I	D
Philosophy	L	I	D
Physical Training.....	L	I	D
Physics	L	I	D
Psychology	L	I	D
Physiology	L	I	D
Public Speaking.....	L	I	D
Shop work	L	I	D
Shorthand	L	I	D
Sociology	L	I	D
Spelling	L	I	D
Typewriting	L	I	D
Zoölogy	L	I	D

Part IV. Activities. Indicate your interests as in Part II.

Work rapidly.

Repairing a clock.....	L	I	D
Making a radio set.....	L	I	D
Adjusting a carburetor.....	L	I	D
Repairing electrical wiring.....	L	I	D
Cabinetmaking	L	I	D
Operating machinery.....	L	I	D
Handling horses.....	L	I	D
Giving "first-aid" assistance.....	L	I	D
Raising flowers and vegetables.....	L	I	D
Decorating a room with flowers.....	L	I	D
Arguments	L	I	D
Interviewing men for a job.....	L	I	D
Interviewing prospects in selling.....	L	I	D
Interviewing clients.....	L	I	D
Making a speech	L	I	D
Organizing a play.....	L	I	D
Opening a conversation with a stranger.....	L	I	D
Teaching children	L	I	D
Teaching adults	L	I	D
Calling friends by nicknames.....	L	I	D
Being called by a nickname.....	L	I	D
Meeting and directing people.....	L	I	D
Taking responsibility.....	L	I	D
Meeting new situations.....	L	I	D
Adjusting difficulties of others.....	L	I	D
Drilling soldiers.....	L	I	D
Pursuing bandits in sheriff's posse.....	L	I	D
Doing research work.....	L	I	D
Acting as yell-leader.....	L	I	D
Writing personal letters.....	L	I	D
Writing reports	L	I	D
Entertaining others.....	L	I	D
Bargaining ("swapping")	L	I	D
Looking at shop windows.....	L	I	D
Buying merchandise for a store.....	L	I	D
Displaying merchandise in a store.....	L	I	D
Expressing judgments publicly regard- less of criticism.....	L	I	D
Being pitted against another as in a political or athletic race.....	L	I	D
Being left to yourself.....	L	I	D
Methodical work	L	I	D
Regular hours for work	L	I	D
Continually changing activities.....	L	I	D
Continuing at same work until finished.....	L	I	D
Studying latest hobby, e.g., Einstein theory, Freud, etc.....	L	I	D
Developing business systems.....	L	I	D
Saving money	L	I	D
Contributing to charities.....	L	I	D
Raising money for a charity.....	L	I	D
Living in the city.....	L	I	D
Climbing along edge of precipice.....	L	I	D
Looking at a collection of rare laces.....	L	I	D
Looking at a collection of antique fur- niture	L	I	D

Part V. Peculiarities of People. Record your first impression. Do not think of various possibilities or of exceptional cases. "Let yourself go" and record the feeling that comes to mind as you read the item.

Progressive people.....	L	I	D
Conservative people.....	L	I	D
Energetic people	L	I	D
Absent-minded people.....	L	I	D
People who borrow things.....	L	I	D
Quick-tempered people.....	L	I	D
Optimists	L	I	D
Pessimists	L	I	D
People who are natural leaders.....	L	I	D
People who assume leadership.....	L	I	D
People easily led	L	I	D
People who have made fortunes in business	L	I	D
Emotional people.....	L	I	D
Thrifty people.....	L	I	D
Spendthrifts	L	I	D
Talkative people.....	L	I	D
Religious people.....	L	I	D
Irreligious people	L	I	D
People who have done you favors.....	L	I	D
People who get rattled easily.....	L	I	D
Gruff men.....	L	I	D
Witty people.....	L	I	D
Foreigners	L	I	D
Negroes	L	I	D
Cautious people.....	L	I	D
Sick people.....	L	I	D
Nervous people.....	L	I	D
Very old people.....	L	I	D
Cripples	L	I	D
Side-show freaks.....	L	I	D
People with gold teeth.....	L	I	D
People with protruding jaws.....	L	I	D
People with hooked noses.....	L	I	D
Blind people.....	L	I	D
Deaf mutes.....	L	I	D
Self-conscious people	L	I	D
People who always agree with you.....	L	I	D
People who talk very loudly.....	L	I	D
People who talk very slowly.....	L	I	D
People who talk about themselves.....	L	I	D
Methodical people	L	I	D
Fashionably dressed people.....	L	I	D
Carelessly dressed people	L	I	D
People who do not believe in evolution..	L	I	D
Socialists	L	I	D
Bolsheviks	L	I	D
Independence in politics	L	I	D
Teetotalers	L	I	D
Men who chew tobacco.....	L	I	D
Women cleverer than you are.....	L	I	D
Men who use perfume.....	L	I	D
People who chew gum.....	L	I	D
Athletic men.....	L	I	D

Part VI. Order of Preference of Activities. Indicate which three of the following ten activities you would enjoy most by checking opposite them in column one; also indicate which three you would enjoy least by checking opposite them in column two. Be sure to mark 3 in each column.

First 3 choices	Last 3 choices	
()	()	Develop the theory of operation of a new machine, e.g., auto
()	()	Operate (manipulate) the new machine
()	()	Discover an improvement in the design of the machine
()	()	Determine the cost of operation of the machine
()	()	Supervise the manufacture of the machine
()	()	Create a new artistic effect, i.e., improve the beauty of the auto
()	()	Sell the machine
()	()	Prepare the advertising for the machine
()	()	Teach others the use of the machine
()	()	Interest the public in the machine through public addresses

Indicate in the same way what you consider are the three most important factors affecting your work; also the three least important factors. Be sure to mark 3 in each column.

Most important 3 factors	Least important 3 factors	
()	()	Salary received for work
()	()	Steadiness and permanence of work
()	()	Opportunity for promotion
()	()	Courteous treatment from superiors
()	()	Opportunity to make use of all of one's knowledge and experience
()	()	Opportunity to ask questions and to consult about difficulties
()	()	Opportunity to understand just how one's superior expects work to be done
()	()	Certainty one's work will be judged by fair standards
()	()	Freedom in working out one's own methods of doing the work
()	()	Co-workers—congenial, competent, and adequate in number

Indicate in the same way the three men you would most like to have been; also the three you would least like to have been.

First 3 choices	Last 3 choices	
()	()	Luther Burbank, "plant wizard"
()	()	Enrico Caruso, singer
()	()	Thomas A. Edison, inventor
()	()	Henry Ford, manufacturer
()	()	Charles Dana Gibson, artist
()	()	J. P. Morgan, financier
()	()	J. J. Pershing, soldier
()	()	William H. Taft, jurist
()	()	Booth Tarkington, author
()	()	John Wanamaker, merchant

Indicate in the same way the three positions you would most prefer to hold in club or society; also the three you least prefer to hold.

First 3 choices	Last 3 choices	
()	()	President of a Society
()	()	Secretary of a Society
()	()	Treasurer of a Society
()	()	Member of a Society
()	()	Chairman, Arrangement Committee
()	()	Chairman, Educational Committee
()	()	Chairman, Entertainment Committee
()	()	Chairman, Membership Committee
()	()	Chairman, Program Committee
()	()	Chairman, Publicity Committee

Part VII. Comparison of Interest between Two Items. Indicate your choice of the following pairs by checking in the first space if you prefer the item to the left, in the second space if you like both equally well, and in the third space if you prefer the item to the right. Assume other things are equal except the two items to be compared.

Work rapidly.

Street-car motorman	()	()	()	Street-car conductor
Policeman	()	()	()	Fireman (fights fire)
Chauffeur	()	()	()	Chef
Head waiter	()	()	()	Lighthouse tender
House to house canvassing.....	()	()	()	Retail selling
House to house canvassing.....	()	()	()	Gardening
Repair auto	()	()	()	Drive auto
Develop plans	()	()	()	Execute plans
Do a job yourself.....	()	()	()	Delegate job to another
Persuade others	()	()	()	Order others
Deal with things.....	()	()	()	Deal with people
Plan for immediate future.....	()	()	()	Plan for five years ahead
Activity which produces tangible returns.....	()	()	()	Activity which is enjoyed for its own sake
Taking a chance	()	()	()	Playing safe
Definite salary	()	()	()	Commission on what is done
Work for yourself.....	()	()	()	Carry out general program of superior who is respected
Work which interests you with modest income	()	()	()	Work which does not interest you with large income
Work in a large corporation with little chance of becoming president until age of 55.....	()	()	()	Work for self in small business
Selling article, quoted 10% below competitor..	()	()	()	Selling article, quoted 10% above competitor
Small pay, large opportunities to learn during next 5 years.....	()	()	()	Good pay, little opportunity to learn during next 5 years
Work involving few details.....	()	()	()	Work involving many details
Outside work	()	()	()	Inside work
Change from place to place.....	()	()	()	Working in one location
Great variety of work.....	()	()	()	Similarity in work
Physical activity	()	()	()	Mental activity
Emphasis upon quality of work.....	()	()	()	Emphasis upon quantity of work
Technical responsibility (head of a department of 25 people engaged in technical, research work)	()	()	()	Supervisory responsibility (head of a department of 300 people engaged in typical business operation)
Present a report in writing.....	()	()	()	Present a report verbally
Listening to a story.....	()	()	()	Telling a story
Playing baseball	()	()	()	Watching baseball
Amusement where there is a crowd.....	()	()	()	Amusement alone or with one or two others
Nights spent at home.....	()	()	()	Nights away from home
Reading a book.....	()	()	()	Going to movies
Belonging to many societies.....	()	()	()	Belonging to few societies
Few intimate friends.....	()	()	()	Many acquaintances
Many women friends	()	()	()	Few women friends
Fat men	()	()	()	Thin men
Tall men	()	()	()	Short men
Jealous people	()	()	()	Conceited people
Jealous people	()	()	()	Spendthrifts
People who talk very low.....	()	()	()	People who talk very loudly
People who talk very fast.....	()	()	()	People who talk very slowly

Part VIII. Rating of Present Abilities and Characteristics. Indicate below what kind of a person you are right now and what you have done. Check in the *first* column ("Yes") if the item really describes you, in the *third* column ("No") if the item does not describe you, and in the *second* column (?) if you are not sure. (Be frank in pointing out your weak points, for selection of a vocation must be made in terms of them as well as your strong points.)

	YES	?	NO
Usually start activities of my group.....	()	()	()
Usually drive myself steadily (do not work by fits and starts).....	()	()	()
Win friends easily.....	()	()	()
Usually get other people to do what I want done.....	()	()	()
Usually liven up the group on a dull day.....	()	()	()
Am quite sure of myself.....	()	()	()
Accept just criticism without getting sore.....	()	()	()
Have mechanical ingenuity (inventiveness).....	()	()	()
Have more than my share of novel ideas.....	()	()	()
Can carry out plans assigned by other people.....	()	()	()
Can discriminate between more or less important matters.....	()	()	()
Am inclined to keep silent (reticent) in confidential and semi-confidential affairs.....	()	()	()
Am always on time with my work.....	()	()	()
Remember faces, names, and incidents better than the average person.....	()	()	()
Can correct others without giving offense.....	()	()	()
Able to meet emergencies quickly and effectively.....	()	()	()
Get "rattled" easily.....	()	()	()
Can write a concise, well-organized report.....	()	()	()
Have good judgment in appraising values.....	()	()	()
Plan my work in detail.....	()	()	()
Follow up subordinates effectively.....	()	()	()
Put drive into the organization.....	()	()	()
Stimulate the ambition of my associates.....	()	()	()
Show firmness without being easy.....	()	()	()
Win confidence and loyalty.....	()	()	()
Smooth out tangles and disagreements between people.....	()	()	()
Am approachable.....	()	()	()
Discuss my ideals with others.....	()	()	()

Worry considerably			
about mistakes.....	()	Worry very little.....	()
Feelings easily hurt.....	()	Feelings hurt sometimes.....	()
Usually ignore feelings of			
others.....	()	Consider them sometimes.....	()
Loan money to acquaintances..	()	Loan only to certain people....	()
Rebel inwardly at orders from			
another, obey when neces-		Carry out instructions with	
sary.....	()	little or no feeling.....	()
When caught in a mistake			
usually make excuses.....	()	Seldom make excuses.....	()
Best-liked friends are superior			
to me in ability.....	()	Equal in ability.....	()
Handle complaints without			
getting irritated.....	()	Become annoyed at times.....	()
Borrow frequently (for			
personal use).....	()	Borrow occasionally.....	()
Tell jokes well.....	()	Seldom tell jokes.....	()
My advice sought by many....	()	Sought by few.....	()
Frequently make wagers.....	()	Occasionally make wagers.....	()
		Do not worry.....	()
		Feelings rarely hurt.....	()
		Carefully consider them.....	()
		Rarely loan money.....	()
		Enter into situation and en-	
		thusiastically carry out pro-	
		gram.....	()
		Practically never make ex-	
		cuses.....	()
		Inferior in ability.....	()
		Lose my temper at times.....	()
		Practically never borrow.....	()
		Practically never tell jokes.....	()
		Practically never asked.....	()
		Never make wagers.....	()

Record the time when you finished this page.....

Number of minutes required to fill out the blank.....

Be Sure You Have Not Omitted Any Part; Note Particularly the Second Columns on Pages 2 and 4.

28
 rated as C. Therefore, a rating of A on an occupation would indicate that one would like the occupation, enjoy the work and association with his fellow workers; B indicates that he probably would like the occupation; and C indicates that he (or she) would not like that particular occupation.

29
 Bingham states:

"The blank is most useful with persons at least seventeen years of age. It's suitable to use for ages fifteen and sixteen if proper allowances are made for immaturity".

Considerable weight may be attached to an A rating obtained by a youth, but the fact that only C and B ratings are made should not be a source of concern. ³⁰ A small percent of C's will later become B's, and about one-fourth of the B's will become A's as the youths' ³¹ interest ripen with maturity.

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28. E. K. Strong Jr., "Diagnostic Value of the Vocational Interest Test", Journal of Educational Psychology, p. 60
28. Donald G. Paterson, Gwendolen G. Schneider, and Edmund G. Williamson, "Student Guidance Techniques" p 178
29. Walter Van Dyke Bingham, Aptitudes and Aptitude Testing p 354
30. Donald G. Paterson, Gwendolen G. Schneider and Edmund G. Williamson, "Student Guidance Techniques" p 180
31. E. K. Strong, Jr., "Classification of Occupations by Interests", Personnel Journal.

While an individual would not answer nearly all of the 420 items in the same way on a repetition of the test,
³²
 Strong is able to report the average reliability of twenty-one scales to be .89.

The predictive value as well as the validity of the test has to some extent been proved by administering the test to 156 seniors at Stanford University in 1927 and following their vocational careers for five years.
³³
 These seniors did not know their scores on the blank, therefore, it was a natural situation. Six months after graduation it was found that: forty-six percent had entered or planned to enter the occupation on which they scored highest in the test; twenty percent had entered or planned to enter the occupation on which they scored second highest; eleven percent had entered or planned to enter the occupation on which they scored third highest. Seventy-seven percent had entered or planned to enter the occupation on which they scored first, second, or third.

Only eighteen percent were entering professions for which, according to the blank, they had no interest. A study two years later showed about the same percentage entered, or planning to enter, the occupations in which they had scored highest, second highest, or third highest. A third follow up five years after the group had taken the

32. E. K. Strong, Jr., "Predictive Value of the Vocational Interests Test", *Journal of Educational Psychology*, p. 332

33. E. K. Strong, Jr., "Diagnostic Value of the Vocational Interest Test", *Educational Record*, p. 13.

interest test, likewise, showed that about eighty percent were engaged in occupations in which they had scored first, second, or third highest.³⁴ Considering that many factors may intervene to cause these seniors to enter professions for which they do not even claim interest, the results cited are indicative of a high degree of validity for the vocational interest test.

When one considers that one half of the college seniors change their occupations at least once within five years after graduation,³⁵ it is easy to appreciate the value of a test that will predict, with a reasonable degree of accuracy, whether an individual will be satisfied and happy pursuing his chosen vocation. No doubt, many of the occupational changes will involve genuine loss of money and earning power.

In justifying the use of Strong's Vocational Interest Blank, it seems appropriate to conclude with statements from several prominent authorities in the field of vocational guidance.

36

Fryer states in 1931:

"If time permits the use of only one measure Strong's Vocational Interest Blank, with its occupational scoring keys is undoubtedly the best measure for occupational purposes with adults."

34. E. K. Strong, Jr., "Predicative Value of the Vocational Interest Test", *Journal of Education*, p. 347.

35. *Ibid.*

36. Douglas Fryer, *The Measurement of Interests*, p. 420

37

Bingham states in 1937:

"The Vocational Interest Blank is one of the most valued aids to counseling that prolonged scientific research has produced."

38

Williamson and Darley refer to Strong's Vocational Interest Blank in this statement:

"In this tool guidance workers have as important a diagnostic instrument as any test of scholastic aptitude."

Admitted Shortcomings in Method: The number of cases used in the study is not great enough to make the findings very general.

The measure of ability would have been more accurate if more than one intelligence test had been administered.

Occupational keys were not available for scoring certain occupations which were involved in the study, namely: interior decorator, women research worker, elementary teacher, musician, mechanic, occupations for women involving executive responsibilities. This last obstacle was in part overcome by interpolation, based on the fact that the intercorrelations is high for occupations within the

37. Walter Van Dyke Bingham, *Aptitudes and Aptitude Testing*, p. 357.

38. E. C. Williamson and J. C. Darley, *Student Personnel Work*, p. 149.

39
same occupational group. For example, the physicist is typical for the scientific and technical group and correlates highly with the interests of engineers, chemists, etc.

Since special aptitude tests in art, music, mechanical and social faculties were not administered, there may be some who are judged as having enough ability to succeed with their ambitions who actually do not have enough. For practical purposes such fine discrimination would seem to be unnecessary, since the ability required for succeeding with ambitions was assumed to be the average ability requirements of occupations which they indicate expecting and preferring to follow.

39. L. L. Thurstone, "A Multiple Factor Study of Vocational Interests", Personnel Journal, p. 200.

CHAPTER III

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DATA AND RESULTS

Ambition and Ability

Tables I, II, and III were compiled by evaluating the school marks made by each individual during his entire high school course, using the following scale and formula:

Scale: For each unit of work entered on an official transcript each A grade was evaluated as three honor points, B as two, C as one, D as none, and F as negative one.

Formula: $H. P. A. = \frac{\sum H.P.}{N.U.}$ where

H. P. A. represents honor point average.

\sum represents summation

H. P. = honor points derived from grades showing on transcript of each senior.

N. U. = number of units of work for which a grade is recorded on the transcript.

The school marks were converted to centile¹ scores for the purpose of making the marks earned by students from the

1. Unit expressing percentile rank.

three schools comparable. It is true that all three schools used a five division grading scale of A, B, C, D, and F, but the indefinite and variable bases used by different schools in writing grades make marks of students from different schools not directly comparable.

In Table IV the sex of the individual is indicated by the symbol "M" for male and "F" for female; the schools are designated by symbols, "M" for Medford, "m" for Manchester, and "W" for Wakita. The computing of the column designated as C. A. R. is discussed on Page 10 of Chapter II.

The base line of the normal distribution curve divided into six equal parts will make each division of the base line practically one sigma (standard deviation) unit in length. The area included under the curve above each of the six arbitrary divisions of the base line, proceeding out each direction from the mean, are respectively, 34.59 percent, 13.59 percent, and 2.145 percent of the total area under the curve. Hence, groups III and IV each have seventeen seniors (34% of 50) in those levels of ability. Similarly, the second and fifth levels will each have seven individuals in those divisions, and the first and sixth levels will each have one individual.

Table V indicates that many of the high school seniors group need to be disillusioned concerning the occupa-

2. Leonard V. Koos and Grayson N. Kefauver, Guidance in Secondary Schools, pp. 261-263.

tions which they aspired to follow. In the first place, none of them choose occupations requiring below the fourth level of ability. Perhaps some of those who would make up ability groups V and VI have been eliminated from school. But, comparing the lowest scores made by the group with the norms established by the authors of the A. C. E. Psychological Test,³ and the lowest scores made by high school seniors who were given the A. C. E. Psychological Test by the Oklahoma Agricultural and Mechanical College Guidance Bureau,⁴ will show that the group used in this study is still rather unselect. Not many are eliminated from these schools because they lack ability to do enough work of satisfactory quality.⁵ Consequently, elimination from school would not seem to be such a disturbing factor in this study.

The column, "Ability Required for Preferred and Expected Occupations", of Table V, was obtained by determining each senior's vocational choice from questionnaires like the ones on pages to , then referring to the Minnesota Occupational Rating Scale to establish the amount of intelligence required. In judging whether the ambition-ability adjustment is satisfactory in Table V, a maximum "critical" degree of intelligence has been disregarded.

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3. American Council on Education, Manual of Instructions
 4. Dr. Eleroy L. Stromberg, School of Education, Director of Guidance Bureau, Oklahoma A. & M. College.
 5. Elwood P. Cubberley, Public School Administration, pp. 405-429

TABLE I. PERCENTILE RANK, HONOR POINTS,
AND SCHOOL MARKS OF MANCHESTER SENIORS

*Senior Number	Honor Point Av.	Grade Av.	Percentile Rank
3	2.9	A	96.87
14	2.7	A-	90.62
17	2.4	A-	84.37
11	1.8	B	75.00
6	1.8	B	75.00
25	1.7	B-	62.50
18	1.7	B-	62.50
33	1.3	B-	50.00
30	1.3	B-	50.00
28	1.2	C	47.50
24	1.2	C	47.50
41	1.0	C	28.12
36	0.6	C-	21.87
32	0.5	C-	15.62
45	0.4	C-	9.37
49	0.02	D	3.12

Tables I, II and III show that for a student to have made a "C" average at Medford, thirty percent of the class must be exceeded in scholarship; at Wakita he (or she) must excell thirty-six percent of that class; at Manchester a student exceeding just twenty-eight percent of the class received a "C" average.

*Number assigned from ranking in college aptitude. See Table IV.

TABLE II. PERCENTILE RANK, HONOR POINTS,
AND SCHOOL MARKS OF MEDFORD SENIORS

*Senior Number	Honor Points Av.	Grade Av.	Percentile Rank
16	3.0	A	97.5
2	2.9	A	92.5
8	2.8	A	87.5
10	2.3	A-	80.00
7	2.3	A-	80.00
13	2.2	B	72.5
x	2.0	B	67.5
x	1.8	B	62.5
26	1.5	B-	57.5
21	1.4	B-	52.5
x	1.0	C	45.00
22	1.0	C	45.00
x	0.9	C	37.5
42	0.8	C	30.00
38	0.8	C	30.00
27	0.7	C-	22.5
43	0.6	C-	17.5
44	0.5	C-	10.00
46	0.5	C-	10.00
48	0.1	D	2.5

*Number assigned from the ranking in College aptitude.
See Table IV.

x in the senior number column indicates that that individual was not used in the part of the study that follows.

TABLE III. PERCENTILE RANK, HONOR POINTS,
AND SCHOOL MARKS OF WAKITA SENIORS

*Senior Number	Honor Point Av.	Grade Av.	Percentile Rank
1	2.9	A	97.26
4	2.4	A-	88.92
23	2.4	A-	88.92
12	2.3	A-	80.58
5	1.6	B-	72.24
20	1.6	B-	72.24
9	1.5	B-	61.12
15	1.5	B-	61.12
19	1.4	B-	52.78
37	1.0	C	47.22
31	0.8	C	36.10
35	0.8	C	36.10
29	0.8	C	36.10
40	0.7	C-	24.98
39	0.5	C-	19.42
34	0.4	C-	13.86
50	0.3	C-	5.52
47	0.3	C-	5.52

*Number assigned from the ranking in college aptitude.
See Table IV.

However, considering that the classes are small, differences in ability of the students would perhaps account for such a discrepancy as has been cited. The grading in the three schools seems to be quite uniform for the entire grade range.

TABLE IV. ABILITY IN TERMS OF COLLEGE
APTITUDE RATING AND MINNESOTA RATING SCALE CATEGORIES

Case No.	Sex	School	Score on A.C.E. Test	Centile Score on A.C.E. Test	C.A.E.	Minn. Rating Scale Category
1	F	W	195	95	96.30	I
2	F	M	178	92	92.25	II
3	F	m	164	87	91.94	II
4	M	W	171	89	88.96	II
5	F	W	273	99	85.62	II
6	M	m	178	92	84.00	II
7	F	M	163	85	83.00	II
8	M	M	144	76	81.75	II
9	M	W	234	97	79.60	III
10	M	M	144	76	78.00	III
11	M	m	145	79	77.00	III
12	F	W	137	73	76.79	III
13	F	M	152	81	76.75	III
14	F	m	116	61	75.80	III
15	M	W	155	83	72.60	III
16	F	M	102	43	69.75	III
17	M	m	107	53	69.14	III
18	M	m	136	70	66.25	III
19	F	W	136	70	66.25	III
20	M	W	109	55	63.62	III
21	M	M	122	66	59.25	III
22	M	M	118	63	55.00	III

TABLE IV. ABILITY IN TERMS OF COLLEGE
APTITUDE RATING AND MINNESOTA RATING SCALE CATEGORIES

Case No.	Sex	School	Score on A.C.E. Test	Centile Score on A.C.E. Test	C.A.R.	Minn. Rating Scale Category
23	F	W	61	17	52.96	III
24	F	m	105	50	48.75	III
25	M	m	92	33	47.75	III
26	F	M	89	31	44.25	IV
27	F	M	122	66	44.25	IV
28	M	m	101	39	43.25	IV
29	F	W	105	50	43.05	IV
30	M	m	83	27	41.00	IV
31	F	W	103	45	40.55	IV
32	M	m	110	58	36.81	IV
33	F	m	74	23	36.50	IV
34	M	W	110	58	35.93	IV
35	M	W	93	35	35.55	IV
36	M	m	104	47	34.44	IV
37	F	W	72	21	34.11	IV
38	F	M	96	37	34.00	IV
39	F	W	102	42	30.71	IV
40	F	W	85	29	26.99	IV
41	F	m	81	25	26.56	IV
42	M	M	45	9	19.50	IV

TABLE IV. ABILITY IN TERMS OF COLLEGE
APTITUDE RATING AND MINNESOTA RATING SCALE CATEGORIES

Case No.	Sex	School	Score on A.C.E. Test	Centile Score on A.C.E. Test	C.A.R.	Minn. Rating Scale Category
43	M	M	55	14	15.75	V
44	F	M	66	19	14.50	V
45	F	m	55	14	11.68	V
46	M	M	48	11	10.50	V
47	F	W	29	4	4.76	V
48	M	M	42	7	4.75	V
49	F	m	29	4	3.56	V
50	F	W	27	1	3.26	VI

TABLE V. AMBITION vs ABILITY

Case No.	Ability Posses'd	Ability Required			Abil. Req'd Minus Abil. Possessed	Ambition Ability Adjustment
		Pref. Occup.	Expec. Occup.	Av.		
1	I	2.3	2.6	2.4	1.4	O.K.
2	II	3.0	3.0	3.0	1.0	O.K.
3	II	2.6	2.6	2.6	0.6	O.K.
4	II	2.6	2.0	2.3	0.3	O.K.
5	II	1.7	2.2	1.9	-0.1	Perhaps O.K.
6	II	2.2	2.2	2.2	0.2	O.K.
7	II	3.0	3.0	3.0	1.0	O.K.
8	II	2.2	2.2	2.2	0.2	O.K.
9	III	1.6	1.6	1.6	-1.4	Not O.K.
10	III	2.0	2.0	2.0	-1.0	Not O.K.
11	III	2.6	4.3	3.4	0.4	O.K.
12	III	2.6	2.6	2.6	-0.4	Perhaps O.K.
13	III	2.3	2.3	2.3	-0.7	Not O.K.
14	III	2.6	2.6	2.6	-0.4	Perhaps O.K.
15	III	1.3	2.6	1.9	-1.1	Not O.K.
16	III	2.6	2.6	2.6	-0.4	Perhaps O.K.
17	III	1.6	2.0	1.8	-1.2	Not O.K.
18	III	2.0	2.0	2.0	-1.0	Not O.K.
19	III	3.0	3.3	3.1	0.1	O.K.
20	III	2.0	2.6	2.3	-0.7	Not O.K.
21	III	2.0	3.6	2.8	-0.2	Perhaps O.K.
22	III	3.7	4.0	3.8	0.8	O.K.
23	III	2.5	2.5	2.5	-0.5	Perhaps O.K.
24	III	3.0	3.7	3.3	0.3	O.K.
25	III	1.3	1.3	1.3	-1.7	Not O.K.

TABLE V. AMBITION vs ABILITY

Case No	Ability Posses'd	Ability Required			Abil. Req'd Minus Abil. Possessed	Ambition Ability Adjustment
		Pref. Occup.	Expec. Occup.	Av.		
26	IV	2.7	3.3	3.0	-1.0	Not O.K.
27	IV	2.3	2.6	2.4	-1.6	Not O.K.
28	IV	2.7	2.3	2.5	-1.5	Not O.K.
29	IV	3.6	3.6	3.6	-0.4	Perhaps O.K.
30	IV	2.2	2.3	2.2	-1.8	Not O.K.
31	IV	2.3	2.3	2.3	-1.7	Not O.K.
32	IV	2.3	3.0	2.6	-1.4	Not O.K.
33	IV	2.0-	2.0	2.0	-2.0	Not O.K.
34	IV	3.3	4.0	3.6	-0.4	Perhaps O.K.
35	IV	1.6	1.6	1.6	-2.4	Not O.K.
36	IV	1.5	2.0	1.7	-2.3	Not O.K.
37	IV	3.0	3.0	3.0	-1.0	Not O.K.
38	IV	2.6	3.0	2.8	-1.2	Not O.K.
39	IV	3.3	3.3	3.3	-0.7	Not O.K.
40	IV	3.0	3.0	3.0	-1.0	Not O.K.
41	IV	3.0	3.0	3.0	-1.0	Not O.K.
42	IV	1.6	3.0	2.3	-1.7	Not O.K.
43	V	1.0	1.0	1.0	-4.0	Not O.K.
44	V	2.6	2.6	2.6	-3.4	Not O.K.
45	V	2.7	3.6	3.1	-1.9	Not O.K.
46	V	2.7	2.7	2.7	-2.3	Not O.K.
47	V	2.6	4.3	3.4	-1.6	Not O.K.
48	V	3.0	3.0	3.0	-2.0	Not O.K.
49	V	3.0	3.0	3.0	-2.0	Not O.K.
50	VI	3.0	3.5	3.2	-2.8	Not O.K.

In Table V the Maximum "Critical" degree of intelligence has been disregarded because there will be a few leaders needed in every occupation, and since there are so few who might have a vocational non-adjustment resulting from having more intelligence than is needed for performing their work.

Further evidence that there is little reason to be concerned with the maximum "critical" level of intelligence in this study is given by the following statement quoted from Bingham:⁶

"Moreover, within any occupation--surgeon, steam shovel operator, manicurist, editor--the actual work performed varies from one position to another. It is not standardized."

The Minnesota Rating Scale Category numbers in Table V were given the conventional interpretation; that is a 2.5 is near enough a 3 that even with a 0.5 deficiency to be judged as perhaps equal to a 3, if it must be "rounded" off to one digit without decimals. Thus, with ability less than that required to attain an ambition, but with 0.5 of a categorical step of being sufficient to attain an ambition, the adjustment was judged as being perhaps satisfactory. When the ability possessed is as great or greater than that required to attain the ambition, the cases are checked for ambition-ability adjust-

6. Walter Van Dyke Bingham, Aptitudes and Aptitude Testing. p. 94.

ment in Table V as being O. K. or Not O. K. ⁷

Only eleven (22%) according to our measures, definitely have ability enough to succeed with their vocational ambitions; eight (16%) more perhaps have ability enough to succeed with their ambitions. The other thirty-one (62%) are in line for disappointment, discouragement, and failure if they attempt the vocations that they are contemplating. Figure 1 will perhaps aid in presenting the idea of the proportion of seniors whose abilities are well suited for their vocational plans, and of those whose plans can be fulfilled only through unusual application of ability and then in a very small number of cases.

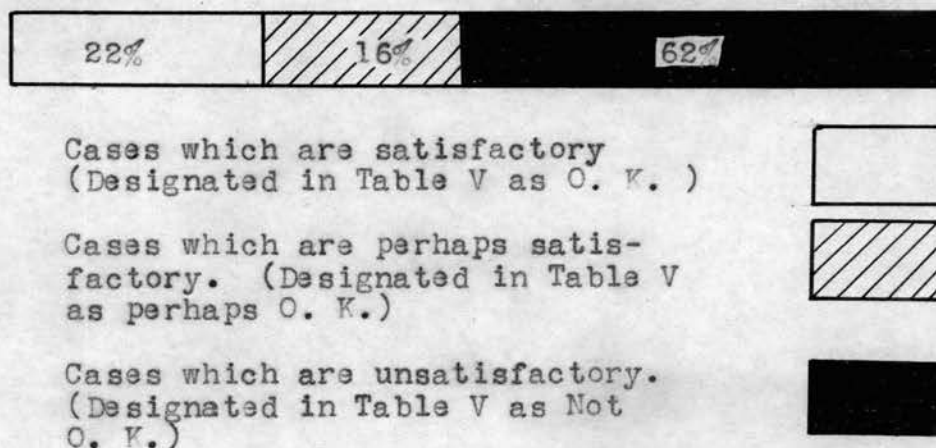


FIGURE 1. AMBITION-ABILITY ADJUSTMENT

7. Conditions set up by the Minnesota Pating Scale have been fulfilled.

It is true that the ability required for the occupations preferred by these seniors is slightly higher in some cases than that required for the occupations that they indicate expecting to follow, and consequently higher than the average that has been used. However, rechecking Table V and using the requirements for the occupations that the seniors expect to enter will add two persons to the number already judged as satisfactory cases bringing the total number of satisfactory cases up to twenty-six percent of the group, and likewise will increase the questionable cases to twenty percent of the group, leaving fifty-four percent of the group with disappointment in store for them.

Figure 2 expresses the relationship between the group's ambition and ability adjustment quite completely and from somewhat of a different angle. The black bar indicates the number of individuals in the group that have ability of the first, second, and sixth category, as the Minnesota Rating Scale defines those categories. The bar that is not black shows the number of individuals with ambitions⁸ requiring the ability of the level given by the Roman numeral⁹ just below the bar. The numbers inside the divisions of the white bar show the ability possessed by those making up that division of the scale. The "1" in the white bar

8. The average of expected and preferred occupational ratings were used and "rounded" off to the nearest whole number to get the data for Fig. 2.

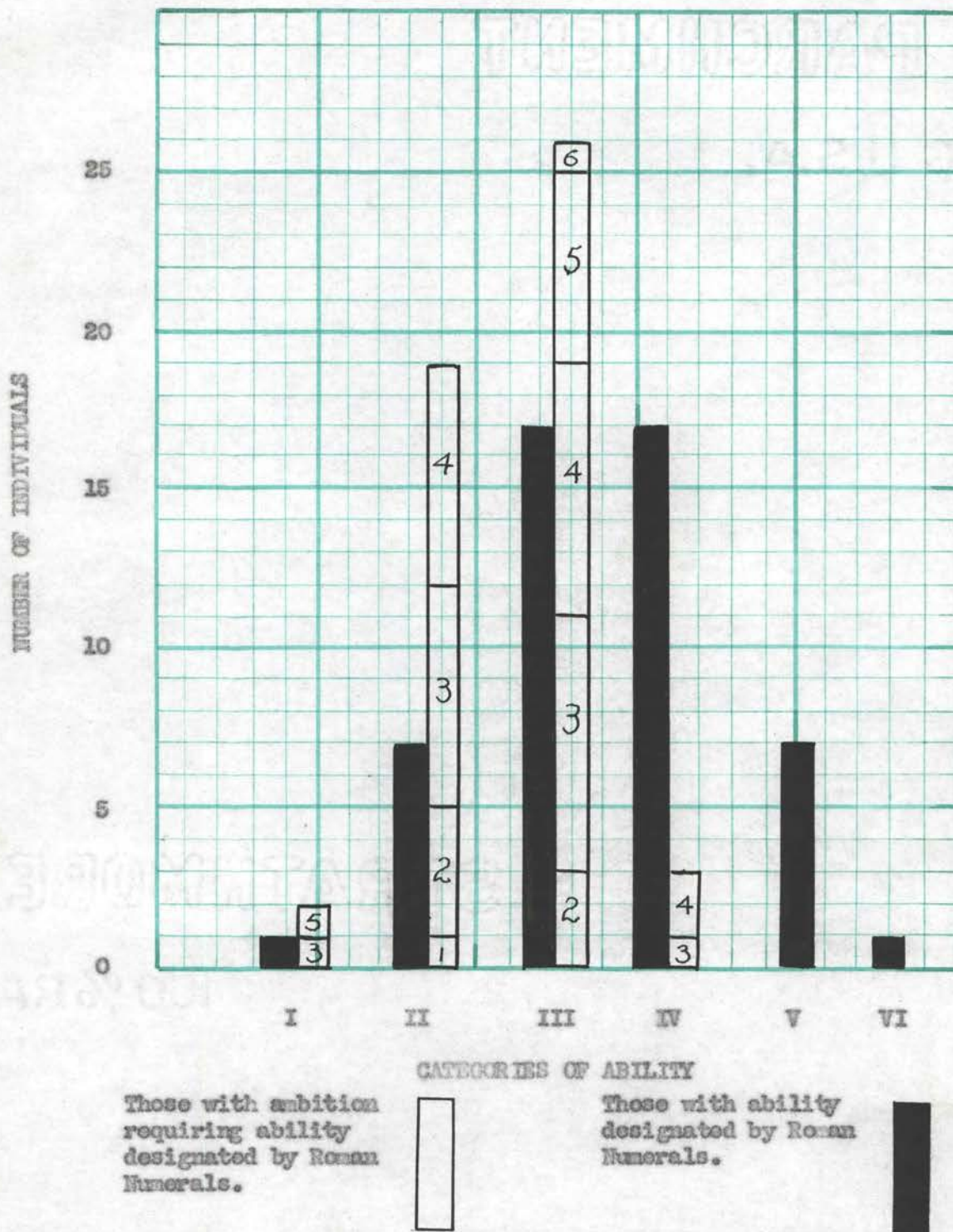
9. In terms of categories of the Minnesota Occupational Rating Scale.

over Roman numeral II and the "2" over III and "3" over IV indicate that five (10%) of the individuals have ambitions for occupations that require less intelligence than that which they possess. There are fourteen (28%) of the individuals who are shown to have made theoretically optional ambition-ability adjustments (the "2" in white bar over II, "3" over III, and "4" over IV). The remaining thirty-one (62%) of the individuals possess ambitions which they may attain only with the greatest difficulty.

Claimed Interests and Measured Interests

The data concerning the measured and claimed interests of two typical cases are included immediately following this discussion to assist in making clear the treatment of the data of this section.

The first case presented is that of a girl referred to in all previously given tables as No. 3. She had entered nurses training two months before she was informed of her test results. The second case presented is that of a boy referred to in all previously given tables as No. 6. This boy intends to enter the ministry as soon as he completes the required preparation. The decision had been made about a year before he filled out Strong's Vocational Interest Blank. So, the test results could not have influenced his decision.



The number in the bar of the graph indicates the ability possessed by those represented by that segment of the bar.

FIG. 2.—AMBITION-ABILITY ADJUSTMENT

Following is a questionnaire giving claimed interests and ambition of Case Number Three as she expressed them:

CLASSIFICATION OF OCCUPATIONS RANKED
IN ORDER OF PREFERENCE

In the following list, indicate in the order of preference (1, 2, 3, 4, 5, 6, 7) the groups which you believe you would like most to work in, No. 7 being the one you believe you would least prefer to work in and No. 1 the group you would like most to work in.

- 7 Occupations involving business contacts with people, such as the various fields of selling, promotional, works, politics, etc.
- 2 Occupations involving business detail work, such as accountancy, business statistician, cashier, banker, stenographer, and office clerical work.
- 3 Occupations involving social service activities, such as Y. M. C. A. worker, Boy Scout executive, personnel worker, social case worker, teacher, welfare worker, etc.
- 5 Occupations requiring special artistic abilities, such as musician, actor, artist, interior decorator, designer, etc.
- 6 Occupations involving executive responsibilities, and director, office manager, foreman, superintendent of schools, etc.
- 1 Occupations involving technical or scientific work, such as engineer, chemist, surgeon, nurse, architect, research worker, inventor, physician, tool-maker, etc.
- 4 Occupations involving verbal or linguistic work, such as lawyer, newspaper man, author, advertising man, librarian, etc.

Occupations listed by Student: (In order of EXPECTANCY OF pursuing).

1. Nursing. Quite sure? Yes, reasonably.

Occupations listed by Student: (In order of EXPECTANCY of pursuing). Continued--

2. Stenographer Quite sure, providing you do not pursue No. 1? No
3. Teacher Quite sure, providing you do not pursue No. 1 or No. 2? No

Occupations listed by Student: (In order of Preference)

1. Nursing
2. Stenographer
3. Teacher

If there is a disagreement between the occupation you prefer to follow and the occupation that you expect to pursue, please frankly and briefly explain. I promise all this report to be strictly confidential.

No one very close to the family has ever cared very much for this work. They do not see why I should, though no strong objection will be made to my being a nurse instead of a teacher as has always been expected.

Signed Case No. 3

High School R. K.

Date _____

Below is a profile of the interest pattern of Case No. 3 as was disclosed by measurement.

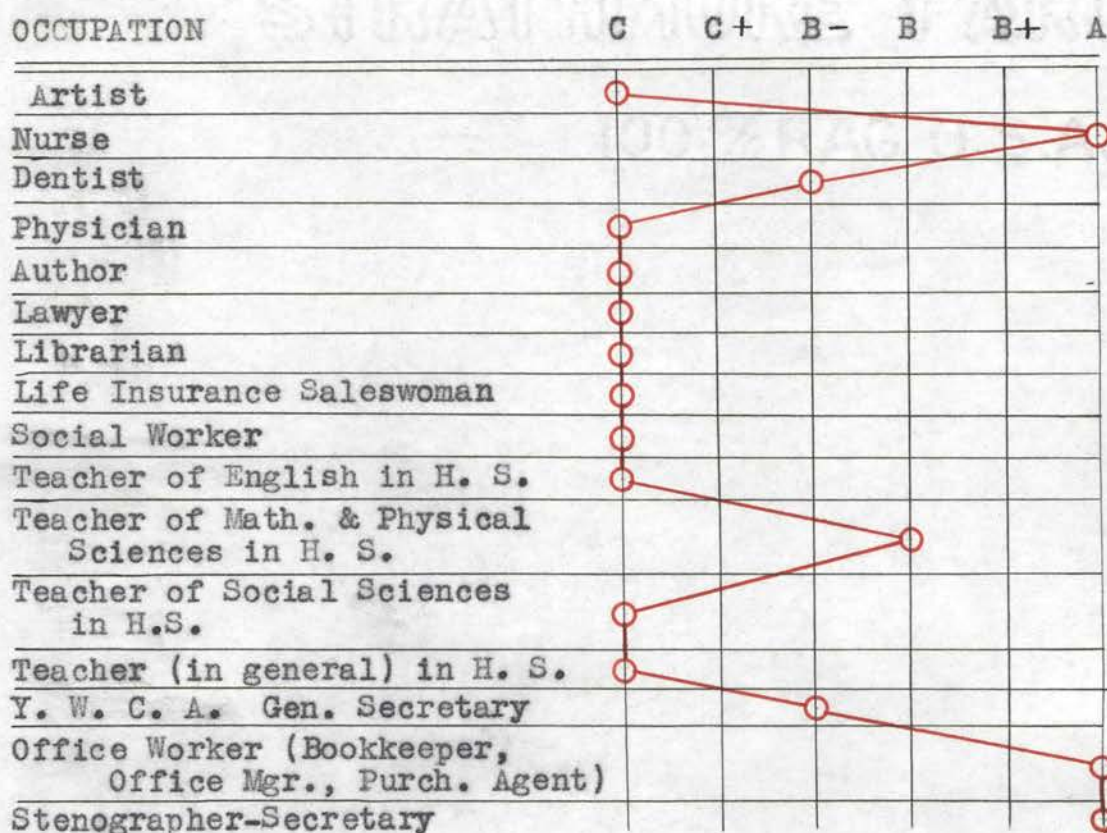


Fig. 3 RATINGS OBTAINED BY CASE NO. 3
ON STRONG'S VOCATIONAL INTEREST BLANK

Following is a questionnaire giving claimed interests and ambition of Case Number Six as he expressed them:

CLASSIFICATION OF OCCUPATIONS RANKED IN ORDER OF PREFERENCE

In the following list, indicate in the order of preference (1, 2, 3, 4, 5, 6, 7) the groups which you believe you would like most to work in, No. 7 being the one you believe you would least prefer to work in and No. 1 the group you would like most to work in.

- 3 Occupations involving business contacts with people such as various fields of selling, promotional, work, politics, etc.
- 7 Occupations involving business detail work, such as accountancy, business statistician, cashier, banker, stenographer, and office clerical work.
- 1 Occupations involving social service activities, such as Y. M. C. A. worker, Boy Scout executive, personnel worker, social case worker, teacher, welfare worker, etc.
- 2 Occupations requiring special artistic abilities, such as musician, actor, artist, interior decorator, designer, ect.
- 6 Occupations involving executive responsibilities, such as director, office manager, foreman, superintendent of city schools, ect.
- 5 Occupations involving technical or scientific work, such as engineer, chemist, surgeon, nurse, architect, research worker, inventor, physicist, tool-maker, etc.
- 4 Occupations involving verbal or linguistic work, such as lawyer, newspaper man, author, advertising man, librarian, etc.

Occupations listed by Student: (In order of Preference)

1. Minister
2. Musician (or music director)
3. Teacher

Occupations listed by Student: (In order of EXPECTANCY of pursuing).

1. Minister Quite sure? Yes
2. Teacher Quite sure, providing you do not pursue No. 1? Yes

Occupations listed by Student: (In order of EXPECTANCY of pursuing). Continued--

3. Musician Quite sure, providing you do not pursue No. 1 or No. 2?

Yes

If there is a disagreement between the occupation you prefer to follow and the occupation that you expect to pursue, please frankly and briefly explain. I promise all this report to be strictly confidential.

It is just because I feel that these will be easiest, quickest, and surest to get into so I can earn enough to be what I want to be.

Signed Case No. 6

High School R.T.

Date _____

Bothe copies
from original
questionnaire

Below is a profile of the interest pattern of Case No. 6 as disclosed by measurement.

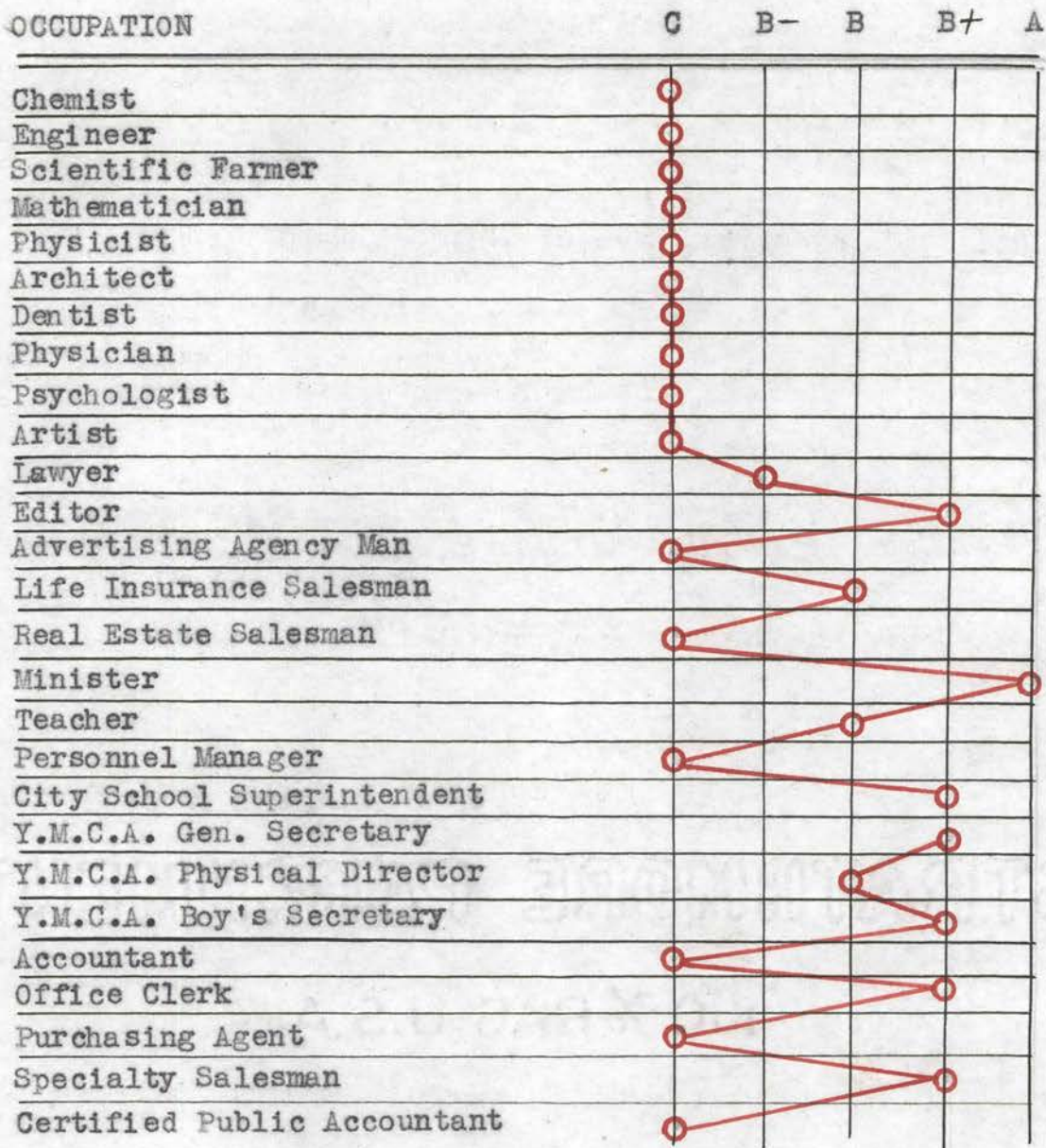


Fig. 4. RATINGS OBTAINED BY CASE NO. 6
ON STRONG'S VOCATIONAL INTEREST BLANK

The two cases just cited were described as typical, although not nearly all the cases had such close agreement between measured and claimed interest. Forty-eight percent of the boys and 18.5 percent of the girls did not have an A rating on Strong's Vocational Interest Blank for any occupation. The fact that a greater proportion of girls scored A ratings than boys may be caused by girls in the teens being further advanced in interest-maturity than boys of equal age.¹⁰ However, no one examined failed to rate either B or B+ on the interest test for some occupation. Since the age range of the group is from sixteen to twenty-one years it is to be expected that many would not score A interest ratings on occupations that they would find to be very compatible should they choose to follow them.¹¹

This section of data, which is usually used for clinical diagnosis and prognosis in case studies, resists to some extent the morerefined statistical techniques conventionally employed to arrive at conclusions concerning a group.

Nevertheless, the data will be analyzed by several approaches that seem to evidence the nature of the relationship that exists between the claimed and measured interests of the group.

The definition of interest established in Chapter I

10. Harold D. Carter and E. K. Strong, Jr., "Sex Differences In Occupational Interests of High School Students", Personnel Journal, XII (1934) 166-75.

11. Walter Van Dyke Bingham, Aptitudes and Aptitude Testing, p. 354

makes it reasonable to interpret the first and second occupations ranked in order of preference by the student as being the occupations for which the student claims the most, and next to the most interest. With that viewpoint, Table VI should throw some light on the relationship between claimed and measured interests of the group under investigation.

If the measured interest in an occupation in which a student claims the greatest interest is not exceeded by the measured interest in some other occupation, the claimed and measured interest is said to agree. For the occupation second in self-estimated interest there is said to be agreement so long as the measured interest in the occupation is exceeded only by the measured interest of the occupation first in self-estimated interest. The cases exhibiting agreement between claimed and measured interest are marked "yes" in the two columns on the right hand side of Table VI. The cases in which the measured and claimed interests do not agree are marked "no". Table VI indicates that eighty-four percent of the cases have their highest measured interest in either the occupation that they claim highest interest or the occupation that they claim to be second in interest to them. Sixty-six percent have perfect agreement between measured and claimed interest in the occupation in which most interest is claimed; the remaining thirty-four percent claim high interest in occupations which according to Strong's Vocational Interest Blank their interest is

TABLE VI. THE TWO OCCUPATIONS IN WHICH THE MOST INTEREST IS CLAIMED COMPARED WITH THE MEASURED INTEREST IN THOSE OCCUPATIONS

Case No.	Age	Sex	Rating on Voc. Int. Blank		Number of ratings more satisfactory than rating on		Agreement of Measured-Claimed Interest	
			1st Occup. Pref.	2nd. Occup. Pref.	1st. Occup. Pref.	2nd. Occup. Pref.	1st Occup. Pref.	2nd. Occup. Pref.
1	16	F	B	C	0	8	Yes	No
2	17	F	C	B	5	0	No	Yes
3	18	F	A	A	0	0	Yes	Yes
4	17	M	B	C	0	9	Yes	No
5	17	F	B	C	3	8	No	No
6	17	M	A	B	0	1	Yes	Yes
7	17	F	A	B	0	2	Yes	No
8	17	M	A	B	0	2	Yes	No
9	17	M	A	B	0	4	Yes	No
10	18	M	C	A	12	0	No	Yes
11	17	M	B	C	0	8	Yes	No
12	18	F	A	B	0	2	Yes	No
13	17	F	B	B	2	2	No	No
14	18	F	B	C	1	5	No	No
15	18	M	C	A	10	0	No	Yes
16	17	F	A	C	0	6	Yes	No
17	17	M	C	B	1	10	No	No
18	18	M	B	C	0	0	Yes	Yes

TABLE VI. THE TWO OCCUPATIONS IN WHICH THE MOST INTEREST IS CLAIMED COMPARED WITH THE MEASURED INTEREST IN THOSE OCCUPATIONS
(Continued)

Case No.	Age	Sex	Rating on Voc. Int. Blank		Number of ratings more satisfactory than rating on:		Agreement of Measured-Claimed Interest	
			1st. Occup. Pref.	2nd. Occup. Pref.	1st. Occup. Pref.	2nd. Occup. Pref.	1st. Occup. Pref.	2nd. Occup. Pref.
19	16	F	A	A	0	8	Yes	No
20	19	M	B	C	0	7	Yes	No
21	19	M	B	C	0	6	Yes	No
22	17	M	A	B	0	0	Yes	Yes
23	16	F	B	C	3	7	No	No
24	17	F	A	C	0	5	Yes	No
25	17	M	B	B	0	0	Yes	Yes
26	18	F	A	A	0	0	Yes	Yes
27	17	F	B	B	0	0	Yes	Yes
28	17	M	B	C	0	8	Yes	Yes
29	17	F	C	A	4	0	No	No
30	18	M	B	B	0	0	Yes	Yes
31	18	F	B	B	0	0	Yes	Yes
32	17	M	C	C	10	10	No	No
33	17	F	B	C	0	6	Yes	No
34	21	M	B	B	0	0	Yes	Yes
35	17	M	A	C	0	4	Yes	No
36	17	M	B	C	0	8	Yes	No

TABLE VI. THE TWO OCCUPATIONS IN WHICH THE MOST INTEREST IS CLAIMED COMPARED WITH THE MEASURED INTEREST IN THOSE OCCUPATIONS
(Continued)

Case No.	Age	Sex	Rating on Voc. Int. Blank		Number of ratings more satisfactory than ratings on		Agreement of Measured-Claimed Interest	
			1st Occup. Pref.	2nd Occup. Pref.	1st Occup. Pref.	2nd Occup. Pref.	1st. Occup. Pref.	2nd Occup. Pref.
37	17	F	A	C	0	3	Yes	No
38	16	F	C	A	5	0	No	Yes
39	19	F	C	C	7	7	No	No
40	17	F	A	A	0	0	Yes	Yes
41	17	F	A	C	0	3	Yes	No
42	17	M	B	B	0	0	Yes	Yes
43	18	M	B	C	1	4	No	No
44	16	F	A	B	0	2	Yes	No
45	19	F	A	C	0	4	Yes	No
46	19	M	B	A	2	0	No	Yes
47	17	F	C	A	4	0	No	Yes
48	18	M	B	A	2	0	No	Yes
49	18	F	A	A	0	0	Yes	Yes
50	20	F	C	A	3	0	No	Yes

relatively low. The occupation second in interest by self-estimate does not have so great a percentage of cases where measured interest is in perfect agreement. Only forty-six percent show perfect agreement and the other fifty-four percent claim interests which measurement does not justify. summarized graphically:



Cases in which either highest or second highest self-estimated occupational interest agree with measurement.



Cases in which neither highest or second highest self-estimated occupational interest agree with measurement.



Fig. 5. AGREEMENT OF MEASURED AND CLAIMED INTEREST IN OCCUPATIONS OF HIGHEST AND SECOND HIGHEST SELF-ESTIMATED INTEREST

According to the data involved in Figures 5, 6, and 7 a senior attempting the occupation in which he claims the highest interest will more often than not, choose an occupation suited to his measured interest. This at least, is more than could be said of the condition existing between ability required for vocational ambitions and measured abilities.

The particular area of the students' interests just portrayed by Table VI will be of more vital concern to the



Cases in which highest self-estimated occupational interest agree with measurement of interest.



Cases in which highest self-estimated occupational interest disagree with measurement of interest.



FIG. 6. AGREEMENT OF MEASURED AND CLAIMED INTEREST IN OCCUPATION OF HIGHEST SELF-ESTIMATED INTEREST



Cases in which second highest self-estimated occupational interest agree with measurement of interest.



Cases in which second highest self-estimated occupational interest disagree with measurement of interest.



FIG. 7 AGREEMENT OF MEASURED AND CLAIMED INTEREST IN OCCUPATION OF SECOND HIGHEST SELF-ESTIMATED INTEREST

individual in making vocational and educational plans than interest areas pertaining to occupational groups which the student ranks third, fourth, fifth, sixth, and seventh according to self-estimated interest. Those occupations in which the students believe they have the most interest will be the ones that they will be most likely to attempt. ¹²

Though as a whole Table VII is perhaps less indicative than Table VI as to whether the seniors will enter occupations in which their measured interest is relatively high; it is, however, equally valuable in supplying an answer to the ¹³ problem under consideration. Table VII exhibits the relationship of these seniors' claimed and measured interests over the entire range of occupational groups,--from the group that the individual claims to be most interested in down to the occupational group that the individual ranks seventh in his (or her) self-estimated interest.

Meaning of Symbols Used In Table VII: Under the column titled "Interest", C denotes claimed and M measured. Groups A, B, C, D, E, F, and G represent the ¹⁴ occupational groups listed on the questionnaire under "Classification of Occupations Ranked in Order of Preference".

12. On the first page of Strong's Vocational Interest Blank nearly every senior lists, "Because I am interested in it", as the reason for their vocational choice.

13. See page 2.

14. See page 49.

Namely: A represents occupations involving business contacts with people; E represents occupations involving business detail work, etc., in the order listed. The symbol "r" is the product-moment coefficient of correlation.¹⁵ The numbers in columns A, B, C, D, E, F, and G denote relative rank of preference or interest for the different occupational groups. The numbers in red indicate that there is agreement as to rank by self-estimate and measurement. The black numbers indicate that the relative ranking, as to interest, claimed for that occupational group did not agree with measurement.

Method of Obtaining Relative Rank of Interest in Occupational Groups: For the senior boys the rank of claimed interest in Groups A, B, C, D, E, F, and G were taken directly from the questionnaire. Group E, occupations involving executive responsibilities, was omitted in the ranking of senior girls' preference of occupational groups, since Strong's Vocational Interest Test for women did not measure interest in any occupation of that type. To obtain the rank of the different groups as to measured interest, the occupation in each group A, B, C, etc., in which the individual scored the highest rating, on Strong's Vocational Interest Blank, was used as the rating for the group under which the occupation would be classified. The groups were

15. Derived by the rank-difference method and transmuted into equivalent product-moment "r" by tables.

then ranked from those of highest rating down to those
¹⁶
 seventh in rating. Where ties in rank occurred, the
 average ranking was given each of the tied ranks. For
 example, where two occupational groups each had equal rat-
 ing on Strong's Vocational Interest Test and were to be
 assigned to ranks 5 and 6 , then both are ranked 5.5.

Interpretation of Data in Table VII: The sampling
¹⁷
 error of "r" is so large in most cases that the value of
 "r" for any one case is almost meaningless; although the
 "r's" taken together and viewed from the standpoint of
 consistency, would indicate that there is some positive
 correlation between claimed and measured interest. There
 is no apparent relationship between "r" and ability. The
 cases in Table VII are still ranked according to college
 aptitude and the "r's" are practically as high in one
 part of the ability range as another.

A study of the red numbers, which indicate ranks in
 which claimed and measured interest in occupational groups
¹⁸
 agree will be of much more significance than a consider-
 able of the "r" , although it is obvious that they are

-
16. Women's interests in the occupational groups were ranked only from first to sixth.
 17. Given in terms of P. E.
 18. The rankings of an occupational group are judged to be in agreement when no rank could have been assigned the occupational group by the student (in terms of consecutive integers) that would more nearly fit the ranking derived for the occupational group by measurement.

TABLE VII. RANK OF INTEREST FOR OCCUPATIONAL GROUPS

Case No.	Sex	Inter- est	GROUP							r
			A	B	C	D	E	F	G	
1	F	C	5	6	3	1		2	4	.23 ± .27
		M	6	2	2	2		4.5	4.5	
2	F	C	6	2	1	4		5	3	.25 ± .27
		M	5.5	1	5.5	2		4	3	
3	F	C	6	2	3	5		1	4	.27 ± .02
		M	5.5	1.5	3	5.5		1.5	4	
4	M	C	4	1	5	6	3	7	2	.69 ± .14
		M	1.5	1.5	4	6	6	6	3	
5	M	C	5	6	4	3		1	2	.27 ± .27
		M	5.5	3	1.5	5.5		1.5	4	
6	M	C	3	7	1	2	6	5	4	.29 ± .24
		M	4	2.5	1	6	6	6	2.5	
7	F	C	3	1	4	5		6	2	.22 ± .27
		M	5	1	2.5	5		2.5	5	
8	M	C	6	5	2	7	3	1	4	.77 ± .11
		M	5.5	3	1.5	5.5	5.5	1.5	5.5	
9	M	C	7	1	6	5	4	2	3	.52 ± .19
		M	5.5	1	2	5.5	5.5	3	5.5	
10	M	C	7	2	6	5	3	1	4	.10 ± .28
		M	3	1	2	5.5	5.5	5.5	5.5	
11	M	C	6	4	7	2	5	1	3	.31 ± .24
		M	5.5	3	3	5.5	5.5	1	5.5	
12	F	C	5	1	2	6		3	4	.04 ± .03
		M	5	1	2	5		5	5	

TABLE VII. RANK OF INTEREST FOR OCCUPATIONAL GROUPS

(Continued)

Case No.	Sex	Inter-est	GROUP							r
			A	B	C	D	E	F	G	
13	F	C	5	5	4	1		6	2	.49 \pm .22
		M	6	1	2	3.5		5	3.5	
14	F	C	5	5	1	2		6	4	.14 \pm .25
		M	5.5	1	3	4		2	5.5	
15	M	C	7	2	4	6	3	1	5	.70 \pm .13
		M	5.5	1	2	5.5	3.5	3	5.5	
16	F	C	6	1	5	2		5	4	.30 \pm .23
		M	5.5	1.5	3	5.5		1.5	4	
17	M	C	6	7	5	3	3	1	4	.26 \pm .25
		M	6	1	2	6	4	3	6	
18	M	C	7	4	5	1	6	3	3	.39 \pm .17
		M	6	2	4	2	6	2	6	
19	F	C	6	1	4	3		2	5	.72 \pm .14
		M	5	1.5	5	5		1.5	3	
20	M	C	7	5	2	3	6	1	4	.16 \pm .26
		M	3	1.5	5.5	3.5	5.5	1.5	5.5	
21	M	C	2	3	3	7	4	1	5	.49 \pm .20
		M	3.5	3.5	2.5	5.5	5.5	1	5.5	
22	M	C	2	7	6	5	4	1	3	.33 \pm .13
		M	3	3	6	6	3	1	3	
23	F	C	5	5	1	2		4	5	.37 \pm .25
		M	5	1.5	3	3		1.5	3	

TABLE VII. RANK OF INTEREST FOR OCCUPATIONAL GROUPS

(Continued)

Case No.	Sex	Inter-est	GROUP							R
			A	B	C	D	E	F	G	
24	F	C	5	3	4	2		1	6	.63 \pm .17
		M	5	1.5	3	3		1.5	6	
25	M	C	5	4	7	3	2	1	6	.10 \pm .26
		M	5.5	1.	2.5	5.5	5.5	2.5	5.5	
26	F	C	6	2	3	1		4	5	.36 \pm .25
		M	4.5	1.5	4.5	4.5		1.5	4.5	
27	F	C	4	5	6	1		3	2	.73 \pm .13
		M	5	2.5	6	2.5		2.5	2.5	
28	M	C	2	6	4	3	5	1	7	.30 \pm .26
		M	5	5	5	5	5	1	2	
29	F	C	4	2	5	1		6	3	.51 \pm .26
		M	5	1.5	3	5		1.5	5	
30	M	C	5	7	3	6	2	4	1	.44 \pm .26
		M	3.5	3.5	1.5	6.5	5	6.5	1.5	
31	F	C	6	5	4	2		1	3	.85 \pm .08
		M	5.5	3.5	5.5	1.5		1.5	3.5	
32	M	C	5	6	7	1	4	3	2	.55 \pm .19
		F	5.5	1.5	1.5	5.5	5.5	3	5.5	
33	F	C	5	3	2	6		1	4	.30 \pm .24
		M	5.5	2.5	5.5	2.5		1	4	
34	M	C	4	1	6	5	7	2	3	.86 \pm .06
		M	5.5	2	5.5	5.5	5.5	2	2	

TABLE VII. RANK OF INTEREST FOR OCCUPATIONAL GROUPS

(Continued)

Case No.	Sex	Inter-est	GROUP							r
			A	B	C	D	E	F	G	
35	M	C	7	2	6	5	1	3	4	.53 \pm .13
		M	4.5	1	4.5	4.5	4.5	4.5	4.5	
36	M	C	4	3	5	6	2	1	7	.71 \pm .13
		M	5	1.5	5	5	5	1.5	5	
37	F	C	6	1	4	2		3	5	.52 \pm .21
		M	5	1.5	5	5		1.5	3	
38	F	C	1	2	3	6		4	5	.43 \pm .24
		M	5	1	2.5	5		2.5	5	
39	F	C	6	5	4	1		3	2	-.12 \pm .26
		M	5	1.5	3	5		1.5	5	
40	F	C	3	1	4	5		2	6	.82 \pm .09
		M	3	1.5	3	5		1.5	5	
41	F	C	4	5	6	2		1	3	-.06 \pm .29
		M	5.5	1.5	5	5.5		1.5	4	
42	M	C	5	3	7	6	4	1	2	.39 \pm .23
		M	5.5	2.5	2.5	5.5	5.5	1	5.5	
43	M	C	3	4	6	7	2	1	5	.45 \pm .21
		M	2	1	6	6	6	3	4	
44	F	C	6	1	2	4		3	5	.84 \pm .09
		M	4.5	1	1.5	3		1.5	4.5	
45	F	C	5	1	2	3		4	6	.69 \pm .15
		M	5.5	1	3	5.5		2	4	

TABLE VII. RANK OF INTEREST FOR OCCUPATIONAL GROUPS

(Continued)

Case No.	Sex	Inter-est	A	B	GROUP					r
					C	D	E	F	G	
46	M	C	7	1	3	2	4	6	5	.45 \pm .21
		M	3	1	2	5.5	5.5	5.5	5.5	
47	F	C	6	2	4	1		3	5	.39 \pm .25
		M	5	1	2	5		5	5	
48	M	C	1	3	6	7	4	5	3	.55 \pm .19
		M	2.5	1	2.5	5.5	5.5	5.5	5.5	
49	F	C	3	2	6	4		1	5	.42 \pm .22
		M	5.5	1.5	3	5.5		1.5	4	
50	F	C	1	2	4	6		3	5	.18 \pm .26
		M	5.5	1	5.5	5.5		2	5.5	

measures of somewhat the same relationship. This can best be accomplished by referring to Table VIII which was constructed directly from Table VII.

Table VI and Table VII are over-lapping to some extent. The data in Table VI deals with those occupations that would be ranked as 1 in Table VII. The satisfactory cases in Table VI make up sixty-six percent of the group, and in Table VII the satisfactory cases make up sixty-four percent of the group. The two percent disagreement between the two tables would be expected, since Table VII deals with the group of occupations of greatest interest to the seniors and Table VI with the specific occupation of greatest interest to the senior.

TABLE VIII. CASES IN WHICH CLAIMED AND MEASURED INTEREST FOR THE OCCUPATIONAL GROUPS ARE IN AGREEMENT

Rank According To Interest	No. of Men	% of Men	No. of Women	% of Women	Total No.	% of Whole Group
1	15	65.2	17	62.9	32	64
2	3	13.0	10	37.1	13	26
3	8	34.8	12	44.4	20	40
4	13	56.4	9	33.3	22	44
5	16	69.5	15	55.5	31	62
6	17	73.8	16	59.2	33	66
7	10	43.5	0	0	10	43.5
AVERAGE	11.7	50.8	13.2	48.8	24.7	49.4

The data indicate that there may be a difference in the thoroughness with which the different sexes have thought out the interest which they claim, or as was previously mentioned, it may be due to differences in the interest maturity of the sexes at the age from 16 to 20 years.¹⁹ Again, it may be that the group is so small that peculiarities arise which would not be found if a sufficiently large sample had been examined, or the differences in the number and nature of the occupational scoring keys used for men and women may have made some difference. The girls, as one would expect of both sexes, have accurately judged their interest in the occupational groups that they like best and the least more often than those of intermediate interest rank. The data concerning the boys does not show quite so logical a situation. The occupation group that they claim to like best is judged with accuracy more often than the average of the seven occupational groups (sixty-five and two-tenths percent as compared to fifty and eight-tenths percent of the cases). Other than that, the data pertaining to the boys does not exhibit much connection between the rank of interest and the frequency of accurate judgment of interest rating.

The average in Table VIII would indicate that about one-half of the cases of claimed interest in each of the seven groups of occupations are in error (accepting measurement as being correct).

19. See Page 55.

ABILITY AND MEASURED INTERESTS

Since ambition is so closely related to claimed interest, the study of ambition and ability was virtually one of claimed interest and ability. This part of the study is analogous to the study of claimed interest and ability. The only difference is that the three occupations in which the individual's measured interest is highest is used as "ambition" was in Part I of this chapter. However, the data must be treated differently to obtain results with meaning.

Measured Interest of Those With Sufficient Ability to Succeed With Their Ambitions: A study of Table V and Table VI reveals that there is none of the nineteen seniors who has perhaps enough ability to succeed with his ambitions, but what has a measured interest in either his first or second choice of occupations that would make one of his occupational choices appropriate.²⁰ Only two individuals of the nineteen seniors referred to above have a C rating in the occupation listed first when ranked as to preferences although there are eight (forty-two percent) who have rated a C on the occupation ranked second according to their preference.

Relationship of Ability and Measured Interests of the Groups as a Whole: Strong's Vocational Interest Blank only measures the interests in occupations that require

20. Disregarding economic factors such as opportunity for employment, pay, etc.

ability at least equal to that possessed by the average individual of an unselect group. Consequently, it is impossible for more than fifty percent of the group in Table IX to have measured ability equal to that required by the occupations in which the individuals have the highest measured interest. Table IX does show that the interests of those in ability group V or VI have their highest measured interests in occupations that require as much ability as the occupations in which those in Group I or or Group II have their highest measured interest. The following computations²¹ quite definitely verify the preceding statement. Where,

M = arithmetic mean of average

N = number of cases in group

σ = standard deviation of the group

σ_D = standard error of the difference of the means

σ_M = standard error of the mean

D = difference in the means

21. Henry E. Garret, *Statistics in Psychology and Education*, pp 201-213.

TABLE II. MEASURED INTEREST-ABILITY ADJUSTMENT

Case No.	Sex	Age	Ability Level Possessed	Ability Level Required for Occupation of Highest Measured Interest			
				1st	2nd	3rd	Average
1	F	16	I	2	2	2	2.3
2	F	17	II	3	3	3	2.7
3	F	16	II	3	3	3	3
4	M	17	II	3	3	2.5	2.8
5	F	17	II	3	3	3	2.3
6	M	17	II	2	1.6	1.6	1.9
7	F	17	II	3	3	2.3	2.6
8	M	17	IX	2	4	1.5	2.5
9	M	17	III	3	3	3	3
10	M	16	III	3	2	3	2.7
11	M	17	III	4	2.3	1.5	2.7
12	F	16	III	3	3	2	2.7
13	F	17	III	3	3	2	2.7
14	F	16	III	3	3	3	3
15	M	16	III	3	2	3	2.7
16	F	17	III	3	3	3	3
17	M	17	III	3	3	3	2.7
18	M	16	III	3	4	2.5	3.2
19	F	16	III	3	3	3	3
20	M	16	III	3	4	1.7	2.9
21	M	17	III	1	2.4	2.4	1.9
22	M	17	III	4	2.3	2.3	2.9
23	F	16	III	3	3	3	3
24	F	17	III	3	3	3	3
25	M	17	III	3	2.5	2.6	2.7

TABLE II. (Continued) INTEREST-ABILITY ADJUSTMENT

Case No.	Sex	Age	Ability Level Possessed	Ability Level Required for Consumption Of Highest Measured Interest			
				1st	2nd	3rd	Average
26	F	18	IV	3	3	3	3
27	F	17	IV	2	2	2	2
28	M	17	IV	4	1.5	1	2.2
29	F	17	IV	3	3	3	3
30	M	18	IV	3	1.5	2	2.2
31	F	18	IV	2	2.5	3.3	2.6
32	M	17	IV	4	3	2.5	3.2
33	F	17	IV	3	2.1	2.1	2.4
34	M	21	IV	2.9	2.9	2.9	2.9
35	M	17	IV	3	2	3	2.7
36	M	17	IV	2.5	3	2	3.2
37	F	17	IV	3	3	3	3
38	F	16	IV	3	3	2.5	2.8
39	F	18	IV	3	3	3	3
40	F	17	IV	3	3	3	3
41	F	17	IV	3	3	3	3
42	M	17	IV	4	2.5	2.5	3
43	M	18	V	3	3	3	3
44	F	16	V	3	3	2.2	2.7
45	F	18	V	3	3	3	3
46	M	19	V	4	5	2.5	3.2
47	F	17	V	3	3	2	2.7
48	M	18	V	4	3	2.5	3.2
49	M	18	V	3	3	3	3
50	F	20	VI	3	3	3	3

and the numerals in the subscripts designate the number of the group under consideration.

$$\begin{array}{cccc}
 N_2 = 7 & N_3 = 17 & N_4 = 17 & N_5 = 7 \\
 M_2 = 2.57 & M_3 = 2.81 & M_4 = 2.78 & M_5 = 2.97 \\
 \sigma_2 = .345 & \sigma_3 = .276 & \sigma_4 = .357 & \sigma_5 = .191 \\
 \sigma_{M_2} = .141 & \sigma_{M_3} = .069 & \sigma_{M_4} = .0693 & \sigma_{M_5} = .078 \\
 \sigma_{M_2}^2 = .0198 & \sigma_{M_3}^2 = .0048 & \sigma_{M_4}^2 = .0060 & \sigma_{M_5}^2 = .0061
 \end{array}$$

In ability Groups II and III --

$$\begin{array}{l}
 D = .24 \\
 \sigma_D, \text{ or } \sigma_{M_2} - \sigma_{M_3} = .157 \\
 \frac{D}{\sigma_D} = 1.5
 \end{array}$$

Therefore, the difference of .24 between M_2 and M_3 is not significant. However, there are ninety-three chances in one hundred that the true differences are greater than zero.

In groups III and IV

$$\frac{D}{\sigma_D} = .266$$

Hence, the difference between M_3 and M_4 is not significant. There are sixty chances in one hundred that the true difference is greater than zero.

In groups IV and V

$$\frac{D}{\sigma_D} = 1.60$$

Again the difference between the means is not significant. There are ninety-four chances in one hundred that the true difference is greater than zero.

It can also be shown that no one of the means will differ from another by an amount that is significant. If there had been enough cases in group I and group VI so that they could have been treated statistically, it could no doubt have been shown that their means do not differ from the other means by a significant amount.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Fifty high school seniors, male and female, in three Oklahoma schools were given the American Council on Education Psychological Test and Strong's Vocational Interest Blank. Questionnaires which called for information concerning occupational preference were also filled out. The high school grades were combined with the psychological test results to give each senior a college aptitude rating. This data was treated to determine whether the ability and ambition of these students were commensurate. The data from the questionnaire and Strong's Vocational Interest Blank was dealt with to determine the extent of discrepancy between the claimed and measured interests of these students. The relationship between measured interests and ability was also investigated. The results indicate that:

1. Less than one-half of the high school seniors have ability enough to succeed with their vocational ambitions; some seniors have more ability than is required for attaining their vocational ambitions.

2. Fewer cases of disagreement between claimed vocational interest and measured vocational interest occurred, than there were cases in which ambition and ability were in maladjustment. The seniors seem to know their true vocational interests more often than they do the ability

that they possess and that required for succeeding with their educational and vocational plans.

3. The high school senior boys are equally as accurate as the high school girls in their self-estimate of interest in occupational groups in which they would most like to work. For those occupational groups of less interest to them, the boys judge those of intermediate interest and those of least interest with about equal degrees of accuracy. In ranking the occupational group according to interest, the girls as one would expect of both sexes, are more accurate in their self-estimate of interest for occupational groups of the first and last rank, than those of intermediate rank. However, with data from only fifty cases very little weight should be attached to the sex differences just cited.

4. Measured vocational interests do not seem to be in the least symptomatic of general ability.

5. The lack of relationship between vocational ability and measured vocational interests, along with the un-systematic attempt on the part of these schools to assist their students in knowing their aptitudes and in obtaining knowledge about vocations and vocational requirements, has resulted in a condition that will probably cause many seniors much discouragement, loss of time, effort, and money.

6. A school with its guidance policy based apparently on the philosophy, "Use trial and error, do whatever is convenient and possible", seems to be neglecting a service to its patrons at considerable cost to the individuals involved and society as a whole.

7. Undoubtedly, if a systematic vocational and educational guidance program were carried on in the secondary school that would-- (1) acquaint the student with the different fields of occupations, (2) give the student knowledge about the abilities and training that the different occupations demand, and (3) present to the student the facts about his specific aptitudes,-- it would improve upon the condition that this study shows to be existent.

8. The construction and administering of an appropriate vocational and educational guidance program, and the determination of its efficiency seems to be a worthwhile problem.

The construction and validation of additional occupational scoring keys for Strong's Test for measuring interest in occupations requiring lower levels of ability, than the occupations for which Strong has prepared scoring keys, would make the test much more valuable to personnel workers.

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TYPIST: Ruby J. Kilgore