

**STUDIES IN PERSONALITY II**

**A THESIS**

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THE REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE**

**BY**

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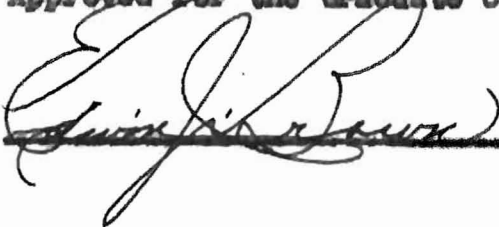
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## INTRODUCTION

Purpose. Personality is one of the fields of psychology which has, for the past few years, received a great amount of study. It is a field in which the educator is vitally concerned, for if education is to meet the needs of the individual child, it must help him to develop a well-adjusted personality.

Because the field of personality is very broad in scope, it is impossible to cover all of its phases in a single study. The present investigation is limited to determining, for high school students, the intercorrelations between introversion-extroversion, ascendance-submission, neurotic tendency, socio-economic status, I. Q., and height and weight. By this procedure, it will be possible to determine the relationship of each of these seven variables to every one of the other six.

## HISTORICAL SUMMARY

Tests. The subject of personality testing has probably received more attention during the last ten years than in all the previous years. Many investigators have dealt with the construction and improvement of tests and rating scales. Others have dealt with the interrelation between different personality traits measured by tests. Physiological variables, to some extent, have been correlated with personality traits. Some systematic studies of environmental factors that may be significant in the development of personality are being studied. The practical application of personality studies is still limited, but certain uses in vocational guidance are already indicated.

The concept of introversion-extroversion was first formulated by Jung. He states:

In human psychology there exists typical group distinctions apart from individual differences. These types are especially clear.<sup>1</sup>

These he terms introversion-extroversion.

In the field of introversion-extroversion, the questionnaire has been the instrument for measuring the

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<sup>1</sup> C. A. Meymann and Kenneth D. Kehlstedt, "A New Diagnostic Deal for Introversion-Extroversion." Journal of Abnormal and Social Psychology, Vol. 23 (January-March, 1929), p. 482.



degree of I. or E.<sup>2</sup> The following summaries cover the principal tests, numbering about nine, in this field.

Laird revised section G-1 of the original Colgate Personal Inventory, which dealt with I. E. It is known as the G-2 Form in the revised series of the Colgate Personal Inventory.

Freyd,<sup>3</sup> in his study of types, was deeply impressed with the social implications of introversion-extroversion. After extended quotations from various authorities, he offers a list of fifty-four behavior traits, chiefly social in nature, which he considers earmarks of introversion or extroversion. Freyd raises the question of the validity of the concepts, and suggests the possibility that they represent forms of contrasting behavior patterns in which social adjustment is the most prominent factor. He believes that introversion and extroversion are merely the extreme points on a normal distribution of social adjustment trends.

Heidbreder<sup>4</sup> devised a rating scale for I. E., using

<sup>2</sup> From time to time, the writer will use abbreviations, as follows: I. E. for introversion-extroversion, A-S for the A-S Reaction Study, P. S. for the Personality Schedule, and S. E. for the Sims Score Card for Socio-Economic Status, Form C.

<sup>3</sup> Raymond Alfred Schwegler, "A Study of Introvert-Extrovert Responses to Certain Test Situations." Contributions to Education, No. 361 (New York: Teachers College, Columbia University, 1929), p. 2.

<sup>4</sup> Edna Heidbreder, "Measuring I-E." Journal of Abnormal and Social Psychology, Vol. 21 (1926), pp. 120-124.

Freyd's list as a basis. Nine hundred students at the University of Minnesota rated themselves and asked two other students to rate them. The results of two hundred cases taken as a random sampling were compiled and treated statistically. The norm, -11.85, showed that the average college student is slightly extroverted.

Marston<sup>5</sup> made an experimental study of I. E. of children from two to six years of age in the Iowa Child Welfare Research Station at the University of Iowa. He found three types; introvert, extrovert, and ambivert.

Conklin<sup>6</sup> has also devised an interest questionnaire, designed to test introvert and extrovert differences. Forty activities are listed, such as playing baseball, hearing a lecture or classical music, talking with friends about hunting, and so forth. Twenty of these activities have been determined to be significant of introversion tendencies, and twenty indicate extroversion tendencies. Each activity is tested on a nine-point scale. The test is scored by obtaining the ratio of the sum of the reactions to the extrovert items to the sum of the reactions to the introvert items.

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<sup>5</sup> Raymond Alfred Schwegler, loc. cit.

<sup>6</sup> P. M. Symonds, Diagnosing Personality and Conduct (New York: The Century Company, 1951), p. 200.

Bernreuter<sup>7</sup> constructed a test called the Personality Inventory, which is designed to test the following traits: Neurotic Tendency, (B1N); Ascendance-Submission, (B2S); Introversiion-Extroversiion, (B3I); and Self-Sufficiency, (B4D). Bernreuter<sup>8</sup> states:

In general, the method by which the test was constructed was to gather items to which responses could be readily made, to determine the diagnostic value of each item for each trait by comparing the responses made by groups of subjects composed of individuals who were extreme deviates in one of the traits, and to use these diagnostic values in making a separate scoring key for each trait.

The Northwestern University Test<sup>9</sup> is the longest questionnaire yet prepared and was validated according to its differentiation of two psychotic groups. Gilliland and Morgan give .50 and .37 as coefficients of reliability.

Guilford and Guilford<sup>10</sup> have just recently completed a test prepared after a thorough survey of the literature on the subject, and the test is now in use. They claim a self-correlation, based on the scores obtained from two applications of the test, of .81.

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<sup>7</sup> Robert G. Bernreuter, "The Theory and Construction of the Personality Inventory." Journal of Social Psychology, Vol. 4 (Nov., 1933), pp. 387-404.

<sup>8</sup> Ibid., p. 389.

<sup>9</sup> A. R. Gilliland and J. J. B. Morgan, "An Objective Measure of Introversiion-Extroversiion." Journal of Abnormal and Social Psychology, Vol. 26 (1931), pp. 298-303.

<sup>10</sup> J. P. Guilford and Ruth B. Guilford, "Analysis of the Factors in a Typical Test of Introversiion-Extroversiion." Journal of Abnormal and Social Psychology, Vol. 28 (1934), pp. 377-399.

Gilliland<sup>11</sup> gives, in Table I, a brief summary of the principal introversion-extroversion tests.

TABLE I  
SUMMARY OF PRINCIPAL I. E. TESTS

| Name of author or of test | Number of questions or items | Reported reliability | Approximate time required for test |
|---------------------------|------------------------------|----------------------|------------------------------------|
| Laird C-2                 | 48                           | .79 to .85           | 15-20 min.                         |
| Freyd                     | 54                           | --                   | --                                 |
| Heidbreder                | 54                           | .40 to .55           | 30 min.                            |
| Genklin                   | 40                           | .92                  | 20-30 min.                         |
| Marston                   | 30                           | .83 to .98           | 15 min.                            |
| Neymann-Kohlstedt         | 50                           | --                   | 12-15 min.                         |
| Bernreuter                | 125                          | .85 to .89           | 20-25 min.                         |
| Guilford                  | 36                           | .87                  | --                                 |
| Northwestern University   | 120                          | .87                  | 20 min.                            |

Read table thus: The Laird C-2 test has 48 questions. It yields a coefficient of reliability of .79 to .85. The time required for administering the test is 15 to 20 minutes. The data for the other tests may be interpreted in a similar manner.

Many investigators have made use of the different personality tests to see what relation, if any, there is

<sup>11</sup> A. R. Gilliland, "What Do Introversion-Extroversion Tests Measure?" Journal of Abnormal and Social Psychology, Vol. 28 (January-March, 1934), pp. 407-412.

between I. E. and various other characteristics. Guilford<sup>12</sup> has briefly summarized data concerning the correlation of various characteristics with I. E.

Studies in personality. Recently a great many investigations have been conducted to determine the relationship of personality traits to physical measures and general intelligence. Some of the most outstanding studies are summarized here.

Nagge<sup>13</sup> administered the Heymann-Kohlstedt test for introversion-extroversion to a group of physically handicapped children and to a group of normal children. The mean I. E. score for the handicapped group was +1.26; for the normal group, the mean was .09. The fact that there was no reliable difference in the mean I. E. scores indicates that physical handicaps have little effect upon introversion-extroversion tendencies of children.

As an indication of the sex differences which exist in personality, Stagner<sup>14</sup> offers, in tabular form, the

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<sup>12</sup> J. P. Guilford, "Introversion-Extroversion." Psychological Bulletin, Vol. 31 (May, 1934), pp. 331-354.

<sup>13</sup> Joseph W. Nagge and R. H. Saylor, "Physical Deficiency and E-I." Journal of Social Psychology, Vol. 4 (May, 1935), p. 239.

<sup>14</sup> Ross Stagner, "Differential Factor in the Testing of Personality, Part I, Sex Differences." Journal of Social Psychology, Vol. 3 (1932), pp. 477-482.

results of tests of about 175 students in Gustavus Adolphus College. From Table II, it appears that, while sex differences in personality may exist, they are, in general, not statistically reliable.

TABLE II  
SEX DIFFERENCES IN PERSONALITY

| Test              | Sex | Number of cases | Mean  |
|-------------------|-----|-----------------|-------|
| Allport           | M   | 52              | -.05  |
|                   | F   | 42              | -1.09 |
| Laird C-2         | M   | 84              | 15.35 |
|                   | F   | 91              | 16.47 |
| Neymann-Kohlstedt | M   | 80              | 5.39  |
|                   | F   | 92              | 1.19  |
| Thurstone         | M   | 66              | 42.13 |
|                   | F   | 83              | 58.05 |

Read table thus: 52 males taking the Allport test made a mean score of  $-.05$ , and 42 females taking the same test made a mean score of  $-1.09$ . The data for the other tests may be interpreted in a similar manner.

TABLE III<sup>15</sup>

## SEX DIFFERENCES IN PERSONALITY

| Test      | Sex | Number of cases | Mean  |
|-----------|-----|-----------------|-------|
| Allport   | M   | 108             | -002  |
|           | F   | 102             | -860  |
| Laird C 2 | M   | 473             | 15.42 |
|           | F   | 584             | 16.31 |
| Thurstone | M   | 72              | 37.46 |
|           | F   | 489             | 45.88 |

Table III contains the data of Table II plus the data of other investigators. It shows only one difference which meets the criterion of statistical reliability. This is the Thurstone Personality Schedule.

Stagner ventures, in light of his data, to sum up the question of sex differences for these tests as follows:

A true sex difference for Thurstone personality schedule. Probability is rather high for a true sex difference in Neymann-Kohlstedt test for introversion-extroversion. Doubtful if sex difference exists in Laird C 2 test. Improbable that sex difference exists in A-S test.<sup>16</sup>

He also believes that sex difference is due to training.

Stagner,<sup>17</sup> in other tables, shows the results of

<sup>15</sup> Ross Stagner, op. cit., p. 479.

<sup>16</sup> Ross Stagner, loc. cit.

<sup>17</sup> Ross Stagner, "Differential Factor in Testing Personality, Part II, Differences in Maturity." Journal of Social Psychology, Vol. 3 (1932), pp. 482-487.

certain tests in relation to age and classification in school. Table IV shows, in general, that the effect of age is not clear-cut. The tendency here is to show older students more extroverted, and this tendency is confirmed by the Laird test. There is some evidence which tends to indicate that, in so far as adjustment is measured by the Thurstone Personality Schedule, older students are better adjusted than are younger ones.

TABLE IV

## AGE DIFFERENCES BY GROUPS

(Group I: age 17-19; Group II: age 21-30)

| Test              | Group | Number of cases | Mean  |
|-------------------|-------|-----------------|-------|
| Allport           | I     | 84              | -.81  |
|                   | II    | 62              | -.54  |
| Laird             | I     | 63              | 17.19 |
|                   | II    | 50              | 15.98 |
| Neymann-Kohlstedt | I     | 66              | -.24  |
|                   | II    | 49              | + 6.7 |
| Thurstone         | I     | 92              | 54.08 |
|                   | II    | 85              | 49.00 |

Read table thus: 84 students, age 17 to 19, taking the Allport test, made a mean score of  $-.81$ , while 62 students, age 21 to 30, made a mean score of  $-.54$ . The data for the other groups may be interpreted in the same manner.

Table V<sup>18</sup> shows correlations between test scores

<sup>18</sup> Ross Stagner, op. cit., p. 482.



TABLE V  
CORRELATION OF TEST SCORES WITH CHRONOLOGICAL AGE

| Test              | r      | N   |
|-------------------|--------|-----|
| Allport           | + .093 | 84  |
| Laird C-2         | - .081 | 156 |
| Neymann-Kohlstedt | + .230 | 155 |
| Thurstone         | - .091 | 153 |

Read table thus: For the 84 students who took the Allport test, the correlation coefficient between age and test score was + .093. The data for the other tests may be interpreted in the same manner.

and chronological age, which tend to confirm the data in Table IV. Briefly, the age differences indicate (1) that extroversion probably increases with age up to a certain point and then may decrease; and (2) that neurotic traits apparently diminish with age, although the difference may be due to greater frankness on the part of the younger subjects.

Stagner concludes that: (a) maturity is a factor in the determination of scores of some personality tests, especially in the case of extroversion and of neurotic temperament; (b) it is indicated that age is less important than education in the scores of a neurotic inventory; and (c) both factors are probably important in the determination of extroversion.

TABLE VI  
COMPARISON OF SCORES MADE BY SOPHOMORES,  
JUNIORS, AND SENIORS ON CERTAIN  
PERSONALITY TESTS

| Test              | Classification | Number of cases | Mean  |
|-------------------|----------------|-----------------|-------|
| Allport           | Soph.          | 70              | -.84  |
|                   | Jr.            | 16              | +.75  |
|                   | Sr.            | 6               |       |
| Laird             | Soph.          | 78              | -.50  |
|                   | Jr.            | 69              | 16.57 |
|                   | Sr.            | 24              | 15.24 |
| Neymann-Kohlstedt | Soph.          | 81              | +2.62 |
|                   | Jr.            | 67              | +0.15 |
|                   | Sr.            | 22              | +8.15 |
| Thurstone         | Soph.          | 65              | 57.94 |
|                   | Jr.            | 61              | 48.32 |
|                   | Sr.            | 22              | 45.86 |

Read table thus: 70 sophomore students taking the Allport test made a mean score of  $-.84$ ; 16 junior students taking the same test made a mean score of  $+.75$ ; and so forth.

Stagner,<sup>19</sup> in still another study, shows the interrelationships of tests (Table VII) which allegedly measure similar or related factors in personality, and (Table VIII) lists measures of central tendency and variability.

Table VII indicates that there is a fair tendency for the submissive individual to be introverted, but the

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<sup>19</sup> Ross Stagner, "Intercorrelations of Some Standardized Personality Tests." Journal of Applied Psychology, Vol. 16 (1932), pp. 453-464.

tendency is relatively slight. The introverts tend to be more submissive, more neurotic, and of higher general intelligence. Stagner points out that the correlations are, for the most part, low, and that the cases of higher relationship are usually those in which the tests contain identical elements.

TABLE VII

## SUMMARY OF INTERCORRELATIONS

(Number in parenthesis gives number of cases.)

|                      | A-S                    | C-E                     | N. K.                   | P. S.                  |
|----------------------|------------------------|-------------------------|-------------------------|------------------------|
| Laird                | -.255<br>±.066<br>(90) |                         |                         |                        |
| Neumann-Kohlstedt    | +.357<br>±.062<br>(90) | -.392<br>±.044<br>(167) |                         |                        |
| P. S.                | -.514<br>±.057<br>(75) | .530<br>±.049<br>(145)  | -.340<br>±.049<br>(147) |                        |
| General Intelligence |                        | .187<br>±.080<br>(66)   | -.107<br>±.084<br>(63)  | -.094<br>±.087<br>(59) |

Read table thus: For the 90 students taking the Laird and A-S tests, the correlation coefficient was  $-.255$ , with a P. E. of  $\pm .066$ ; and so forth.

Table VIII is inserted for the benefit of others who may use these tests and also as a basis for the writer to

make comparisons of his measures of central tendency, as shown in Table XII.

TABLE VIII<sup>20</sup>

MEASURES OF CENTRAL TENDENCY AND OF VARIABILITY  
OF SCORES ON CERTAIN PERSONALITY TESTS

| Test                 | Number of cases | Mean  | Median | Range   |
|----------------------|-----------------|-------|--------|---------|
| Allport              | 94              | +3.24 | +2.5   | -35 +53 |
| Laird C-2            | 175             | 15.95 | 16     | 4 -32   |
| Neymann-Kohlstedt    | 172             | +2.87 | +1.5   | -23 +33 |
| P. S.                | 149             | 51.9  | 47     | 5 -151  |
| General Intelligence | 68              | 45.45 | 40.5   | 1 -99   |

Read table thus: The 94 students who took the Allport test made a mean score of +3.24 and a median score of +2.5. The range of their scores was from -35 to +53. The data for the other tests may be interpreted in the same manner.

Schwegler,<sup>21</sup> in his study, used Marston's scale with six other items added for measuring I. E. He used McCall's Multi-Mental Scale, Elementary, Form 1, as a measure of intelligence. He found a bicerial  $r$  of  $-.339 \pm .054$  between intelligence and I. E.

<sup>20</sup> Ross Stagner, "Relation of Personality to Academic Aptitude and Achievement," Journal of Educational Research, Vol. 26 (May, 1935), pp. 648-660.

<sup>21</sup> R. A. Schwegler, op. cit., p. 36.

Keoh<sup>22</sup> found the correlation between I. E. and S. E. to be  $.10 \pm .038$ ; between I. E. and F. S.,  $.08 \pm .036$ ; between I. E. and I. Q. of high school students,  $.05 \pm .072$ .

Writers agree to a positive relation between ascendance and extroversion. Coefficients of correlation given by five writers<sup>23</sup> range from .13 to .51, nearly all of them being significant.

Bender<sup>24</sup> found, in his study, a correlation of  $-.05 \pm .034$  between A-S scores and height, and a coefficient of  $+.09 \pm .034$  between A-S scores and weight. Sheldon found a coefficient of  $+.133$  between aggressiveness and height and a coefficient of  $+.073$  between aggressiveness and weight. The correlation between A-S and intelligence was  $+.0008 \pm .049$ .

Jersild<sup>25</sup> found a correlation of .26 between A-S and general intelligence.

<sup>22</sup> Alfred E. Keoh, Studies in Personality I (unpublished thesis, Kansas State Teachers College, Emporia, Kansas, July, 1935), p. 13.

<sup>23</sup> J. P. Guilford, op. cit., p. 342.

<sup>24</sup> D. E. Bender, "Ascendance-Submission in Relation to Certain Other Factors in Personality." Journal of Abnormal and Social Psychology, Vol. 23 (1928), pp. 137-143.

<sup>25</sup> Arthur Jersild, "A Study of Personality." Journal of Abnormal and Social Psychology, Vol. 25 (July-September, 1930), p. 115.

Moore and Steele<sup>26</sup> found the correlation between P. S. and A-S. to be  $-.521$ . Broom,<sup>27</sup> in his study, found a correlation of  $-.012$  between A-S and intelligence. Moore<sup>28</sup> found the relation between P. S. and I. Q. to be  $+.077$ , while Thurstone gives it as  $+.037$ . Brooks<sup>29</sup> obtained the following correlation coefficients between mental age (determined by use of the McCall Multi-Mental Scale) and height: for boys,  $-.029$ ; for girls,  $.155$ . Between mental age and weight, the coefficients were  $-.108$  for boys and  $.099$  for girls. He also tested 51 boys and 98 girls with the Illinois and National Intelligence Tests. His correlations between the mental age secured by use of these tests, and height were  $.266$  for the boys and  $-.099$  for the girls. Between the mental ages and weight the coefficients were  $.127$  for the boys and  $-.030$  for the girls. Brooks submits Table IX for 385 freshman boys at John Hopkins, and Table X for 188 women of the State Normal School at Lawson, Maryland.

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<sup>26</sup> Herbert Moore and Isabel Steele, "Personality Tests." Journal of Abnormal and Social Psychology, Vol. 29 (1934), pp. 45-52.

<sup>27</sup> M. E. Broom, "A Study of a Test of A-S." Journal of Applied Psychology, Vol. 14 (1930), pp. 405-13.

<sup>28</sup> Moore and Steele, op. cit., p. 46.

<sup>29</sup> Fowler D. Brooks, "The Organization of Mental and Physical Traits During Adolescence." Journal of Applied Psychology, Vol. 12, pp. 228-241.

TABLE IX

CORRELATION BETWEEN MENTAL TEST SCORES, AND  
HEIGHT AND WEIGHT

(385 freshmen--men--at John Hopkins University.)

| Chronological age | Number of cases | Height | Weight |
|-------------------|-----------------|--------|--------|
| 16                | 25              | -.040  | -.041  |
| 17                | 107             | -.030  | .044   |
| 18                | 139             | .016   | -.052  |
| 19                | 77              | .008   | -.175  |
| 20                | 37              | .166   | .045   |

TABLE X

CORRELATION BETWEEN MENTAL TEST SCORES, AND  
HEIGHT AND WEIGHT

(188 women, Lawson, Maryland, State Normal School.)

| Chronological age | Number of cases | Height | Weight |
|-------------------|-----------------|--------|--------|
| 17                | 16              | .129   | -.099  |
| 18                | 53              | -.094  | -.001  |
| 19                | 82              | -.050  | .126   |
| 20                | 37              | .019   | -.315  |

Carter<sup>30</sup> correlated I. Q.'s on the Terman Group Test with sigma scores on the Personality Inventory Scale for a group of 148 junior and senior high school students. He found a mean I. Q. of 102.7. The correlation coefficients obtained between I. Q. and ranks on the various personality traits were as follows: introversion-extroversion,  $.05 \pm .055$ ; ascendance-submission,  $.10 \pm .054$ ; neurotic tendency,  $.04 \pm .055$ ; and self-sufficiency,  $.01 \pm .055$ . Koch<sup>31</sup> found the I. Q. of high school students to yield the following coefficients when correlated with certain personality measures: S. E.,  $.15 \pm .072$ ; I. E.,  $.05 \pm .055$ ; F. S.,  $-.03 \pm .073$ . Wrightstone<sup>32</sup> found that scores on the Sims Socio-Economic Scale, when correlated with scores on the Woodworth Personal Data Sheet, gave a coefficient of  $-.52 \pm .07$ ; that is, the better the socio-economic status, the better the emotional stability of the pupils. Chapin<sup>33</sup>

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<sup>30</sup> Harold D. Carter, "Twin-Similarities in Personal Traits." Pedagogical Seminary and Journal of Genetic Psychology, Vol. 18 (Dec., 1933), pp. 312-321.

<sup>31</sup> Alfred E. Koch, op. cit., p. 14.

<sup>32</sup> J. Wayne Wrightstone, "Validity of the Woodworth-Matthews Personal Data Sheet for Diagnosing Certain Personality Disorders." Journal of Educational Psychology (Jan., 1934), pp. 39-44.

<sup>33</sup> F. Stuart Chapin, "A Quantitative Scale for Rating the Home and Social Environment." American Journal of Sociology (Jan., 1932), p. 591.



correlated scores on his Scale for Rating Living Room Equipment with scores on the Sims Socio-Economic Scale, and received a coefficient of  $+ .69 \pm .03$ .

Pintner says:

There seems to be practically no correlation between height or weight and intelligence when C. A. is kept constant. The correlations are all low. Brecks, Murdock and Sullivan, and McHale found no difference in I. Q. or M. A. between comparable under, over, and normal-weight children. The correlations between height and weight ratios and intelligence are very low, if there is any correlation at all.<sup>34</sup>

Gates<sup>35</sup> attacked the problem of the interrelations of physical, mental, physiological, and social maturity in children from the fourth to the ninth grade in New York. His correlation between weight and height was .69. The correlation between mental age (Stanford-Binet) and height was .06; between M. A. and weight, .10.

Baldwin,<sup>36</sup> in his study of children from age 7 to 17, found a correlation between height and weight to be  $+ .809$  for boys and  $+ .603$  for girls.

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<sup>34</sup> Rudolph Pintner, Intelligence Testing Methods and Results (New York: Henry Holt and Company, 1931), p. 525.

<sup>35</sup> Arthur I. Gates, "The Nature and Educational Significance of Physical Status." Journal of Educational Psychology, Vol. 15 (1924), pp. 329-358.

<sup>36</sup> B. T. Baldwin, The Physical Growth of Children (Iowa City: University of Iowa), p. 118.

Naccarati,<sup>37</sup> in a group of 221 college students, reported a correlation of .04 between height and scores on the Thorndike Examination; between weight and scores on the Thorndike Examination the coefficient was -.18. Naccarati and Gurnzberg,<sup>38</sup> using the Thorndike Examination, correlated M. A. with weight and obtained a coefficient of -.02. Whipple<sup>39</sup> summarizes the information of many investigators who have studied height and weight in various connections as follows:

The correlation between height and weight will vary from .50 to .75 depending upon the size and age level of the group.

#### Description of Measuring Instruments Used

The measuring instruments used in this investigation are the Neymann-Kohlstedt Diagnostic Test for Introversion-Extroversion; the A-S Reaction Study; Thurstone's Personality Schedule; Sims Score Card for Socio-Economic Status, Form G; Terman Group Test of Mental Ability, Form A; and the height and weight of the students.

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<sup>37</sup> Henry E. Garret and M. R. Schneek, Psychological Tests, Methods, and Results (Harper and Brothers, 1933), p. 5.

<sup>38</sup> Ibid., p. 7.

<sup>39</sup> Ibid., p. 8.

Neymann-Kohlstedt<sup>40</sup> Diagnostic Test for Introversi-  
Extroversion. The authors, C. A. Neymann and K. D. Kohl-  
stedt, of Northwestern University, found the existing tests  
in the field of introversion-extroversion not suitable for  
certain experimental problems which they wished to under-  
take. In order to supply their needs, the authors, with  
the assistance of Dr. John J. B. Morgan, formulated the  
present test.

The test is of the yes-no, like-dislike type, based  
on Freyd's<sup>41</sup> list of introverted traits. In their manual,<sup>42</sup>  
the authors state:

Knowing full well that it was desirable to have  
a simple test which would have clinical and general  
significance, we determined upon more than one  
hundred statements which apparently had no implica-  
tion of right or wrong. Half of these were  
theoretically pleasing to the introvert while the  
others were theoretically pleasing to the extrovert.

It may be stated as a psychological fact that  
while introversion-extroversion is a normal  
character trait, certain types of insanity are  
typically introvertive, and others are typically  
extrovertive. Thus schizophrenia is recognized  
as a typically introvertive phenomenon while

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<sup>40</sup> C. A. Neymann and K. D. Kohlstedt, Manual for  
the Neymann-Kohlstedt Diagnostic Test for Introversi-  
Extroversion. (Chicago: C. H. Stovling Co., 1929).

<sup>41</sup> Max Freyd, "Introverts and Extroverts." Psy-  
chological Review, Vol. 31 (1924), pp. 74-87.

<sup>42</sup> C. A. Neymann and K. D. Kohlstedt, op. cit.,  
p. 1.

manic-depressive insanity is typical of the extrovertive group. These groups then offer the only reliable criterion against which the validity of any test of this type may be checked. Accordingly these questions were standardized by presenting them to one hundred typical schizophrenics and to one hundred typical manic-depressives. The responses of each patient to each question were then tabulated and the reliability index or "batting average" of each question was computed. The test was then boiled down to the fifty best questions which comprise the present test, no question being considered for inclusion unless it showed a reliability index of better than seventy-five per cent.

The test in its present form was then standardized on more than one thousand individuals consisting of the following groups: four hundred patients from state hospitals; three hundred patients from the Chicago Municipal Tuberculosis Sanitarium; two hundred and fifty college students; and one hundred and fifty teachers, professional men, business men, and salesmen. The total results secured followed the normal curve of distribution with surprising regularity.

The test is supposed to be of value to the personnel manager, when incorporated into his regular test battery, in picking men who are temperamentally suitable for the position desired; to the psychiatrist the test is supposed to be of value in differentiating between borderline cases of schizophrenia and manic-depressive insanity. The test should also prove helpful to the vocational counsellor of students and to the research worker for the measurement of introversion-extroversion.

The test is easy to administer. The time required to answer the fifty questions is about fifteen minutes. There is no implication of right or wrong in any of the statements, and the subject is asked to consider them

from the standpoint of personal like or dislike. If the subject likes the idea the statement expresses, he underlines "Yes." If he dislikes the idea, he underlines "No."

If the test is scored by an extroversion key, the so-called correct answers indicate extroversion. The so-called wrong answers are subtracted from the "right" responses to give the final score. An omission is counted neither "right" nor "wrong." An introvert should have a minus score and an extrovert, a plus score.

The A-S Reaction Study:<sup>43</sup> The Allports<sup>44</sup> state:

Some individuals from earliest childhood seem to be characteristically dominant when in face-to-face groups. Others seem to be characteristically submissive or yielding. By the time adolescence is past these traits frequently appear to be set to such a degree that a fair prediction may be made concerning a person's tendency to control, or be controlled by other people in social situations.

To the dominant individual, the term "ascendant" is applied; and to the submissive individual, the term "submissive" is assigned.

The A-S study presents a number of situations in which the subject must select one of a group of standardized responses which most nearly represent his behavior in that situation. A given individual will not choose

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<sup>43</sup> Gordon W. Allport, "A Test for Ascendance-Submission." Journal of Abnormal and Social Psychology, Vol. 23, p. 118.

<sup>44</sup> Ibid., p. 118.

consistently responses which show ascendance or submission, because most people show both types of behavior at different times under different situations. This study, however, endeavors to detect which type of reaction is the more characteristic.

In making the test, the Allports selected thirty-five situations typical of those one faces in ordinary life, gave several solutions indicating A or S to each situation, and asked four hundred students to check their most common type of reactions to the situations. Each student rated himself and was rated by four others on a 1-7 scale, 1 indicating the highest degree of ascendance and 7, the greatest amount of submission. The deviation of each raw score from the average of all scores was taken to indicate the numerical value of the test. This made a possible range of from -91 to 113. The test for men was then given to 720 men and the test for women, to one hundred twenty women. From the results, score values were arranged. A reliability of .737 to .78 has been claimed for the test.

There are two forms of the A-S Reaction Study, one for men and one for women. The study is self-administering and can be given in a group or individually. The time required for giving the test is about thirty minutes. The final score is the algebraic sum of the scores for the separate items. A plus denotes ascendance, while a minus denotes submission.

Thurstone Personality Schedule. The purpose of the Thurstone Personality Schedule<sup>45</sup> is to secure a numerical index of the neurotic tendency of the subject. It was compiled largely from other published lists, such as Woodworth's Psycho-neurotic Inventory, House's Monograph, Laird's list of questions, Freyd's list of introvert and extrovert traits, and Allport's Ascendence-Submission Test.

The following paragraphs, taken from the manual on the Personality Schedule, give briefly and concisely an excellent description of the test:

Since the purpose of the schedule is to obtain a single numerical index of the neurotic tendency of the subject, the answers are scored with this in mind. The scoring method was developed as follows. The authors first read each of the questions, indicating for each one the manner in which the neurotic person would be most likely to answer it. This was of course subject to error in that the first tentative scoring depended on the personal opinions of the authors about each question. But the tentative scoring has been checked by the criterion of internal consistency which will be described later. The doubtful questions and the informational questions were not included in the first tentative scoring.

The Personality Schedule was filled in by 694 University of Chicago Freshmen during Freshman Week in September, 1928, on the same day that they were given the Psychological Examination of the American Council of Education. The 694 schedules were first scored by counting the total number of neurotic answers in each schedule, as these were tentatively determined by the authors. The fifty most neurotic subjects (Group II) and

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<sup>45</sup> L. L. Thurstone and Thelma Gwinn Thurstone, Instructions for Using the Personality Schedule (Chicago: University of Chicago Press, 1930), p. 1.

the fifty least neurotic subjects (Group I) were selected by means of this tentative scoring. For each question we counted the number of neurotic answers in Group I and in Group II. Now, if the questions were properly scored, there should be a much larger number of neurotic answers in Group II than in Group I. There was only one inversion in 223 questions.

The total score on the Personality Schedule is the total number of unfavorable or maladjusted answers that the subject returns. A numerically higher score represents, therefore, an emotionally unstable personality which has many of the specific traits described by various writers as neurotic personality. The maximum possible score is of course 223, since that would be the score if every one of the questions were answered in the unfavorable way.

A number of doubtful questions were omitted from the first tentative scoring of the blanks. The retention or exclusion of a question was determined in each case by the ratio of the number of unfavorable answers in the group of fifty well-adjusted students (Group I) to the corresponding number in the group of fifty most neurotic students (Group II). This is an application of the criterion of internal consistency which the authors consider to be more essential in establishing the validity of the schedule than correlations with outside criteria. As a matter of fact no suitable outside criterion was available for the entire incoming Freshman class. Certainly scholarship grades constitute no index of neurotic personality; nor could intelligence ratings be used for this purpose. Teachers' estimates of neurotic personality would be useless even if they were available, because there is no common conception of what might be meant by neurotic personality. It is not even necessary for the authors to define it closely, because the present list of questions represents the effort of various authors to summarize in question form the principal characteristics of a neurotic personality as it has been described by numerous psychiatrists and psychologists.

The criterion of internal consistency as applied to the present schedule consists in the observation that all of the frequencies of maladjusted answers in Group II are considerably greater than the



frequencies for Group I. This proves that the manner in which the answers were scored for the total schedule was at least consistent. This criterion also proves that there is a common core of some kind throughout the questions that were retained, and since they were all written as a summary of textbook descriptions of neurotic personality we have good reason to believe that the trait which is indicated by the total score here is what would be generally understood as neurotic personality.

The variation in scores for the 1929 edition of the 682 University of Chicago Freshmen was from 1 to 114. The most unfavorable score of 114 represents a student who answered over half of the questions in the unfavorable manner. It may be significant that these schedules were filled in during Freshman Week, before the opening of the University in September. We are very doubtful whether so serious an attitude could be obtained with a class of Seniors. If the subjects should take the schedule as a joke or if they should be indifferent to the purposes of the schedule, the scores would be of little value except in individual cases. For this reason one should be very cautious in comparing the frequency distributions of scores for groups of subjects who have been given this schedule in different situations and on different occasions. It is doubtful whether comparisons can be made between Freshmen at different institutions unless the differences are fairly large and unless one can be pretty sure that the attitudes of the groups to be compared were similar.

The reliability of the total score has been estimated by the correlation of scores in parallel halves of the schedule. It so happened that on each of the four pages of the printed schedule there were two columns of questions. The total number of neurotic answers on the left columns of the four pages was compared with the total number of neurotic answers returned on the right columns of the schedule. The correlation between scores in these two parallel halves of the schedule was found to be +0.897, and the estimated reliability coefficient for the whole schedule is therefore 0.946, which is higher than one might expect for material of this sort. We conclude, therefore, that the reliability of the whole schedule of 223 questions is close to 0.95 and that if only half

of the schedule is used the reliability may be expected to be close to 0.90.<sup>46</sup>

Sims Score Card for Socio-Economic Status.<sup>47</sup> The Sims Score Card was developed by Verner M. Sims of the Louisiana Polytechnic Institute, Ruston, Louisiana, for the purpose of providing a simple, convenient, objective device for ascertaining and recording the general cultural, social, and economic background furnished by the homes of school children. The score card fills a need for a device that permits quantitative records and statistical comparisons.

The score card is intended for use with pupils in grades IV to XII, inclusive, and takes about twenty to twenty-five minutes to administer.

Percival M. Symonds,<sup>48</sup> in discussing the score card, states that Sims selected 56 questions for his original schedule, using the following criteria.

1. Each question must be indicative of the economic or cultural level of the home.
2. Each question must cover as many aspects of the home background as possible.
3. The question must be stated so that the child

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<sup>46</sup> Ibid., p. 3.

<sup>47</sup> Verner M. Sims, Manual of Directions for the Sims Score Card for Socio-Economic Status (Bloomington, Illinois: Public School Publishing Company, 1927).

<sup>48</sup> Percival M. Symonds, Diagnosing Personality and Conduct (New York: The Century Company, 1931), p. 550.

can understand it.

4. The questions must ask for information which the child is willing to furnish.
5. The questions must ask for information which the child can furnish.
6. The questions must be stated in such a manner that there will be a minimum chance of error.
7. The questions must allow of answers that can be comparable.

Of the original list of fifty-six questions that Sims gave, he found that some were answered "yes" by such a small percentage as to make them less valuable than other items. For this reason, he used the following criteria for making his scale.<sup>49</sup>

1. The ability and willingness of the person to furnish the information.
2. The correlation of a given item with the total of the other questions. Other things being equal, the higher the correlation, the more desirable the question.
4. The percentage of the population possessing the article or engaged in the activity asked about in the question. Other things being equal, it is desirable to have the questionnaire include as wide a representa-

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<sup>49</sup> Ibid., p. 550.

tion of items as possible; that is, include some items possessed by many, others by few; otherwise there would be a tendency for a large, undistributed group to form at one or the other extreme.

5. The reliability of the question.
6. The variety of aspects of home background recommended. Other things being equal, it is desirable to measure as many aspects of the complex as is possible. Where there are two or three questions pertaining to the same aspect, for example, two questions asking for information as to lectures, it is desirable to retain only the better one.
7. Common sense.

After applying the criteria to the questions answered in the original tryout, the author selected twenty-three items for the Sims Score Card for Socio-Economic Status, Form C.

Terman Group Test of Mental Ability, Form A. The Terman Group Test of Mental Ability is so familiar to all that the writer deems it unnecessary to say anything about it other than to mention that it was the test for "general intelligence" used in this study.

Height and Weight. Each fall and spring in the McPherson City Schools the boys' physical director and the

girls' physical director take the height and weight of all students. These records are filed in the superintendent's office. It was from these permanent records that the height and weight of the subjects used in the present study were obtained.

## PROCEDURE

As stated in the beginning, the purpose of the present study was to find the interrelation of introversion-extroversion, ascendance-submission, neurotic tendency, socio-economic status, height, weight, and general intelligence. The subjects used in the study were 273 students, 111 boys and 159 girls, of the McPherson Senior High School.

The four previously described personality measures--The Neymann-Kohlstedt Diagnostic Test of Introversion-Extroversion; the A-S Reaction Study, Thurstone's Personality Schedule; and the Sims Score Card for Socio-Economic Status, Form C--were administered by regular classroom teachers and the writer in the spring of 1933. Samples of these tests are included in the appendix.

Special instructions were given teachers to follow directions as laid down by the authors of the tests. Each student was asked to co-operate in this study and to answer questions to the best of his ability. The tests were efficiently scored by the measurements class, under the direction of Dr. B. E. Tomlinson.

The height and weight, as previously mentioned, is taken each spring and fall by the boys' and the girls' physical directors. It was from the 1933 spring record that the height and weight of the subjects was secured.

The intelligence rating of the subjects is given in I. Q.'s obtained from results by testing with the Terman

**Group Test of Mental Ability, Form A.**

All the scores on the above characteristics were then intercorrelated, and the mean of all characteristics was calculated. Also, the mean of the upper and lower ten per cent of each measure was calculated. The correlations and means of the measures were computed by use of the Otis Correlation Chart.

## RESULTS AND DISCUSSION

The intercorrelations of the measures used in this study--S. E., I. E., A-S, P. S., I. Q., height, and weight--are summarized in Table XI. From this table it can be seen that, for the most part, the correlations are low. Only ten of the twenty-one coefficients are more than four times their P. E.'s, and only six of these are higher than .25. These six are between: S. E. and I. E.,  $.425 \pm .032$ ; S. E. and A. S.,  $.306 \pm .036$ ; S. E. and I. Q.,  $.345 \pm .035$ ; S. E. and height,  $.260 \pm .037$ ; I. E. and I. Q.,  $-.333 \pm .036$ ; and height and weight,  $.644 \pm .023$ . It is significant that four of these six highest coefficients involve socio-economic status. Of the other two, one, that between I. E. and I. Q., is negative; and the other, that between height and weight, would, rather obviously, be expected to be high. The four coefficients which are below .25 but statistically significant (at least four times their P. E.'s) are between S. E. and P. S. (negative), A. S. and P. S. (negative), A. S. and I. Q., and I. Q. and weight (negative). All of the coefficients involving weight, except that between height and weight, are negative. Four of the six correlations involving I. Q. are negative.

In summary, it may be stated that: extroverts tend to have a better socio-economic status, be more ascendant, and have a lower I. Q. than do introverts; the submissive



TABLE XI

INTERCORRELATION OF SOCIO-ECONOMIC STATUS, INTROVERSION-EXTROVERSION, ASCENDANCE-SUBMISSION, PERSONALITY SCHEDULE, INTELLIGENCE QUOTIENT, HEIGHT, AND WEIGHT

|        | I. E.         | A. S.         | P. S.         | I. Q.          | Weight         | Height        |
|--------|---------------|---------------|---------------|----------------|----------------|---------------|
| S. E.  | .423<br>±.032 | .306<br>±.036 | -.18<br>±.033 | .345<br>±.035  | -.051<br>±.04  | .260<br>±.037 |
| I. E.  |               | .134<br>±.039 | -.057<br>±.04 | -.333<br>±.036 | -.096<br>±.04  | .026<br>±.04  |
| A. S.  |               |               | -.18<br>±.033 | .217<br>±.037  | -.066<br>±.04  | .051<br>±.04  |
| P. S.  |               |               |               | -.012<br>±.04  | +.123<br>±.04  | -.112<br>±.04 |
| I. Q.  |               |               |               |                | -.174<br>±.039 | .026<br>±.04  |
| Weight |               |               |               |                |                | .644<br>±.023 |

Read table thus: the correlation between I. E. and S. E. is .423, with a P. E. of .032; the correlation between A. S. and S. E. is .306, with a P. E. of .036; the correlation between A. S. and I. E. is .134, with a P. E. of .039; and so on through the table.

individual tends to have a slightly lower socio-economic status and a lower I. Q. than does the ascendant; the student with the higher socio-economic status tends to have a higher I. Q. Weight is in direct proportion to height.

If one tries to compare correlations of this study with correlations of other studies, it must be kept in mind that the subjects in the present study are high school students, while most of the studies made so far in personality have been made with college students or other adults. In fact, most of the studies have been standardized with college students as subjects. The tests used in this study are not necessarily the same tests as were used in similar studies, even though they do purport to measure the same traits. For instance, at least eight different tests have been used to measure introversion-extroversion.

With the foregoing data in mind, the writer finds that the correlations are in line with other investigations.

A study of this nature would not be complete unless some mention were made of the means of the measures. The purpose of Table XII is to furnish a basis for the comparison of the means of the measures of this study with the means obtained in similar studies, and to allow comparisons of the means of the upper and lower ten per cent of each measure with the means of the scores made by the same groups on each of the other traits. (Reference to this latter will be made in connection with Tables XIII and XIV.)

TABLE XII

MEANS OF THE TOTAL DISTRIBUTIONS FOR EACH MEASURE AND MEANS OF THE UPPER AND LOWER TEN PER CENT ON EACH MEASURE

|                            | S. E. | I. E. | A. S. | F. S. | I. Q. | Weight | Height |
|----------------------------|-------|-------|-------|-------|-------|--------|--------|
| Mean of Total Distribution | 16.45 | +2.81 | +4.9  | 62.2  | 105.3 | 124.4  | 65.2"  |
| Mean of Upper 10%          | 26.7  | +20.3 | +32.4 | 118   | 124.2 | 165    | 71.7   |
| Mean of Lower 10%          | 9.7   | -13.5 | -29.3 | 21.5  | 82.8  | 93.5   | 60.5   |

Read table thus: The mean on S. E. is 16.45; the mean of the upper ten per cent on S. E. is 26.7, and of the lower ten per cent, 9.7; and so on through the table.

The means of measures in this study, when compared with the means of other studies, show that high school students: (a) have a better socio-economic status (16.4) than the average, as shown by the median found by Sims (1); (b) are above average in I. Q.; (c) compare favorably with other investigators in I. E. and A-S, as shown in the historical summary; and (d) are more neurotic than college students, as shown by other investigations cited in the historical summary.

The means of the upper and lower ten per cent of each measure were compared with the average as shown in Table XII. (See Tables XIII and XIV for mean of upper and lower ten per cent of measures in relation to other traits.) In this comparison the characteristics revealed are as follows:

The upper ten per cent in Socio-Economic Status, when compared with the average, are more extroverted, more ascendant, more stable, lighter, and shorter, and have a higher I. Q.

The lower ten per cent in Socio-Economic Status, compared with the average, are less extroverted, more submissive, less stable, lighter, and shorter, and have a lower I. Q.

The upper ten per cent in Introversiion-Extroversiion, compared with the average, have a higher S. E. and a higher I. Q., and are more ascendant, more stable, and lighter. They are average in height.

TABLE XIII

MEAN SCORES WHICH THE UPPER TEN PER CENT  
ON EACH TRAIT MAKE ON EACH OTHER TRAIT

| Upper<br>10% | S. E. | I. E. | A. S. | P. S. | I. Q. | Weight<br>in Lb. | Height<br>in In. |
|--------------|-------|-------|-------|-------|-------|------------------|------------------|
| S. E.        | 26.7  | +4.3  | +12.4 | 53.9  | 116.6 | 120.7            | 64.7             |
| I. E.        | 17.5  | +20.3 | +6.6  | 55.5  | 107.2 | 122.5            | 65.3             |
| A. S.        | 21.5  | +5.07 | +32.4 | 46.9  | 114.4 | 123.3            | 65.6             |
| P. S.        | 16.0  | +1.3  | -1.7  | 112.0 | 107.4 | 118.0            | 65.0             |
| I. Q.        | 21.5  | +4.7  | +7.0  | 61.9  | 124.2 | 125.5            | 67.2             |
| Weight       | 16.3  | -.03  | -5.8  | 58.3  | 101.0 | 165.0            | 69.4             |
| Height       | 17.3  | +1.4  | -4.0  | 46.6  | 107.1 | 153.5            | 71.7             |

Read table thus: The mean of the upper ten per cent on S. E. is 26.7. The upper ten per cent on S. E. have a mean of +4.3 in I. E., a mean of +12.4 in A. S., a mean of 53.9 in P. S., a mean I. Q. of 116.6, a mean weight of 120.7 lb., and a mean height of 64.7 inches. The data for the other measures may be interpreted in the same manner.

TABLE XIV

MEAN SCORES WHICH THE LOWER TEN PER CENT ON EACH TRAIT MAKE ON EACH OTHER TRAIT

| Lower 10% | S. E. | I. E. | A. S. | P. S. | I. Q. | Weight | Height |
|-----------|-------|-------|-------|-------|-------|--------|--------|
| S. E.     | 9.7   | +1.0  | -3.5  | 73.5  | 102.2 | 119.6  | 63.7   |
| I. E.     | 15.7  | +13.5 | -6.0  | 68.2  | 106.1 | 127.5  | 65.2   |
| A. S.     | 14.1  | -1.5  | -29.5 | 68.3  | 104.6 | 128.6  | 66.9   |
| P. S.     | 19.5  | +3.5  | +7.1  | 21.5  | 107.1 | 150.3  | 67.0   |
| I. Q.     | 15.0  | +2.7  | -5.0  | 63.7  | 82.8  | 123.5  | 65.9   |
| Weight    | 16.2  | +3.2  | -.07  | 71.8  | 109.1 | 93.5   | 62.1   |
| Height    | 15.3  | +.6   | -1.0  | 71.0  | 102.2 | 111.5  | 60.5   |

Read table thus: The mean of the lower ten per cent on S. E. is 9.7; the mean score for the lower ten per cent on S. E. is +1 in I. E., -3.5 in A-S, and 73.5 in P. S. This same group has a mean I. Q. of 102.2, a mean weight of 119.6 pounds, and a mean height of 63.7 inches. The data for the other measures may be interpreted in the same manner.

The lower ten per cent in Introversiön-Extroversiön, compared with the average, have a lower S. E., are more submissive, are not so stable, have a lower I. Q., are heavier, and are average in height.

The upper ten per cent in Ascendance-Submission, in comparison with the average, have a higher S. E., are more extroverted, are more stable, have a higher I. Q., are a trifle lower in weight, and are slightly taller.

The lower ten per cent in Ascendance-Submission have a lower S. E., are slightly introverted, are not so stable, have a trifle lower I. Q., are heavier, and are taller than the average.

The upper ten per cent according to Thurstone's Personality Schedule, when compared with the average, are average in S. E., are less extroverted and more submissive, have a higher I. Q., and are lighter and shorter.

The lower ten per cent according to the Personality Schedule, compared with the average, are higher in S. E., have an average I. E., are more ascendant, have a higher I. Q., and are heavier and taller.

The upper ten per cent according to I. Q., compared with the average, are higher in S. E., more extroverted, more ascendant, more stable, average in weight, and taller.

The lower ten per cent according to I. Q., compared with the average, have a lower S. E., are average in I. E., are more submissive, are of average stability, and are

heavier and taller.

The upper ten per cent in weight, compared with the average, are average in S. E., are slightly introverted, are more submissive, are more stable, have a lower I. Q., and are taller.

The lower ten per cent in weight, compared with the average, are average in S. E., are average in I. E., are more submissive, are less stable, have a higher I. Q., and are shorter.

The upper ten per cent in height, compared with the average, are higher in S. E., are less extroverted, are more submissive, are more stable, have a higher I. Q., and are heavier.

The lower ten per cent in height, compared with the average, have a lower S. E., are less extroverted, are more submissive, are less stable, have a lower I. Q., and are lighter.

No attempt will be made to summarize this section about means, for it in itself is a brief summary of the interrelation of the means. However, it should be noted that the scores on the Personality Schedule are much higher than those found by Thurstone and others. This may be due to various reasons, among which are the fact that the personality schedule was standardized primarily for use with college students. The high school students may be more backward in committing themselves on certain questions; consequently they



leave a number of questions not checked, which the graders counted as wrong; or, as Stagner pointed out, the younger students may be more frank.

## SUMMARY AND CONCLUSIONS

This study was undertaken for the purpose of determining, for high school students, the interrelationships between introversion-extroversion, ascendance-submission, neurotic tendency, socio-economic status, I. Q., and height and weight. The general method employed was that of correlation. The results seem to warrant the following conclusions:

There is a definite relation between socio-economic status and introversion-extroversion, intelligence, and ascendance-submission.

There is a definite negative relation between introversion-extroversion and intelligence.

There is a positive correlation between ascendance and intelligence.

There is a positive tendency for greater height to accompany a relatively high socio-economic status.

There is a high correlation between height and weight.

The relation of the personality schedule to all measures is negative and either low or negligible.

The upper ten per cent in socio-economic status are slightly extroverted, more ascendant, more stable, higher in intelligence, and about average in weight and height.

The lower ten per cent in socio-economic status are slightly extroverted, submissive, more neurotic, lower in I. Q., and below average in weight and height.

The extroverts are slightly higher in socio-economic status, more ascendant, more stable, average in I. Q., and above average in weight and height.

The introverts are slightly lower in socio-economic status, submissive, more neurotic than the average, and above average in weight and height.

The ascendant students are much higher in socio-economic status, more extroverted, very stable, higher in I. Q., and about average in height and weight.

The submissive students are lower in socio-economic status, slightly introverted, more neurotic than average, lower than average in I. Q., and slightly above average in weight and height.

The most neurotic students are above average in socio-economic status, slightly extroverted, slightly submissive, average in I. Q., below average in weight, and about average in height.

The most stable are higher in socio-economic status, extroverted, ascendant, average in I. Q., and above average in weight and height.

Students with the higher I. Q.'s are extroverted, ascendant, stable, higher in socio-economic status, slightly above average in height, and above average in weight.

Students with the lowest I. Q. are slightly extroverted, submissive, stable, below average in socio-economic status, and about average in height and weight.

The heaviest students are slightly introverted, submissive, stable, below average in I. Q., average in socio-economic status, and above average in height.

The lightest students are extroverted, slightly submissive, more neurotic, average in socio-economic status, below average in height, and above average in I. Q.

The tallest students are slightly extroverted; submissive; very stable; and above average in socio-economic status, weight, and I. Q.

The shortest students are slightly extroverted, submissive, below average in socio-economic status, more neurotic, and lower than average in I. Q. and weight.

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## APPENDIX

Tables XV, XVI, XVII, and XVIII show the number of pupils in the McPherson High School who took the tests used in this study, and the distribution of scores made on each test. The tables are included also for the benefit of others who may make similar studies and wish to make a comparison of the frequency of scores.



**TABLE XV**  
**DISTRIBUTIONS OF SCORES ON THE**  
**ASCENDANCE-SUBMISSION TEST AND ON**  
**WEIGHT (POUNDS)**

| Ascendance-Submission |           | Weight (Pounds) |           |
|-----------------------|-----------|-----------------|-----------|
| Interval              | Frequency | Interval        | Frequency |
| +50 - 59              | 2         | 180 - 189       | 1         |
| +40 - 49              | 4         | 170 - 179       | 3         |
| +30 - 39              | 10        | 160 - 169       | 7         |
| +20 - 29              | 13        | 150 - 159       | 19        |
| +10 - 19              | 43        | 140 - 149       | 30        |
| 0 - 9                 | 70        | 130 - 139       | 35        |
| -10 - 1               | 58        | 120 - 129       | 48        |
| -20 - 11              | 41        | 110 - 119       | 45        |
| -30 - 21              | 19        | 100 - 109       | 49        |
| -40 - 31              | 9         | 90 - 99         | 24        |
| -50 - 41              | 1         | 80 - 89         | 4         |
| Number of Cases       | 270       | Number of Cases | 270       |

Read table thus: Of the 270 persons used as subjects for the study, two made scores of +50 to +59 on the A-S test; one student weighed 180 to 189 pounds; and so forth.

TABLE XVI

DISTRIBUTIONS OF SCORES ON THE PERSONALITY SCHEDULE,  
AND OF INTELLIGENCE QUOTIENTS

| Personality Schedule |           | Intelligence Quotients |           |
|----------------------|-----------|------------------------|-----------|
| Interval             | Frequency | Interval               | Frequency |
| 160 - 169            | 1         | 145 - 149              | 1         |
| 150 - 159            | 1         | 140 - 144              | -         |
| 140 - 149            | 2         | 135 - 139              | 2         |
| 130 - 139            | 2         | 130 - 134              | 6         |
| 120 - 129            | 2         | 125 - 129              | 8         |
| 110 - 119            | 9         | 120 - 124              | 14        |
| 100 - 109            | 9         | 115 - 119              | 32        |
| 90 - 99              | 20        | 110 - 114              | 39        |
| 80 - 89              | 17        | 105 - 109              | 34        |
| 70 - 79              | 32        | 100 - 104              | 39        |
| 60 - 69              | 40        | 95 - 99                | 45        |
| 50 - 59              | 36        | 90 - 94                | 20        |
| 40 - 49              | 36        | 85 - 89                | 19        |
| 30 - 39              | 37        | 80 - 84                | 8         |
| 20 - 29              | 15        | 75 - 79                | 3         |
| 10 - 19              | 11        | 70 - 74                | 2         |
| Number of<br>Cases   | 270       | Number of<br>Cases     | 270       |

Read table thus: One person, on the Personality Schedule, made a score from 160 to 169; one person had an intelligence quotient of 145 to 149; and so forth.

TABLE XVII

DISTRIBUTIONS OF SCORES ON THE  
INTROVERSION-EXTROVERSION SCALE  
AND THE SOCIO-ECONOMIC SCALE

| Introversion-Extroversion |           | Socio-Economic  |           |
|---------------------------|-----------|-----------------|-----------|
| Interval                  | Frequency | Interval        | Frequency |
| +45 - 49                  | 1         | 30 - 31         | 6         |
| +40 - 44                  | -         | 28 - 29         | 5         |
| +35 - 39                  | -         | 26 - 27         | 8         |
| +30 - 34                  | 3         | 24 - 25         | 10        |
| +25 - 29                  | 1         | 22 - 23         | 19        |
| +20 - 24                  | 6         | 20 - 21         | 32        |
| +15 - 19                  | 13        | 18 - 19         | 37        |
| +10 - 14                  | 31        | 16 - 17         | 46        |
| +5 - 9                    | 53        | 14 - 15         | 50        |
| 0 - 4                     | 56        | 12 - 13         | 41        |
| -5 - 1                    | 53        | 10 - 11         | 29        |
| -10 - 6                   | 30        | 8 - 9           | 7         |
| -15 - 11                  | 13        | 6 - 7           | 2         |
| -20 - 16                  | 9         |                 |           |
| -25 - 21                  | 1         |                 |           |
| Number of Cases           | 270       | Number of Cases | 270       |

Read table thus: Of the 270 students taking the tests, three made scores of +30 to +34 on the Introversion-Extroversion test; twenty-nine made scores from 10 to 11 on the Socio-Economic test; and so forth.

**TABLE XVIII**  
**DISTRIBUTION OF SCORES ON HEIGHT**  
**(INCHES)**

| Height (Inches)        |            |
|------------------------|------------|
| Interval               | Frequency  |
| 75                     | 1          |
| 74                     | 2          |
| 73                     | 5          |
| 72                     | 3          |
| 71                     | 6          |
| 70                     | 12         |
| 69                     | 25         |
| 68                     | 22         |
| 67                     | 15         |
| 66                     | 31         |
| 65                     | 23         |
| 64                     | 34         |
| 63                     | 32         |
| 62                     | 29         |
| 61                     | 17         |
| 60                     | 11         |
| 59                     | 2          |
| 58                     | 2          |
| <b>Number of Cases</b> | <b>270</b> |

Read table thus: One student measured 75 inches in height, and so forth.

Sims Score Card  
Form C



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### SIMS SCORE CARD FOR SOCIO-ECONOMIC STATUS Form C

Score.....

1. Name.....
2. Age..... Years and..... Months
3. Grade..... Date.....
4. Have you spent two years in any grade?..... If so, what grades?.....
5. Have you skipped any grades?..... If so, what grades?.....
6. Home address: City..... State.....
7. How many years have you lived in this town?.....
8. Have you attended schools in any other towns?..... If so, name them.....
9. Name of your School.....

Don't answer any of the questions below until you are told what to do.  
If you have brothers or sisters in this school, write their names and grades on these lines:

Name..... Grade.....

Name..... Grade.....

In the Following Questions Underline the Correct Answer:

- Are you a Boy? a Girl? (Underline correct answer)
- Are you living at home with your parents?..... Yes No
- Are you living in the home of someone else, such as a relative, adopted parent, guardian, etc.?..... Yes No
- Are you living in an institution, such as an orphan asylum or a home for children?..... Yes No

### Underline the Right Answer

1. Have you a telephone in your home?.....Yes No
2. Is your home heated by a furnace in the basement?.....Yes No
3. Do you have a bathroom that is used by your family  
alone?.....Yes No
4. Do you have a bank account in your own name?.....Yes No
5. Did your father go to college?.....Yes No
6. Did your mother go to college?.....Yes No
7. Did your father go to high school?.....Yes No
8. Did your mother go to high school?.....Yes No
9. Does your mother (or the lady of the home in which you  
live) regularly attend any lecture courses of which you  
know?.....Yes No
10. Do you have your own room in which to study?.....Yes No
11. Do you take private lessons in music?.....Yes No
12. Do you take private lessons in dancing?.....Yes No
13. Does your mother belong to any clubs or organizations  
of which you know?.....Yes No  
If you know of any, write the name of one of them on  
this line (.....)
14. Do you belong to any organizations or clubs where you  
have to pay dues?.....Yes No  
If you do, write the names of the organizations that you  
belong to on these lines (.....  
.....  
.....)
15. Does your family attend concerts?  
Never            Occasionally            Frequently
16. Where do you regularly spend your summers?  
At Home            Away from Home
17. How often do you have dental work done? (Underline only one)  
Never            When Needed            Once a Year            Oftener

18. How many servants, such as a cook, a housekeeper, a chauffeur, or a maid, do you have in your home?

None      One Part Time      One or More All the Time

19. Does your family own an auto which is not a truck?

None      One      Two or More

If your family does own an auto, write the make of the auto on this line (.....)

20. How many magazines are regularly taken in your home?

None      One      Two      Three or More

If any are taken, write the names of three of them—or as many as are taken—on these lines (.....  
.....)

21. About how many books are in your home? (Be very careful with this one. A row of books three feet long would not have more than twenty-five books in it.)

None      1 to 25      26 to 125      126 to 500      More

22. How many rooms does your family occupy?

2    3    4    5    6    7    8    9    10    11    12    More

How many persons occupy these rooms?

2    3    4    5    6    7    8    9    10    11    12    More

23. Write your father's occupation on this line (.....)

Does he own Part All None of his business? (Underline)

Does he have any title, such as president, manager, foreman, boss, etc.?..... Yes No

If he does have such a title, write it on this line (.....)

How many persons work for him? (Underline the right number)

None      1 to 5      5 to 10      More than 10

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Total Credits..... + No. Answered..... = Score.....

NAME \_\_\_\_\_

SCORE \_\_\_\_\_

AGE \_\_\_\_\_

*Form for Women*

## A - S REACTION STUDY

**DIRECTIONS:** Most of these situations will represent to you your own actual experiences. Reply to the questions spontaneously and truthfully by checking the answer which most nearly represents your usual reaction. If the situation has not been experienced, endeavor to feel yourself into it and respond on the basis of what you believe your reaction would be. If a situation seems totally unreal or impossible to respond to, you may omit it.

1. At a hairdressers are you persuaded to try new shampoos and new styles of hairdressing?

frequently \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

2. a) At a reception or tea do you seek to meet the important person present?

usually \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

- b) Do you feel reluctant to meet him?

yes, usually \_\_\_\_\_

sometimes \_\_\_\_\_

no \_\_\_\_\_

3. At church, a lecture, or an entertainment, if you arrive after the program has commenced and find that there are people standing but also that there are front seats available which might be secured without "piggishness" but with considerable conspicuousness, do you take the seats?

habitually \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

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4. a) A salesman takes manifest trouble to show you a quantity of merchandise. You are not entirely suited. Do you find it difficult to say "No"?

yes \_\_\_\_\_

no \_\_\_\_\_

- b) Do you take articles you have bought back to stores?

frequently \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

- c) Do you mind taking them back?

no \_\_\_\_\_

somewhat \_\_\_\_\_

very much \_\_\_\_\_

5. a) Have you been asked, or have you volunteered to solicit funds for a cause in which you are interested?

yes \_\_\_\_\_

no \_\_\_\_\_

- b) Do you feel reluctant to do such soliciting?

yes \_\_\_\_\_

no \_\_\_\_\_

6. a) A professor or lecturer asks any one in the audience, say of 50 people, to volunteer an idea to start discussion. You have what appears to be a good idea, do you speak out?

usually \_\_\_\_\_

occasionally \_\_\_\_\_

rarely \_\_\_\_\_

never \_\_\_\_\_

- b) Do you feel self-conscious when you speak under such circumstances?

very \_\_\_\_\_

moderately \_\_\_\_\_

not at all \_\_\_\_\_

7. You have heard indirectly that an acquaintance has been spreading rumors about you which, though not likely to be serious in consequence, are nevertheless unjustified and distinctly uncomplimentary. The acquaintance is an equal of yours in every way. Do you usually

“have it out” with the person\_\_\_\_\_

let it pass without any feeling\_\_\_\_\_

feel disturbed but let it pass\_\_\_\_\_

8. Beggars solicit you with hard luck stories; do you give them money?

usually\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

9. Some one tries to push in ahead of you in line. You have been waiting for some time, and can't wait much longer. Suppose the intruder is the same sex as yourself, do you usually

remonstrate with the intruder\_\_\_\_\_

call the attention of the man at the  
ticket window\_\_\_\_\_

“look daggers” at the intruder or  
make clearly audible comments  
to your neighbor\_\_\_\_\_

decide not to wait, and go away\_\_\_\_\_

do nothing\_\_\_\_\_

10. Do you feel self-conscious in the presence of superiors in the academic or business world?

markedly\_\_\_\_\_

somewhat\_\_\_\_\_

not at all\_\_\_\_\_

11. Some possession of yours is being worked upon at a repair shop. You call for it at the time appointed, but the repair man informs you that he has “only just begun work on it.” Is your customary reaction

to upbraid him\_\_\_\_\_

to express dissatisfaction mildly\_\_\_\_\_

to smother your feelings entirely\_\_\_\_\_

12. At a stupid party something must be done to inject some life. You have an idea. Do you take the initiative in carrying it out?

invariably\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

13. Have you worn knickers or followed any style of dress merely because you wished to, even though you knew that the practice would be commented on, since the innovation you proposed was not according to custom?

frequently\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

14. Have you crossed the street to avoid meeting some person?

frequently\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

15. Have you haggled over prices with tradesmen or junk men?

frequently\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

16. a) Have you appeared as lecturer or entertainer before gatherings of over ten people?

frequently\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

b) Have you experienced "stage fright"?

occasionally\_\_\_\_\_

once or twice\_\_\_\_\_

never\_\_\_\_\_

17. If you made purchases at Woolworth's or at the bargain counters, would you mind your friends knowing it?

sometimes\_\_\_\_\_

no\_\_\_\_\_

18. In playing games when young, did you take the lead and decide what the group should play?

usually\_\_\_\_\_

occasionally\_\_\_\_\_

seldom\_\_\_\_\_

19. a) If you are sitting between two young men on a crowded street car, and a woman of about fifty-five enters the car, and stands in front of you; and if neither of the young men gets up, will you rise to offer her your seat?

certainly\_\_\_\_\_

perhaps\_\_\_\_\_

no\_\_\_\_\_

b) Will you feel any embarrassment in carrying out your decision?

yes\_\_\_\_\_

no\_\_\_\_\_

20. Have you been president or recognized leader of an organized group composed of girls or women?

more than six times\_\_\_\_\_

less than six times but  
more than once\_\_\_\_\_

only once\_\_\_\_\_

never\_\_\_\_\_

21. a) In general, are your most intimate friends

younger than yourself\_\_\_\_\_

older than yourself\_\_\_\_\_

about the same age\_\_\_\_\_

b) Do you feel more at ease as a rule, in the company of those

younger than yourself\_\_\_\_\_

older than yourself\_\_\_\_\_

about the same age\_\_\_\_\_

22. a) If you feel a person is dictatorial and domineering, do you as a rule make it a point to avoid him?

yes \_\_\_\_\_

no \_\_\_\_\_

b) If unavavoidably thrown with him at a gathering, do you feel much annoyed?

yes \_\_\_\_\_

no \_\_\_\_\_

c) Do you usually

try to treat him the same way he treats you \_\_\_\_\_

behave normally, but wish either you or he had not come \_\_\_\_\_

feel and behave normally \_\_\_\_\_

23. a) When you see some one in a public place or crowd whom you think you have met or have known, do you inquire of him whether you have met before?

sometimes \_\_\_\_\_

rarely \_\_\_\_\_

never \_\_\_\_\_

b) Are you embarrassed if you have greeted a stranger whom you have mistaken for an acquaintance?

very much \_\_\_\_\_

somewhat \_\_\_\_\_

not at all \_\_\_\_\_

24. a) Have you ever been made to feel antagonistic or irritated on account of the "bossy" way a chairman conducts a meeting?

frequently \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

b) Do you take the initiative in opposing such a person?

usually \_\_\_\_\_

sometimes \_\_\_\_\_

never \_\_\_\_\_

25. a) If you have broken or lost a tennis racquet, or some such article, belonging to another person, would you tell him right away?

yes \_\_\_\_\_

perhaps \_\_\_\_\_

b) Would you feel a desire to delay telling him?

yes \_\_\_\_\_

no \_\_\_\_\_

26. If a student in class discussion makes a statement that you think erroneous, do you question it?

usually \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

27. If you hold an opinion the reverse of that which the lecturer has expressed in class, do you usually volunteer your opinion

in class \_\_\_\_\_

after class \_\_\_\_\_

not at all \_\_\_\_\_

28. If you have been in accidents or fires at school or elsewhere, where there were several persons present, have you as a rule

taken an active part in assisting \_\_\_\_\_

taken the part of a spectator \_\_\_\_\_

left the scene at once \_\_\_\_\_

29. a) Have you had a "crush" in college?

no \_\_\_\_\_

one \_\_\_\_\_

a number \_\_\_\_\_

b) Do you dislike "crushes"?

yes \_\_\_\_\_

no \_\_\_\_\_

30. Have you ever attempted so many activities at college that you were forced to give something up?

yes \_\_\_\_\_

no \_\_\_\_\_

31. If you have prepared your lesson, and the professor calls on girls all around you but does not give you a chance to recite, do you feel irritated?

frequently \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

32. Have you ever felt that a professor talks too much in class and should give you more chance to express your views and conclude points?

frequently \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

33. If the majority of your friends are having new costumes for a dance, are you disturbed by having to wear an old frock; one that you know will be recognized?

very much \_\_\_\_\_

somewhat \_\_\_\_\_

not at all \_\_\_\_\_

34. Do you find it difficult to ask a gentleman to accompany you to college dances?

very \_\_\_\_\_

somewhat \_\_\_\_\_

not at all \_\_\_\_\_

35. In a mixed social group where many people are strangers to each other, do you constitute yourself a hostess and begin introductions and conversation?

usually \_\_\_\_\_

sometimes \_\_\_\_\_

never \_\_\_\_\_

NAME \_\_\_\_\_

SCORE \_\_\_\_\_

AGE \_\_\_\_\_

*Form for Men*

## A—S REACTION STUDY

**DIRECTIONS:** Most of these situations will represent to you your own actual experiences. Reply to the questions spontaneously and truthfully by checking the answer which most nearly represents your usual reaction. If a situation has not been experienced, endeavor to feel yourself into it and respond on the basis of what you believe your reaction would be. If the situation seems totally unreal or impossible to respond to, you may omit it.

1. In witnessing a game of football or baseball in a crowd, have you intentionally made remarks (witty, encouraging, disparaging, or otherwise) which were clearly audible to those around you?

frequently \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

2. a) At a reception or tea do you seek to meet the important person present?

usually \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

- b) Do you feel reluctant to meet him?

yes, usually \_\_\_\_\_

sometimes \_\_\_\_\_

no \_\_\_\_\_

3. At church, a lecture, or an entertainment, if you arrive after the program has commenced and find that there are people standing, but also that there are front seats available which might be secured without "piggishness" or discourtesy, but with considerable conspicuousness, do you take the seats?

habitually \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

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4. A salesman takes manifest trouble to show you a quantity of merchandise; you are not entirely suited; do you find it difficult to say "No"?

yes, as a rule\_\_\_\_\_

sometimes\_\_\_\_\_

no\_\_\_\_\_

5. a) Have you solicited funds for a cause in which you are interested?

yes\_\_\_\_\_

no\_\_\_\_\_

b) Do you feel reluctant to do such soliciting?

yes\_\_\_\_\_

no\_\_\_\_\_

6. a) A professor or lecturer asks any one in the audience, say of 20 or more people, to volunteer an idea to start discussion. You have what appears to be a good idea, do you speak out?

habitually\_\_\_\_\_

occasionally\_\_\_\_\_

rarely\_\_\_\_\_

never\_\_\_\_\_

b) Do you feel self-conscious when you speak under such circumstances?

very\_\_\_\_\_

moderately\_\_\_\_\_

not at all\_\_\_\_\_

7. You have heard indirectly that an acquaintance has been spreading rumors about you which, though not likely to be serious in consequence, are nevertheless unjustified and distinctly uncomplimentary. The acquaintance is an equal of yours in every way. Do you usually

"have it out" with the person\_\_\_\_\_

let it pass without any feeling\_\_\_\_\_

take revenge indirectly\_\_\_\_\_

feel disturbed but let it pass\_\_\_\_\_

8. Some one tries to push ahead of you in line. You have been waiting for some time, and can't wait much longer. Suppose the intruder is the same sex as yourself, do you usually

remonstrate with the intruder\_\_\_\_\_

"look daggers" at the intruder or make  
clearly audible comments to your  
neighbor\_\_\_\_\_

decide not to wait, and go away\_\_\_\_\_

do nothing\_\_\_\_\_

9. Do you feel self-conscious in the presence of superiors in the academic or business world?

markedly\_\_\_\_\_

somewhat\_\_\_\_\_

not at all\_\_\_\_\_

10. Some possession of yours is being worked upon at a repair shop. You call for it at the time appointed, but the repair man informs you that he has "only just begun work on it." Is your customary reaction

to upbraid him\_\_\_\_\_

to express dissatisfaction mildly\_\_\_\_\_

to smother your feelings entirely\_\_\_\_\_

11. After a very tiring day you decide to keep your seat in a crowded street-car even though ladies have to stand. You overhear one of the ladies refer to the situation in some remark to her companion. Do you

rise and offer your seat\_\_\_\_\_

remain in your seat feeling ill at ease\_\_\_\_\_

remain in your seat without embarrassment\_\_\_\_\_

12. You are at a mixed party where about half the people are friends of yours. The affair becomes very dull, and something should be done to enliven it. You have an idea. Do you usually

take the initiative in carrying it out\_\_\_\_\_

pass it on to another to put into execution\_\_\_\_\_

say nothing about it\_\_\_\_\_

13. When you are served a tough steak, a piece of unripe melon, or any other inferior dish at a high class restaurant, do you complain about it to the waiter?

occasionally\_\_\_\_\_

seldom\_\_\_\_\_

never\_\_\_\_\_

14. Have you crossed the street to avoid meeting some person?

frequently\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

15. Have you haggled over prices with tradesmen or junk men?

frequently\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

16. In tennis or any similar competition when you are pitted against some one considerably superior to you in this particular ability, are you as a rule

determined to win in spite of his advantage\_\_\_\_\_

not especially hopeful, but unwilling to  
concede defeat at the start\_\_\_\_\_

inclined to admit to yourself defeat at the  
outset, hoping only to make a  
presentable score\_\_\_\_\_

17. You desire to board a boat or train to see a friend off, or to enter an exhibition or park; the guard forbids you on what seem to be entirely unnecessary technicalities, do you argue with him and bluff your way past?

habitually\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

18. When you were 10 or 12 years of age were you the "goat" for your playmates? (e.g., in playing war would they force you to fight on the unpopular side?)

usually, yes \_\_\_\_\_

occasionally \_\_\_\_\_

never \_\_\_\_\_

19. Suppose you have recently become a salesman and are trying to sell life insurance to a middle-aged financier of great note. He says, "Young man, I don't know how long you have been in this game, but you will never succeed unless you acquire more experience and confidence in yourself." What will be your reaction?

to persist in the attempt to sell insurance \_\_\_\_\_

to agree and seek further advice from him \_\_\_\_\_

to become emotionally disturbed in your reply,  
— angry, embarrassed, or condescending \_\_\_\_\_

simply to take leave \_\_\_\_\_

20. You are with a group of people in the woods, and although not certain of the path, you probably know as much about it as anyone present. Do you take responsibility of guiding the group?

take the full responsibility \_\_\_\_\_

make suggestions or agree to  
share the responsibility \_\_\_\_\_

let another take the lead  
according to his judgment \_\_\_\_\_

21. a) If you feel a person is dictatorial and domineering, do you as a rule make it a point to avoid him?

yes \_\_\_\_\_

no \_\_\_\_\_

b) If unavoidably thrown with him at a gathering, do you feel annoyed?

yes \_\_\_\_\_

no \_\_\_\_\_

c) Do you usually

try to treat him the same way he treats you \_\_\_\_\_  
behave normally, but wish either you  
or he had not come \_\_\_\_\_  
feel and behave normally \_\_\_\_\_

22. a) When you see some one in a public place or crowd whom you think you have met or known, do you inquire of him whether you have met before?

sometimes \_\_\_\_\_  
rarely \_\_\_\_\_  
never \_\_\_\_\_

b) Are you embarrassed if you have greeted a stranger whom you have mistaken for an acquaintance?

very much \_\_\_\_\_  
somewhat \_\_\_\_\_  
not at all \_\_\_\_\_

23. a) Have you ever been made to feel antagonistic or irritated on account of the "bossy" way a chairman conducts a meeting?

frequently \_\_\_\_\_  
occasionally \_\_\_\_\_  
never \_\_\_\_\_

b) Do you take the initiative in opposing such a person?

usually \_\_\_\_\_  
sometimes \_\_\_\_\_  
never \_\_\_\_\_

24. If a student in class discussion makes a statement that you think erroneous, do you question it?

usually \_\_\_\_\_  
occasionally \_\_\_\_\_  
never \_\_\_\_\_

25. If you hold an opinion the reverse of that which the lecturer has expressed in class, do you usually volunteer your opinion

in class\_\_\_\_\_

after class\_\_\_\_\_

not at all\_\_\_\_\_

26. When an accident occurs where many people are present besides yourself do you usually

take an active part in assisting\_\_\_\_\_

take the part of a spectator\_\_\_\_\_

leave the scene at once\_\_\_\_\_

27. When a book-agent or insurance salesman comes to your home or to your room, do you as a rule find it difficult to refuse to listen to him, or to get rid of him as soon as the purpose of his visit becomes clear?

quite difficult\_\_\_\_\_

moderately difficult\_\_\_\_\_

not at all difficult\_\_\_\_\_

28. When the clerk in a store where you have been waiting for some time for service overlooks you and waits on a customer who has come into the store after you, do you as a rule

call his attention to the fact\_\_\_\_\_

wait silently, though perhaps  
with an injured air\_\_\_\_\_

go out to another store\_\_\_\_\_

29. Have you ever felt that a professor talks too much in class and should give you more chance to express your views and conclude points?

frequently\_\_\_\_\_

occasionally\_\_\_\_\_

never\_\_\_\_\_

30. a) Have you largely on your own initiative in the past five years organized clubs, teams, or other such groups?

more than three\_\_\_\_\_

one to three\_\_\_\_\_

none\_\_\_\_\_

b) Have you within the past five years been recognized as leader (president, captain, chairman) of groups?

more than six\_\_\_\_\_

one to six\_\_\_\_\_

none\_\_\_\_\_

31. In conversing with a person older than yourself whom you respect, on an issue about which you disagree, do you characteristically

maintain your views in argument\_\_\_\_\_

conciliate your opponent by seeming to agree with him, and yet try indirectly to carry your point\_\_\_\_\_

agree with him, at least verbally, and let it go at that\_\_\_\_\_

32. You are dining with a young lady whom you are trying to impress. The waiter presents a bill which is slightly larger than you expected it to be. Do you verify the bill before paying it?

openly\_\_\_\_\_

surreptitiously\_\_\_\_\_

not at all\_\_\_\_\_

33. A friend with whom you are not particularly intimate has a racquet, skates, skis, or some similar article which you would like very much to borrow for an afternoon. Do you feel a hesitation in asking for it?

usually\_\_\_\_\_

sometimes\_\_\_\_\_

rarely\_\_\_\_\_

# The Neymann-Kohlstedt Diagnostic Test for Introversiion-Extroversiion

(1928 Revision)

Name..... Occupation..... Age.....

This test is composed of fifty statements, each being followed by the words "Yes" and "No." There is no implication of right or wrong in any of the statements and you are asked to consider them from the viewpoint of personal like or dislike. Read the first statement and if you like the idea it expresses, draw a line under "Yes." If you dislike it, draw a line under "No." Proceed in the same way with the rest of the statements.

|  |     |    |    |
|--|-----|----|----|
| 1. Be by yourself a great deal   | YES | NO | 1  |
| 2. Think of life in terms of pleasure  | YES | NO | 2  |
| 3. Always be calm and collected  | YES | NO | 3  |
| 4. Have a great deal of confidence in others                                 | YES | NO | 4  |
| 5. Think or dream of what you will do five years from now                    | YES | NO | 5  |
| 6. Stay at home during a social affair.                                      | YES | NO | 6  |
| 7. Work with many people around you  | YES | NO | 7  |
| 8. Do the same kind of work all the time                                     | YES | NO | 8  |
| 9. Enjoy social gatherings just to be with people                            | YES | NO | 9  |
| 10. Think a great deal before deciding anything                              | YES | NO | 10 |
| 11. Accept suggestions rather than working them out for yourself             | YES | NO | 11 |
| 12. Quiet rather than exciting amusements                                    | YES | NO | 12 |
| 13. Dislike having people watch you  | YES | NO | 13 |
| 14. Quit a tiresome task   | YES | NO | 14 |
| 15. Save money rather than spend it  | YES | NO | 15 |
| 16. Seldom (infrequently) analyze your thoughts or motives                   | YES | NO | 16 |
| 17. Indulge in reverie (day-dream) or thought                                | YES | NO | 17 |
| 18. Have people watch you do things that you do very well                    | YES | NO | 18 |
| 19. Let yourself go when angry   | YES | NO | 19 |
| 20. Work better when people praise you                                       | YES | NO | 20 |
| 21. Have excitement  | YES | NO | 21 |
| 22. Often meditate and think about yourself                                  | YES | NO | 22 |
| 23. Be a leader at a social affair   | YES | NO | 23 |
| 24. Speak in public  | YES | NO | 24 |
| 25. Do the things that you dream about (day-dream)                           | YES | NO | 25 |
| 26. Rewrite social letters   | YES | NO | 26 |
| 27. Get things done very quickly rather than being slow and sure in movement | YES | NO | 27 |
| 28. Think a great deal   | YES | NO | 28 |
| 29. Be able to express your keenest feelings (joy, sorrow, anger, etc.)      | YES | NO | 29 |
| 30. Pay little attention to details  | YES | NO | 30 |
| 31. Be exceedingly careful in meeting people                                 | YES | NO | 31 |
| 32. Associate freely with people holding views opposed to your own           | YES | NO | 32 |
| 33. Puzzles  | YES | NO | 33 |
| 34. Act on suggestions quickly rather than stopping to think                 | YES | NO | 34 |
| 35. Read about rather than do a thing  | YES | NO | 35 |
| 36. Enjoy the story more than the way it is written                          | YES | NO | 36 |
| 37. Keep a personal diary  | YES | NO | 37 |
| 38. Keep quiet when out in company   | YES | NO | 38 |
| 39. Act on the spur of the moment  | YES | NO | 39 |
| 40. Dislike thinking about yourself  | YES | NO | 40 |
| 41. Always plan out work before you begin it                                 | YES | NO | 41 |
| 42. Change from one type of work to another frequently                       | YES | NO | 42 |
| 43. Avoid trouble rather than face it  | YES | NO | 43 |
| 44. Believe that rumors are important  | YES | NO | 44 |
| 45. Confide in others  | YES | NO | 45 |
| 46. Distrust people you have just met until you get better acquainted        | YES | NO | 46 |
| 47. Study others rather than yourself  | YES | NO | 47 |
| 48. Spend your vacation at some quiet place rather than at a lively resort   | YES | NO | 48 |
| 49. Change your opinions easily even when formed                             | YES | NO | 49 |
| 50. Take an active part in all conversations going on around you             | YES | NO | 50 |

No. Right..... No. Wrong.....

Score Rt..... Minus Wr.....



## PERSONALITY SCHEDULE

The University of Chicago Press  
Chicago, Illinois

(Last Name)

(Given Names or Initials)

In order that your advisers may help you in the best possible way it is desirable that they know something of your personality as well as of your intellectual ability and scholarship. The questions in this blank are intended to indicate your emotional and personality traits. Your answers may reveal a well-adjusted emotional life or they may show you have some form of nervousness or worry which you may not yourself understand completely.

This is not an examination. It is not a test in any sense because there are no right and wrong answers to any of the questions in this blank.

It has been found that some of the brightest students have emotional and personality difficulties which can be overcome with suitable counsel if the difficulties are known. It will therefore be to your own advantage to answer the questions as truthfully as possible.

In front of each question you will find: **yes no ?**

Draw a ring around one of these three answers for each question. Try to answer by "yes" or "no" if it is possible. If you are entirely unable to say even a tentative "yes" or "no" to the question, then draw a ring around the question-mark.

- |   |  |
|---|--|
| no ? As a child did you like to play alone?                                 | yes no ? Do you laugh easily?  |
| no ? Do you usually control your temper?                                    | yes no ? Do you worry too long over humiliating experiences?               |
| no ? Do you get stage fright?   | yes no ? Are you careful not to say things to hurt people's feelings?      |
| no ? Have your relationships with your mother always been pleasant?         | yes no ? Are you sometimes the leader at a social affair?                  |
| no ? Are you troubled much by constipation?                                 | yes no ? Are your day-dreams about improbable occurrences?                 |
| no ? Do you feel that life is a great burden?                               | yes no ? Do you usually get turned around in new places?                   |
| no ? Have you ever had the habit of stuttering?                             | yes no ? Do you often feel lonesome, even when you are with other people?  |
| no ? Do you get on well with your brothers and sisters?                     | yes no ? Do you love your father more than your mother?                    |
| no ? Does your heart sometimes sound in your ears so that you cannot sleep? | yes no ? Do you consider yourself a rather nervous person?                 |
| no ? Do you take responsibility for introducing people at a party?          | yes no ? Are you afraid of falling when you are on a high place?           |
| no ? Do you think most people are self-seeking or malicious?                | yes no ? Are you interested in meeting a lot of different kinds of people? |
| no ? Do you find it difficult to get rid of a salesman?                     | yes no ? Do a great many things frighten you?                              |
| no ? Do you have difficulty in starting conversation with a stranger?       | yes no ? Have you ever had a nervous breakdown?                            |
| no ? Do you lose your head easily in a dangerous situation?                 | yes no ? Are your feelings easily hurt?                                    |

- yes no ? Do you hesitate to volunteer in a class recitation?
- yes no ? Do you usually feel well and strong?
- yes no ? Do you get tired of work quickly?
- yes no ? Do you frequently feel that you deserve a better lot than you have?
- yes no ? Has any of your family had a drug habit?
- yes no ? Do you usually sleep well?
- yes no ? Are you systematic in caring for your personal property?
- yes no ? Are you frequently in low spirits?
- yes no ? Do you enjoy social gatherings just to be with people?
- yes no ? Do you find your way about easily?
- yes no ? Are you shy with boys?
- yes no ? Are you shy with girls?
- yes no ? Do you mind having your friends see you in the ten-cent store?
- yes no ? Do you feel that you are not satisfactorily adjusted to life?
- yes no ? Do you dislike to write about yourself even to very close friends?
- yes no ? Have you ever had the habit of twitching your face, neck or shoulders?
- yes no ? Do you often experience periods of loneliness?
- yes no ? Does criticism disturb you badly?
- yes no ? Do you feel well rested in the morning?
- yes no ? Do you ever take the lead to enliven a dull party?
- yes no ? Do you often feel self-conscious in the presence of superiors?
- yes no ? Do you get tired of people quickly?
- yes no ? Would you rather work indoors than outdoors?
- yes no ? Do you lack self-confidence?
- yes no ? At night are you frequently troubled by the idea that somebody is following you?
- yes no ? Do you think you are usually unlucky?
- yes no ? Do you find it difficult to speak in public?
- yes no ? Was your mother the dominant member of the family?
- yes no ? Do you sometimes have shooting pains in the head?
- yes no ? Do you like to solve puzzles?
- yes no ? Do you often have queer, unpleasant feelings in any part of your body?
- yes no ? Do you usually plan your work ahead?
- yes no ? Do you usually keep in fairly uniform spirits?
- yes no ? Are you frightened by lightning?
- yes no ? Do you often feel self-conscious because of your personal appearance?
- yes no ? If you see an accident are you quick to take an active part in giving help?
- yes no ? Do you feel you must do a thing over several times before you leave it?
- yes no ? Did you ever have anemia badly?
- yes no ? Does it make you uneasy to have to cross a wide street or open square?
- yes no ? Do you easily learn to find your way about in new places?
- yes no ? Are you troubled with feelings of inferiority?
- yes no ? Do you often find that you cannot make up your mind when the time for action has passed?
- yes no ? Do you often have the feeling of suffocating?
- yes no ? Have you any physical defects?
- yes no ? Do you think you are regarded as critical of other people?
- yes no ? Do you have ups and downs in mood without apparent cause?
- yes no ? Do you let yourself go when angry?
- yes no ? Do things ever swim or get misty before your eyes?
- yes no ? Do you often get interested in people you meet?
- yes no ? Have you a good appetite?
- yes no ? Have you ever lost your memory for a time?
- yes no ? Is your home environment happy?
- yes no ? Are you bothered by fluttering of the heart?
- yes no ? Are you slow in making decisions?
- yes no ? Were you considered a bad boy (or girl)?
- yes no ? Do you faint easily?
- yes no ? Has your family always treated you right?
- yes no ? Since you were five years old have you ever had the habit of wetting the bed?
- yes no ? Are you frequently troubled with the fear of being crowded in a crowd?
- yes no ? Are you in general self-confident about your abilities?
- yes no ? Do you occasionally have conflicting moods of love and hate for members of your family?
- yes no ? Are you generally regarded as indifferent to the opposite sex?
- yes no ? Do you ever walk in your sleep?