

THE PERSONALITY OF EDUCABLE MENTALLY RETARDED
CHILDREN AS COMPARED TO A GENERAL
CHILD POPULATION

A Thesis
Presented to
the Faculty of the School of Graduate Studies
Indiana State College

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
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July 1961

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CHAPTER I

INTRODUCTION

While intelligence is recognized as one of the chief ingredients contributing to success, personality is also one of the major ingredients. This thesis deals with the educable mentally retarded, a group of students whose intelligence is known to be less than the intelligence of the normal population. These students have not met with success in school in the regular classroom. Could it be that their personality, as well as their intelligence, differs from the population normal?

I. THE PROBLEM

Statement of the problem. It was the purpose of this survey to describe the personality of the mentally retarded child in comparison to that of the cross section of the normal population of children of approximately the same age range. Specifically, a group of educable mentally retarded boys was compared with boys of the normal population on fourteen personality factors. A group of educable mentally retarded girls was compared with girls of the normal population on fourteen personality factors. The writer divided each of these two experimental groups of educable mentally retarded children into three groups according to intelligence

quotients. These groups were 50-59 IQ, 60-69 IQ, and 70-80 IQ. Each of these six groups was then compared with the normal population of the same sex on fourteen personality factors.

Importance of the study. In order for a group to get the most benefit from the instruction and curriculum, it is necessary that as much be known about prior achievement or standing of the individuals making up the class as possible. The widespread practice of keeping cumulative records would tend to show this to be true. The students must be taken as they are and their learning added to or, in some cases, modified. If a few of the students differ from the normal, the teacher is expected to provide some modification of instruction or curriculum in order to take care of these individual differences. If the majority of the class differs from normal, this would be considered in planning for the class.

Since the schools try to develop the whole student, the writer felt it was important to know whether the educable mentally retarded student did or did not differ from the normal of the population in regard to personality. If these students did not differ from the normal population, it would be known that development of personality would not need to be emphasized, nor could it have been a contributing

factor in their lack of success in the regular classroom. If this study revealed there was a real difference between the personality of educable mentally retarded students and the personality of normal students, this would be important when planning the curriculum and instruction for them.

II. DEFINITION OF TERMS USED

Personality. Since the personalities of boys and girls dealt with in this project were measured by means of the Children's Personality Questionnaire, the word "personality", as used in this paper, is limited to the fourteen dimensions of personality covered by the Children's Personality Questionnaire.

Educable mentally retarded. The term "educable mentally retarded", as used in this paper, was interpreted as those students who had intelligence quotients ranging from fifty to eighty according to intelligence tests administered to them during the last three years. These students had all been administered The 1937 Revision of the Stanford-Binet Scale or The Wechsler Intelligence Scale for Children (1949) within the last three years in order to be eligible to enroll in educable mentally retarded classes in the Indiana Public School System.

III. ORGANIZATION OF REMAINDER OF THESIS

The remainder of the paper is divided into four chapters. Chapter II presents the related literature found through library research. Chapter III presents the method used in obtaining the data, describes the test used, and the groups tested. Chapter IV is a presentation of the data found by the writer as a result of the tests given. Chapter V gives a summary of results found in the survey and the conclusions reached as a result of this survey.

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CHAPTER II

RELATED LITERATURE

As far as could be discovered by the writer, there has been comparatively little research on the personality of the educable mentally retarded child. There has been some attention devoted to the personality of children with intelligent quotients below average and containing some mentally retarded children.

I. PERSONALITY AND INTELLIGENCE

In a survey made by McGehee and Lewis, data appeared to justify the conclusion that the child of superior intelligence had a much better chance of developing a desirable personality than the child who was retarded in intelligence. They further stated their data actually pointed to the fact that more desirable personalities were found among those who were superior in intelligence and more undesirable personalities were found among those who were retarded in intelligence.¹

One source reported that more often than not the

¹William McGehee and W. Dayton Lewis, "A Comparison of Certain Personality Characteristics of Mentally Superior and Mentally Retarded Students," Journal of Education Research, 35:609-610, April, 1942.

deviant behavior of a subnormal child is "explained" by his low intelligence quotient. It is rare for his low level of intellectual functioning to be viewed as being influenced by personality factors.²

Another author reported along much the same line:

It is not to be denied that some children are retarded in school as a result of social and emotional conflicts originating outside the school. It is well known that an emotionally disturbed child is not a ready learner regardless of his potential mental ability to master school subjects. It is recognized that our thesis works both ways: some children are personally and socially maladjusted because of school failure, others fail because of their prior emotional conflicts.³

II. PERSONALITY CHARACTERISTICS OF THE MENTALLY RETARDED

Dull children tend to have a negative or withdrawing personality, according to Lightfoot. She noted the dull group, seventy to ninety IQ, were more frequently represented by dependence, seclusion, rejection, and placidity than was the bright group.⁴

²Thomas Gladwin, Richard L. Masland, and Seymour B. Sarason, Mental Subnormalities (New York: Basic Books Inc., 1958), p. 396.

³A. R. Magnus, "Effect of Mental and Educational Retardation on Personality," American Journal of Mental Deficiency, 55:209, October, 1950.

⁴Georgia Francis Lightfoot, Personality Characteristics of Bright and Dull Children (Columbia University Contributions to Education, No. 969. New York: Bureau of Publications, Teachers College, Columbia University, 1951), pp. 62-63.

Cattell mentioned that Laycock found lower intelligence was significantly more associated with ratings of grouchiness, peevishness, depression, mocking others, cheating, spitefulness, gossiping, truancy, temper tantrums, being too dependent, showing feelings of inferiority, and failure to join group activities. These were signs of egric frustration and defective super ego development.⁵

III. PERSONALITY OF BOYS

When comparing the problems of personality adjustment of boys with that of girls, Magnus wrote:

The school survey showed that adjustment problems were much more prevalent among boys than among girls, and were especially acute among those children who were retarded in their school work.⁶

IV. SUMMARY

The research and reports presented in this chapter have shown that the child of low intelligence seemed more likely to encounter problems in personality adjustment than the child of higher intelligence. It was also brought out that children of low intelligence were characterized by

⁵Raymond B. Cattell, *Personality* (New York: McGraw-Hill Book Company, Inc., 1950), p. 476.

⁶Magnus, loc. cit.

a negative or withdrawing personality. Boys were found to have more difficulty in adjustment than girls. Finally, it must be remembered that the above conclusions were mostly based on the study of the lower segments of regular groups which included the slow learner as well as the educable mentally retarded.

CHAPTER III

SOURCES OF DATA, METHOD OF OBTAINING, AND PRESENTATION OF TEST

I. SOURCES OF DATA

The data presented in this paper were gained by testing 158 educable mentally retarded children attending six Indiana Public Schools. The schools were located in Princeton, Vincennes, Bedford, Bloomington, Marion, and Logansport.

Some of these schools were chosen because of contacts the writer had in them. This seemed to be the most convenient way to get the school to participate. Some of the schools were picked from a list of educable mentally retarded classes in the state of Indiana. The large city schools were omitted from the list as a means of delimiting the problem but city groups should be the subject of a similar study in the future. Schools that had only one mentally retarded class were not contacted because of the likelihood the groups were less representative.

Personal letters were written to the person in charge of special education or to a teacher with whom the writer was personally acquainted in a number of schools asking them to participate in the research project. The teachers

were asked to administer IPAT Children's Personality Questionnaire to the educable mentally retarded students in their school and complete a data sheet giving the IQ of each student according to The 1937 Revision of the Stanford-Binet Scale or The Wechsler Intelligence Scale for Children (1949). The teachers were also to list the number of semesters each of the students had attended an educable mentally retarded class.

To induce the schools to participate in this project, the writer promised to provide the personality tests free of charge, pay postage both ways on the tests, grade the tests, send a completed individual profile sheet for each student to the child's school, and furnish a short summary of the results of the research project to each of the participating schools. Most schools were willing to participate, but were slow in responding.

II. METHOD OF OBTAINING THE DATA

Sufficient copies of both Form A and Form B of the Children's Personality Questionnaire (See Appendix page 62) together with instructions for administering were mailed to each school.

The instructions stated the test would be given as a group test with exception of the very low ability students who would take the test individually, in very small groups,

or with proctors standing beside them to see that they kept their places. The test does not have a time limit, but each form takes about fifty minutes. The two forms of the test were to be given with a rest break between them or on separate days.

Each test booklet is provided with instructions and examples at the top of the test which the teacher was to go over carefully with the students to see that they understood the test. The teachers were instructed to check frequently to see that all students were keeping their places. Since educable mentally retarded students are poor readers, the teachers were instructed to read all questions aloud. These instructions were all taken from the Handbook.¹

III. PRESENTATION OF TEST

Psychological meaning of the factors. The CPQ (Children's Personality Questionnaire)² measures fourteen distinct dimensions or factors of personality. These factors are identified by letters of the alphabet and, in addition, the factors have both technical and popular titles. Table 1,

¹R. B. Porter and R. B. Cattell, Handbook for the IPAT Children's Personality Questionnaire, the "CPQ" (Champaign: Institute for Personality and Ability Testing, 1960), pp. 13-14.

²Ibid., pp. 3-37.

page 13, identifies the factors and lists the popular titles for the traits. Each factor or dimension is bi-polar and represents one characteristic of personality. The low score pole or negative side of the dimension is given to the left, with the high score pole or positive side to the right. A score is significant according to how far it varies, in either direction, from the mean. One should guard against assuming that the right hand "high" score pole is in some psychological sense "good" and the "low" score pole "bad". With the exception of the intelligence dimension (Factor B), sometimes the left and sometimes the right pole is advantageous, depending on the criteria against which one is using the factor scores.

The alphabetical letters used to identify or refer to the personality dimensions or source traits in the CPQ test are the same designations as have been traditionally used in many psychological research publications. Each of these factors, excepting intelligence (Factor B), determines many kinds of behavior. Too much weight should not be given to the popular title for each pole of the factor, as the trait selected for a particular title is only one trait of several that has a high correlation with that pole of the factor.

A very brief description of the psychological meanings of the factors is set out below, in terms of general behavior

TABLE I
 THE FOURTEEN FACTORS OF THE CHILDREN'S PERSONALITY
QUESTIONNAIRE WITH POPULAR TITLES

FACTORS	POPULAR TITLES	
	LOW SCORE DESCRIPTION	HIGH SCORE DESCRIPTION
A	RESERVED	EASY GOING
B	LESS INTELLIGENT	MORE INTELLIGENT
C	EMOTIONALLY UNSTABLE	EMOTIONALLY MATURE
D	PHLEGMATIC	EXCITABLE
E	SUBMISSIVE	DOMINANT
F	SERIOUS	HAPPY-GO-LUCKY
G	FRIVOLOUS	PERSEVERING
H	SHY	VENTURESOME
I	TOUGH MINDED	TENDER MINDED
J	VIGOROUS	INTERNALLY RESTRAINED
N	SIMPLE, NATURAL	SHREWD
O	COMPLACENT	SELF-REPROACHING
Q3	LAX	SELF-CONTROLLED
Q4	COMPOSED	DRIVEN

of extreme opposite poles.

The most consistent features of high score factor A (A+) are easy-goingness, accessible emotions, and interest in people. In questionnaire responses, the A+ child expresses marked preference for occupations dealing with people, enjoys social recognition, and in general is willing to "go along" in expediency, while the A- child is more uncompromising and earnest, prefers things or words to people, likes working alone, intellectual companionship, and introspection.

Intelligence (Factor B) is one factor of personality. It is general mental capacity. The main inference concerns scholastic achievement.

Ego strength is commonly regarded as a factor expressing the degree of achievement of dynamic integration and emotional control. The popular title for ego strength (Factor C+) is Emotionally Mature. The C- child, as shown by the response items, tends to be easily annoyed by things and people, is more often dissatisfied with his family and his school, has difficulty keeping quiet and restraining himself and is discouraged by his inability to meet good standards of behavior. He shows more than average generalized neurotic responses in the form of digestive and sleep disturbances, irrational fears, obsessional behavior, and vague health failures.

The D+ child is distinguishable by excitability of

an immediate "temperamental" nature, by mind-wandering distractibility, by an attention-getting insecurity, and by an irrepressible, positive, assertive tone to the emotionality. The D- child is distinguished by being placid, self-sufficient, deliberate, not easily jealous, self effacing, constant, and not restless.

In children, Dominance (E+) tends to be associated with disobedience and rejection of authority--also with delinquency if there is instability at the same time. The E- child is likely to be submissive, dependent, kindly, expressive, conforming, easily upset and self-sufficient.

Factor F is one of the most important components in extraversion. It is apparently the same dimension as the state of Elation-vs.-Depression, along which psychotics can swing abnormally into manic and depressive, melancholic extremes. Examination of origins shows that F+ persons have generally had an easier, less punishing, more optimism-creating environment, or that they have a more happy-go-lucky attitude through less exacting aspirations. F- individuals have generally been brought up with more severe, sobering standards. F- in general is significantly related to neurotic, rather than "acting-out" behavior problems. The F- child is also rated as secretive and day-dreaming, with a proneness to the particular nervous habit of nail biting.

Factor G is characterized most by energy and persistence at its positive pole. This factor best depicts the regard for moral standards, the tendency to drive the ego and to restrain the id, which are most frequently regarded as marks of the super-ego. Subjectively, the G+ person views himself as correct in, and a guardian of, manners and morals, persevering, planful, able to concentrate, cautious in thinking before he speaks, and preferring efficient people to other companions. In ratings of children, the negative or G- pole associates itself with lying, showing off, stealing, destruction of property, and lack of control of temper. There is, on an average, a temporary slight drop of G level with the onset of adolescence.

The H- child shows the withdrawn, careful, "well-behaved" syndrome which sometimes precedes psychological difficulties. The H- individual reports himself to be intensely shy, slow, and impeded in expressing himself, disliking occupations with personal contacts, preferring one or two close friends to crowds, avoiding large parties or open competition, fearful of new situations, somewhat spiteful and distrustful, but very considerate of others' sensitivities, and not feeling able to keep in contact with all that is going on around him. The H+ person is adventurous, likes meeting people, active, responsive, friendly, impulsive, carefree, has emotional and artistic interests,

and likes to meet people.

Studies at various ages have shown association of I+ (Tender Minded) persons with fastidious aversion for rough people and rough games, an interest in art, travel, and new experiences, an anxious imaginativeness, a love of dramatics and literature, a certain impracticality, and a higher susceptibility to neurosis. The central feature of I+ is the emotionally indulgent, undisciplined, over-protected home. I- (Tough Minded) individuals, at the opposite pole, represent some sort of tough, masculine, practical, mature, group-solidarity-generating, and realistic temperamental dimension.

The J+ child prefers to do things on his own, is physically fastidious and intellectually individualistic, thinks over his mistakes and how to avoid them, tends not to forget if he is unfairly treated, has strong private views differing from the group, but prefers to keep in the background and avoid argument, and knows he has fewer friends. In contrast, the J- child likes to go with the group, likes attention, sinks personality into group enterprise, is vigorous, and accepts common standards.

Factor N has resemblances most notably to a rating factor, K, which has the similar emphasis on polish and fastidiousness, but not so much on aloofness and shrewdness, as here. The essence of the N dimension is reasonably

clear, though its cause is not yet to be assigned with certainty. The N+ person is a clear thinker with a trained, realistic, but sometimes expedient approach to problems. The N+ person is further described as being socially percipient and skillful, exact and realistic in thinking, cool, aloof, aesthetically fastidious, insightful regarding self, and insightful regarding others. The N- person is a vague, sentimental, incontinent person, who may get along well with people in a primitive, heart-to-heart understanding, but has little self-discipline in anticipating the usual reactions of others, and is apt to be slow and awkward.

The O+ person feels overfatigued by exciting situations, feels inadequate to meet the rough daily demands of life, is unable to sleep through worrying, is easily downhearted, and, especially, remorseful. He feels that people are not as moral and concerned about things as they should be, is inclined to piety, prefers books (as an adult) and quiet interests to people and noise, and shows a mixture of hypochondriacal and neurasthenic symptoms, but with phobias, and anxieties most prominent. The O- person is self-confident, cheerful, tough, placid, expedient, rudely vigorous, has no fears, is given to simple action and does not care.

The child high in Q3 is self-controlled, striving to accept approved ethical standards, ambitious to do well, considerate of others, foresighted, disposed to reduce and

control expressions of emotion, and conscientious. Its negative pole, Q₃⁻, is essentially an uncontrolled emotionality, excitability, and a rejection of cultural demands.

The last of the fourteen factors in the CPQ is Q₄. Children and adults scoring high in this factor describe themselves as irrationally worried, tense, "driven," irritable, and in turmoil. They feel frustrated, and are aware of being criticized by parents for untidiness, phantasy, and neglect of good goals.

General information. The CPQ is divided into Form A and Form B. The forms are equivalent and it is recommended that both forms be used, with a rest break between them. Each form contains five items on each factor. When the forms are combined a total of ten items are provided for each factor.

The CPQ is planned for use with children with an age range of eight to twelve years and centered on ten years for certain factors where age was found to be significant. Instructions for correcting for over age and under age are given.

Since differences at the .01 level exist between boys and girls on six of the fourteen factors, separate norm tables are provided for boys and girls in the Handbook. Instructions for compiling a single table including both boys and girls, through use of standard scores, are given,

but not especially recommended. The tables of norms also provide mean raw scores and standard deviations. These were used in comparing the experimental groups of this research project with the standardized groups.

IV. SUMMARY

In this chapter the sources of the data were shown to have been 158 educable mentally retarded children from six Indiana Public Schools. The schools each had from two to four or five classes for educable mentally retarded children. No attempt was made to get a representative sampling over the state. The 158 children had a mean age of 12.18. The intelligence quotients of the 158 students ranged from 50 to 80 with a mean of 64.97. The group consisted of 92 boys and 66 girls.

The tests were administered to the children by their regular teacher and were graded by the writer. The Children's Personality Questionnaire, the "CPQ" was used. The test measured fourteen dimensions or factors of the personality. A very brief description of each of these factors was given.

CHAPTER IV

PRESENTATION OF DATA

The data presented in this chapter were found by administering forms A and B of the CPQ (Children's Personality Questionnaire) to 158 educable mentally retarded students. It was necessary to divide this group into a boy's group and a girl's group, since differences at the one per cent level exist between boys and girls on six of the fourteen factors of the test.¹

The boys' group and girls' group were each further divided into groups according to intelligence quotients. These were the intelligent quotient groupings of 50-59, 60-69, and 70-80. This was done in order to find if any observed difference or similarity that might be found between the personalities of educable mentally retarded students and the standardized group existed at all of these levels of intelligence and to the same extent.

The eight groups of students were then compared to the norms of the CPQ test. After making corrections for age in the raw scores of individuals of the experimental group, when necessary, on B (Intelligence), E (Dominance), and

¹R. B. Porter and R. B. Cattell, Handbook for the IPAT Children's Personality Questionnaire, the "CPQ" (Champaign: Institute for Personality and Ability Testing, 1960), p. 18.

Q₄ (Ergic Tension), raw score means and standard deviations of the experimental group were compared to raw score means and standard deviations of the standardized CPQ group according to sex.

In comparing the experimental group to the standardized group, the writer found the difference between raw score means. An evaluation between the two means was also made by using the "t" test of significance. Finally homogeneity of variance was used to find whether the groups or populations differed in variances rather than means. As a result of these procedures and with the use of appropriate tables, it was possible to conclude whether the observed differences between means were significant. It was also possible to find the level of significance. A difference found significant at the one per cent level meant that this was a real difference and could have happened by chance only one time in 100. A difference found significant at the five per cent level meant this was also a real difference, but could have happened by chance five times out of 100. A difference beyond the five per cent level is said to be non-significant and therefore a chance difference.

I. GIRLS

The results of the CPQ test administered to sixty-six educable mentally retarded girls revealed that their mean

scored deviated significantly from the standardized means of the test on several factors. Of the fourteen personality factors, on which these girls were tested, there was a difference at the one per cent level on seven of them.

Table II, page 24, and Figure 1, page 25, both show the mean scores made by the girls on the test as well as the norms of the test for each of the fourteen factors on the test. Table II also gives the results of the "t" test for each factor and, if the difference between the mean scores was significant, the level of that significance.

There was no difference of significance between the experimental group and the standardized group on factors A, C, F, G, I, J, and Q_4 .

On factor B the arithmetical difference between the means of the standardized group and the experimental girls' group was -4.47. The "t" test of significance gave a score of 15.41. The difference between these two groups was significant at the one per cent level. This merely confirmed that the test was testing the intelligence factor, as the individuals of the experimental group had been chosen because of their low intelligence.

The difference between means on factor D was +.95. The "t" test result was 4.32. This difference was significant at the one per cent level. This meant that this group of girls could be rated high D or D+.

TABLE II

COMPARISON OF A GROUP OF 66 EDUCABLE MENTALLY RETARDED GIRLS
WITH NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED GIRLS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	6.30	1.72	+ .19	.86	
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	2.55	2.25	-4.47	15.41	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	5.41	1.60	- .25	1.22	
D	-PHLEGMATIC vs. +EXCITABLE	2.88	1.59	3.83	1.73	+ .95	4.32	1%
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	4.42	1.31	- .55	3.24	1%
F	-SERIOUS vs. +HAPPY-GO-LUCKY	3.22	1.50	3.32	1.62	+ .10	.48	
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	5.65	1.59	- .12	.59	
H	-SHY vs +VENTURESOME	5.19	1.62	4.68	1.48	- .51	2.68	1%
I	-TOUGH-MINDED vs. +TENDER-MINDED	6.35	1.61	6.53	1.34	+ .18	1.02	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	4.71	1.58	- .01	.05	
N	-SIMPLE, NATURAL vs. +SHREWD	2.56	1.60	3.44	2.03	+ .88	3.48	1%
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	4.77	1.84	+ .50	2.13	1%
Q ₃	-LAX vs. +SELF-CONTROLLED	6.89	1.56	6.41	1.73	- .48	2.24	1%
Q ₄	-COMPOSED vs. +DRIVEN	3.23	1.91	3.20	1.92	- .08	.38	

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

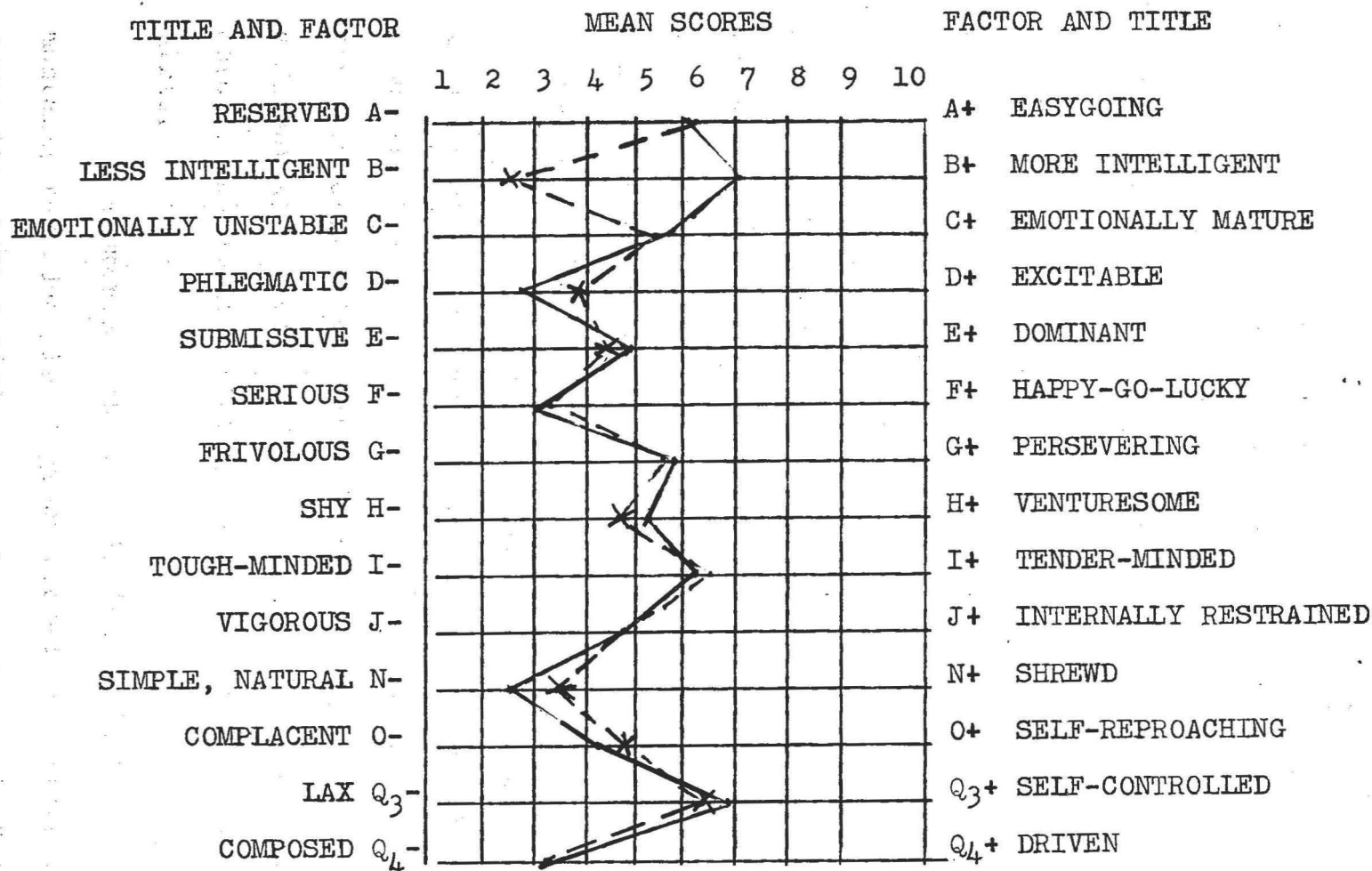


FIGURE 1

A COMPARISON OF THE MEAN RAW SCORES MADE BY 66 EDUCABLE MENTALLY RETARDED GIRLS, ON EACH OF THE FOURTEEN PERSONALITY FACTORS OF THE CPQ, WITH NORMS OF THE TEST

RETARDED GIRLS --- NORMS OF TEST ———
SIGNIFICANT DIFFERENCE X

Dominance (E) was a factor on which the girls had a mean score on the low or negative side. The difference between mean scores was $-.55$ with a "t" test of significance evaluation of 3.24 . The difference on this factor was significant at the one per cent level.

The arithmetical difference between mean raw scores of the experimental group and the norm group on factor H was $-.51$. The "t" test evaluation produced 2.68 . This was significant at the one per cent level. This girls' group was found to be an H- group.

On factor O the difference between mean raw scores was $+.50$. The "t" test evaluation of the difference between the means was 2.13 . This value of "t" was significant at the one per cent level. It was concluded the girls' experimental group was an O+ group.

On factor Q_3 the arithmetical difference between mean raw scores of the educable mentally retarded girls' group and the standardized CPQ girls' group was $-.48$. The "t" test evaluation between means was 2.24 . This was significant at the one per cent level. This group possessed more of the qualities of Q_3 - than the normal population of girls.

To summarize, the data indicated that the educable mentally retarded girls' group scored significantly different than normal girls on seven of the fourteen factors of

the test. The data show the retarded girls ranked lower on factors B, H, and Q_3 , and higher on factors D, N, and O than the children who were used in standardizing the test.

II. BOYS

The results of the CPQ test, administered to ninety-two educable mentally retarded boys, showed their mean scores deviated significantly from the standardized means of the test on nine of the fourteen factors of the test.

Table III, page 28, and Figure 2, page 29, show the mean scores made by the boys on the test, as well as the norms of the test, on each of the fourteen factors. Table III also gives the results of the "t" test evaluation for each factor and, providing it was significant, the level of its significance.

On factors D, E, I, O, and Q_4 there were no significant differences between the norm group and retarded boys' group.

The difference between mean raw scores of the educable mentally retarded boys' group and the CPQ standardized boys' group on factor A was $-.73$. The "t" test of significance yielded an evaluation of 5.10. This was significant at the one per cent level. The group possessed more of the qualities described for a low A group than normal children.

On factor B, the intelligence factor, the mentally

TABLE III

COMPARISON OF A GROUP OF 92 EDUCABLE MENTALLY RETARDED BOYS
WITH NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED BOYS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	5.38	1.24	- .73	5.10	1%
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	2.35	2.36	-4.67	18.10	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	5.28	1.63	- .38	2.12	1%
D	-PHLEGMATIC vs. +EXCITABLE	3.68	1.69	4.02	2.28	+ .34	1.38	
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	5.00	1.55	+ .03	.17	
F	-SERIOUS vs. +HAPPY-GO-LUCKY	5.00	1.77	4.66	1.83	- .34	1.69	1%
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	5.01	1.54	- .76	4.77	1%
H	-SHY vs. +VENTURESOME	5.19	1.62	5.51	1.51	+ .32	1.90	1%
I	-TOUGH-MINDED vs. +TENDER-MINDED	4.06	1.76	3.99	1.71	- .07	.37	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	4.93	1.34	+ .21	1.80	1%
N	-SIMPLE, NATURAL vs. +SHREWD	3.46	1.92	3.96	1.84	+ .50	2.45	1%
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	4.22	2.05	- .05	.22	
Q3	-LAX vs. +SELF-CONTROLLED	6.26	1.79	5.70	1.56	- .56	3.20	1%
Q4	-COMPOSED vs. +DRIVEN	3.78	1.98	3.53	2.19	- .25	1.04	

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

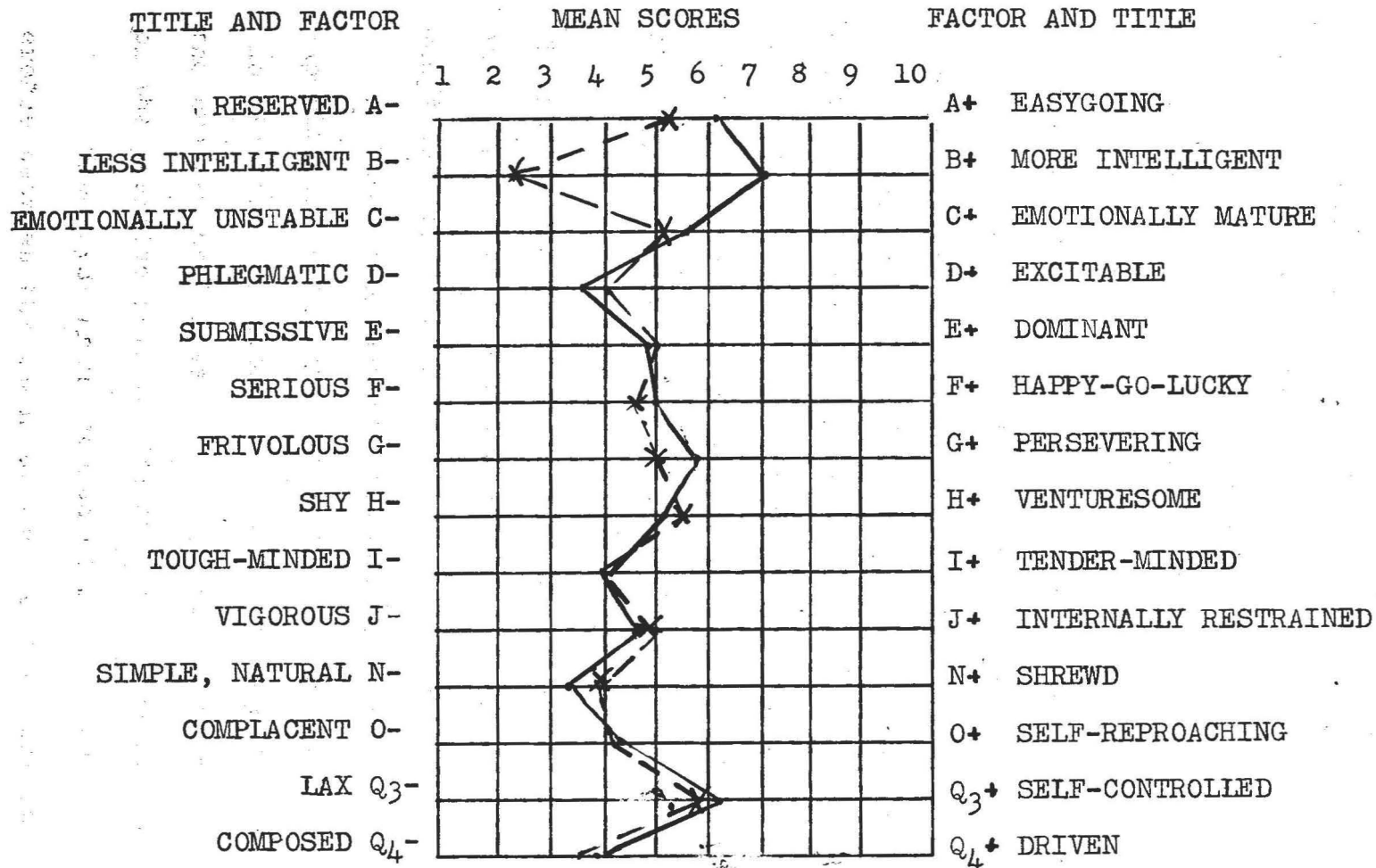


FIGURE 2

A COMPARISON OF THE MEAN RAW SCORES MADE BY 92 EDUCABLE MENTALLY RETARDED BOYS, ON EACH OF THE FOURTEEN PERSONALITY FACTORS OF THE CPQ, WITH NORMS OF THE TEST

RETARDED BOYS - - - - - NORMS OF TEST - - - - -
SIGNIFICANT DIFFERENCE X

retarded boys' group was significantly less intelligent than the normal population.

The difference between mean scores on factor C was $-.38$. The "t" test evaluation was 2.12. This value was significant at the one per cent level. The boys showed more of the qualities of the low C factor than the norm group.

The boys' group was significantly lower on factor F than the normal population of boys. The difference between mean scores was $-.34$. The "t" test of significance result was 1.69. This was significant at the one per cent level.

On factor G the difference between means was $-.76$. The "t" test result was 4.77. This was significant at the one per cent level.

The retarded boys' group scored high on factor H. The difference between means on this factor was $+.32$. The "t" test of significance yielded a result of 1.90. This was significant at the one per cent level.

The difference between mean raw scores of the boy's experimental group and the norm group on factor J was $+.21$. The "t" test evaluation was 1.80. This was significant at the one per cent level. This group had more of the qualities of the positive pole on factor J than the norm group.

The boys' group scored high on factor N. The difference between the means of the experimental boys' group and the CPQ standardized group, on this factor, was $+.50$.

The "t" test yielded an evaluation of 2.45. This was significant at the one per cent level.

A low Q_3 score was made by the total boys' group on factor Q_3 . The difference between means on factor Q_3 was -.56. The "t" test of significance gave an evaluation of 3.20. This was significant at the one per cent level.

To summarize, the mean scores of the educable mentally retarded boys' group differed significantly from the boys' norms of the CPQ test on nine of the fourteen factors of the test. These differences revealed the experimental group, when compared to the norm group, was lower on factors A, B, C, F, G, and Q_3 and higher on factors H, J, and N.

III. THE 50-59 IQ GIRLS' GROUP

In the group of sixty-six educable mentally retarded girls, to which the CPQ test was administered, twenty-two possessed intelligence quotients ranging from 50-59. The results of the test showed the girls deviated significantly from the CPQ norms for girls on only four of the fourteen factors.

Table IV, page 32, and Figure 3, page 33, show the mean scores made by the girls on the test as well as the norms of the test on each of the fourteen factors. Table IV also gives the results of the "t" test evaluation for each factor and, providing it was significant, the level

TABLE IV

COMPARISON OF A GROUP OF 22 GIRLS, WITH INTELLIGENCE QUOTIENTS RANGING FROM 50-59, WITH THE NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED GIRLS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	6.68	1.87	- .57	1.43	
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	2.14	2.53	-4.88	8.87	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	5.23	1.71	- .43	1.16	
D	-PHLEGMATIC vs. +EXCITABLE	2.88	1.59	3.50	1.99	- .62	1.44	
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	4.14	1.49	- .83	2.59	1%
F	-SERIOUS vs. +HAPPY-GO-LUCKY	3.22	1.50	3.68	1.56	- .46	1.35	
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	6.09	1.46	- .32	1.00	
H	-SHY vs. +VENTURESOME	5.19	1.62	4.36	1.02	- .93	3.69	1%
I	-TOUGH-MINDED vs. +TENDER-MINDED	6.35	1.61	6.55	1.26	- .20	.73	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	4.32	1.39	- .40	1.33	
N	-SIMPLE, NATURAL vs. +SHREWD	2.56	1.60	4.95	2.35	- .39	4.78	1%
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	4.59	1.62	- .32	.91	
Q ₃	-LAX vs. +SELF-CONTROLLED	6.89	1.56	6.77	1.38	- .22	.41	
Q ₄	-COMPOSED vs. +DRIVEN	3.28	1.91	2.86	2.14	- .42	.91	

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

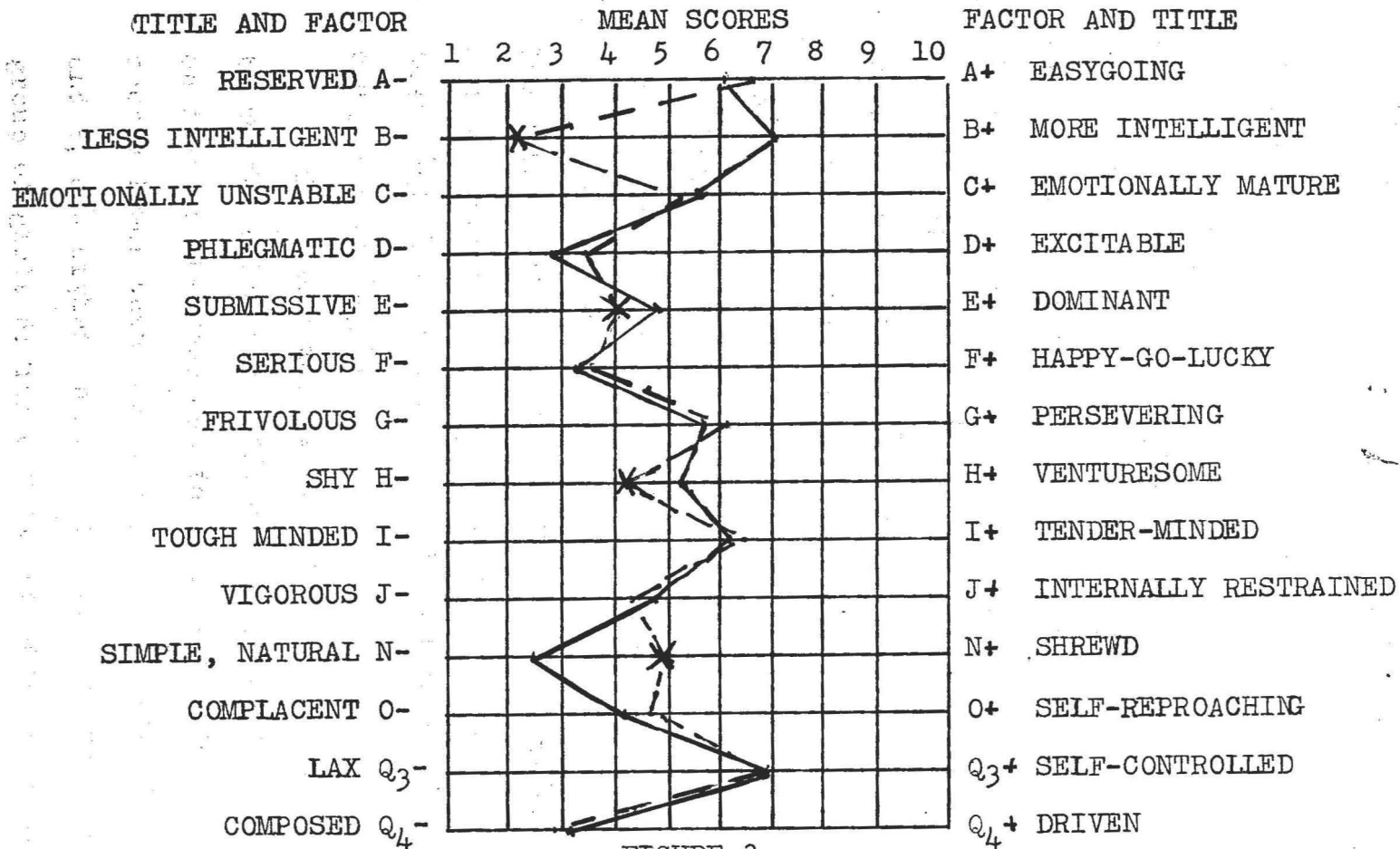


FIGURE 3

A COMPARISON OF THE MEAN RAW SCORES OF GIRLS, WITHIN AN IQ RANGE OF 50-59, WITH THE NORMS OF THE CPQ

RETARDED GIRLS — — — — — NORMS OF THE TEST — — — — —
SIGNIFICANT DIFFERENCE X

of its significance.

There was an arithmetical difference of -4.88 on factor B. The "t" test evaluation between means was 8.87 . This was significant at the one per cent level. This classed this group as less intelligent.

On factor E the difference between mean raw scores of the experimental 50-59 IQ girls' group and the CPQ norm for girls was $-.83$. The "t" test of significance yielded 2.59 . This was significant at the one per cent level. This girls' group scores revealed they were a low E group.

The difference between means of the two groups on factor H was $-.93$. The "t" test of significance produced a result of 3.69 . This was significant at the one per cent level. The group was a low H group.

This 50-59 IQ girls' group scored high on factor N. The difference between the mean of this group on factor N and the mean of the girls' norm group was $+3.39$. The "t" test evaluation was 4.78 . This was also significant at the one per cent level.

To summarize, the 50-59 IQ girls' group was found to be significantly different from the norm group of girls on four of the fourteen factors of the test. These girls scored lower than the norm group of girls on factors B, E, and H, and higher on N. The four factors on which this group of girls differed from the norm group were among the

seven factors on which the entire group of sixty-six girls differed from the norms.

IV. THE 50-59 IQ BOYS' GROUP

There were eighteen boys in the 50-59 IQ group. On the fourteen personality factors covered by the CPQ test, there was a significant difference, between the mean score of this group and the mean score of the CPQ boys' norms, on nine of the fourteen factors.

Table V, page 36, and Figure 4, page 37, show the mean scores made by the boys on the test as well as the standardized raw score means of the test. The results of the "t" test evaluation for each factor and, if it was significant, the level of significance is also shown on Table V.

On factors D, G, I, J, and O the differences were not significant between the experimental boys' group in the 50-59 IQ range and the norm group.

There was a difference between means of $-.61$ on factor A. The "t" test evaluation between means was 2.00 . This was significant at the five per cent level. This classed the group as A-.

The difference between the mean score of the 50-59 IQ boys and the mean score of the norm group on factor B (Intelligence) was -5.58 . The "t" test result was 12.98 .

TABLE V

COMPARISON OF A GROUP OF 18 BOYS, WITH INTELLIGENCE QUOTIENTS RANGING FROM 50-59, WITH THE NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED BOYS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	5.50	1.26	- .61	2.00	5%
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	1.44	1.81	-5.58	12.98	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	4.83	1.26	- .83	2.77	1%
D	-PHLEGMATIC vs. +EXCITABLE	3.68	1.69	4.28	1.43	+ .60	1.76	
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	4.22	1.17	- .75	2.68	1%
F	-SERIOUS vs. +HAPPY-GO-LUCKY	5.00	1.77	4.11	1.63	- .89	2.28	5%
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	5.72	1.40	- .05	.15	
H	-SHY vs. +VENTURESOME	5.19	1.62	5.55	2.06	+ .36	2.18	1%
I	-TOUGH-MINDED vs. +TENDER-MINDED	4.06	1.76	4.00	1.39	- .06	.18	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	4.61	1.26	- .11	.36	
N	-SIMPLE, NATURAL vs. +SHREWD	3.46	1.92	4.06	1.23	+ .60	2.00	5%
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	4.17	1.95	- .10	.22	
Q ₃	-LAX vs. +SELF-CONTROLLED	6.26	1.79	5.11	1.63	-1.15	2.96	1%
Q ₄	-COMPOSED vs. +DRIVEN	3.78	1.98	2.78	1.06	-1.00	3.85	1%

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

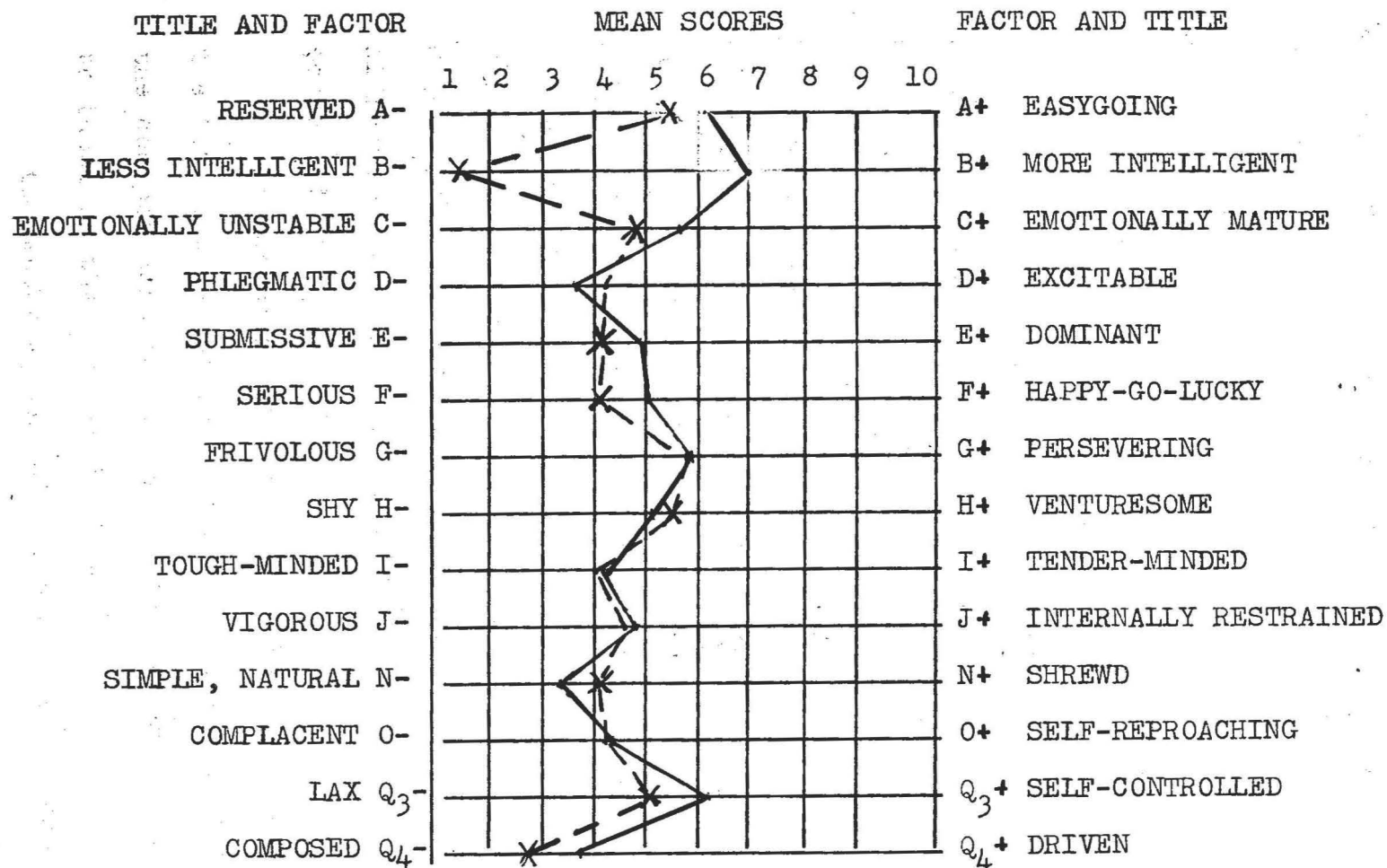


FIGURE 4

A COMPARISON OF THE MEAN RAW SCORES OF BOYS, WITHIN AN IQ RANGE OF 50-59, WITH THE NORMS OF THE CPQ

RETARDED BOYS ——— NORMS OF THE TEST ———
SIGNIFICANT DIFFERENCE X

This was significant at the one per cent level. This was the lowest rating on intelligence of all the groups.

On factor C, the difference between the mean score of the experimental 50-59 IQ group of boys and the mean of the norm group was $-.83$. The "t" test result was 2.77 . The level of significance was one per cent. The experimental group, by their scores, revealed they had traits in their personalities more like the C- side of the factor than the norm group.

On factor E, the difference between means was $-.75$. The "t" test result was 2.68 . The level of significance was one per cent. While this group of boys were on the low score side of this factor, the total boys' experimental group did not show this characteristic, but were very close to the mean of the norm group.

The difference between the raw mean scores on factor F was $-.89$. The "t" test result was 2.28 . This was significant at the five per cent level. This was on the low score side of factor F.

On factor H, the difference between means was $+36$. The "t" test evaluation was 2.18 . This was significant at the one per cent level. The group possessed traits similar to those on the high side of the H factor.

On factor N, the difference between mean scores of the experimental 50-59 IQ boys' group and the mean score

of the test norm was $+1.60$. The "t" test of significance gave an evaluation of 2.00. This was significant at the five per cent level. The group had more of the traits described for the high score or N+ side of the factor.

There was a difference between mean scores of the two groups of -1.15 on factor Q_3 . The "t" test result was 2.96. This was significant at the one per cent level. This revealed the group possessed traits more nearly resembling the Q_3 - child than did the norm group.

Finally, there was a difference of -1.00 between the experimental group's mean score and the mean of the norm group on factor Q_4 . The "t" test result was 3.85. This was significant at the one per cent level. This placed the group on the low side of the Q_4 factor.

To summarize the data found by testing the 50-59 IQ group of boys, differences were found between them and the norm group of boys on six of the factors at the one per cent level. They scored on the high side of factors H and N and on the low side of factors B, C, E, Q_3 , and Q_4 . Differences were found at the five per cent level on three factors.

This boy's group rated lower than the norm group on factors A and F and higher than the norm group on factor N.

V. THE 60-69 IQ GIRLS' GROUP

There were twenty-five girls in the 60-69 IQ group

of girls. On the fourteen factors covered by the CPQ, the mean score of this experimental group of girls was close to the mean score of the norm group on eight.

Table VI, page 41, and Figure 5, page 42, list the mean scores made by this group of 60-69 IQ girls as well as the standardized raw score means of the norm group of girls. Table VI also lists the results of the "t" test evaluation between the two means being compared on each factor and, if it was significant, the level of significance.

The difference between means was -5.10 on factor B. The "t" test result was 11.33. The level of significance was one per cent on this factor. This showed the group was less intelligent than the norm group.

The difference between the mean of the experimental girls' group and the mean of the norm group of girls was +1.16 on factor D. The "t" evaluation between the two means was 3.87. This was significant at the one per cent level. This revealed the girls had the traits of the high D child.

On factor F, the difference between means was -.50. The "t" test of significance gave a figure of 1.78. This was a significance at the five per cent level. This indicated this group more nearly possessed the traits of the F- child than did the norm group.

The difference between raw score means of the 60-69 IQ group of girls and the girls' norm group was -.64 on

TABLE VI

COMPARISON OF A GROUP OF 25 GIRLS, WITH INTELLIGENCE QUOTIENTS RANGING FROM 60-69, WITH THE NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED GIRLS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	6.12	1.42	+ .01	.03	
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	1.92	2.20	-5.10	11.33	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	5.64	1.11	- .04	.09	
D	-PHLEGMATIC vs. +EXCITABLE	2.88	1.59	4.04	1.46	+1.16	3.87	1%
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	4.64	1.12	- .33	1.43	
F	-SERIOUS vs. +HAPPY-GO-LUCKY	3.22	1.50	2.72	1.37	- .50	1.78	5%
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	5.48	1.55	- .29	.91	
H	-SHY vs. +VENTURESOME	5.19	1.62	4.55	1.17	- .64	2.66	1%
I	-TOUGH-MINDED vs. +TENDER-MINDED	6.35	1.61	6.60	1.23	+ .25	1.00	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	5.20	1.53	+ .43	1.55	
N	-SIMPLE, NATURAL vs. +SHREWD	2.56	1.60	3.48	1.80	+ .92	2.55	1%
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	5.16	1.58	+ .89	2.78	1%
Q ₃	-LAX vs. +SELF-CONTROLLED	6.89	1.56	6.48	1.63	- .41	1.24	
Q ₄	-COMPOSED vs. +DRIVEN	3.28	1.91	3.32	1.84	+ .04	.11	

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

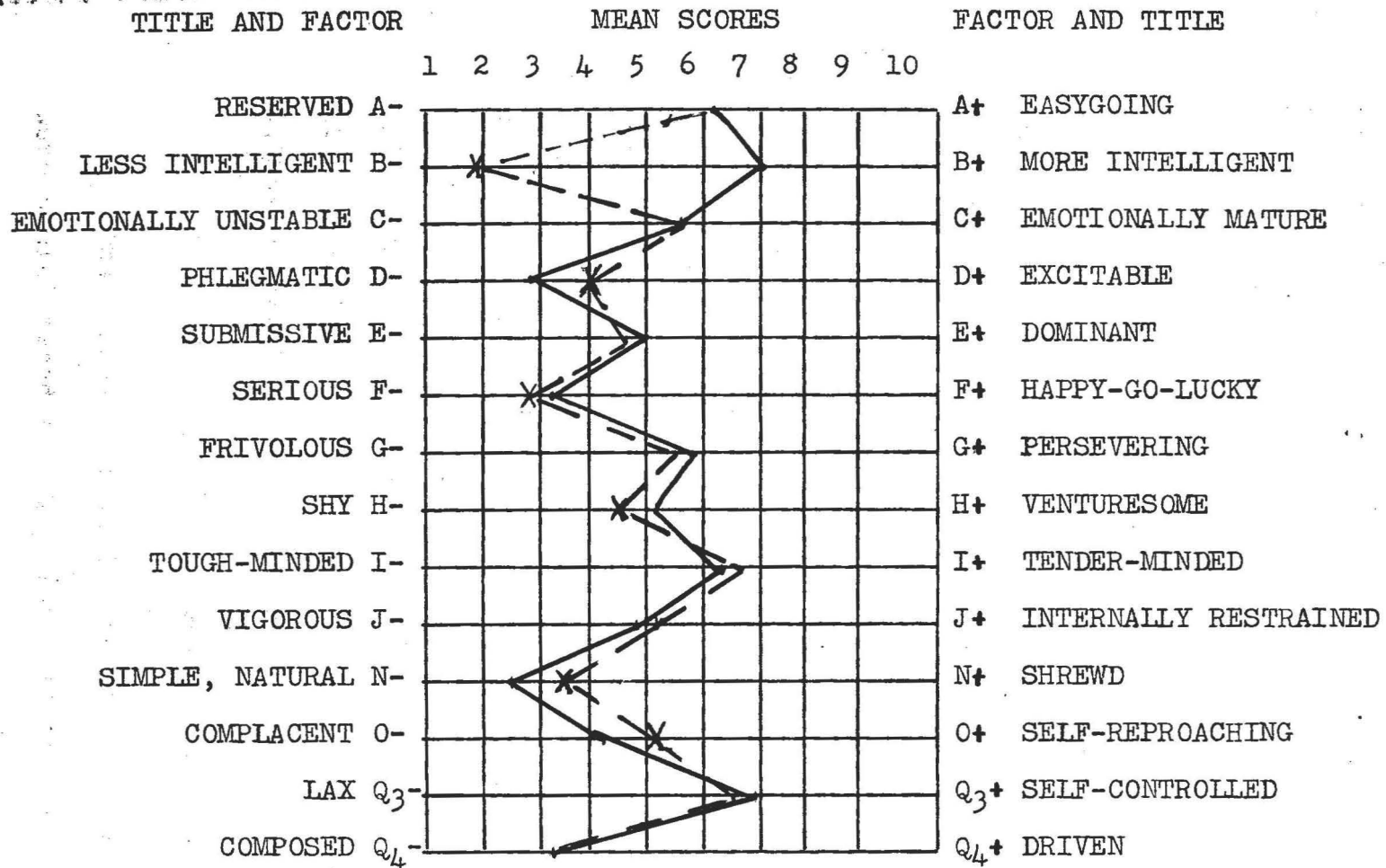


FIGURE 5

A COMPARISON OF THE MEAN RAW SCORES OF GIRLS, WITHIN AN IQ RANGE OF 60-69, WITH THE NORMS OF THE CPQ

RETARDED GIRLS — — — — — NORMS OF THE TEST — — — — —
SIGNIFICANT DIFFERENCE X

IQ group of girls and the girls' norm group was $-.64$ on factor H. The "t" test result was 2.66. The level of significance was one per cent. The traits indicated for this group was that of the low H child.

The 60-69 IQ girls' group was significantly different from the girls' norm group on factor N. They scored on the high side of this factor. The difference in the mean scores on this factor was $+.92$. The "t" test result was 2.55. The level of significance was one per cent.

The difference between the means of the experimental group and the norm group was $+.89$ on factor O. The "t" test result was 2.78. The level of significance was one per cent. The experimental group possessed traits indicated for the O+ child.

To summarize, the mean scores made by this group of girls were significantly different from the scores made by the norm group of girls on six of the fourteen factors. This girls' group, when compared to a normal group, scored high on factors D, N, and O. They scored lower than the normal population on factors B, F, and H.

VI. THE 60-69 IQ GROUP OF BOYS

There were 39 boys in the range of 60-69 IQ who were administered the CPQ test. As can be seen from Table VII, page 45, and Figure 6, page 46, this boys' group was

significantly different from the norm group of boys on six of the fourteen factors of the test. The differences on the other eight factors were small enough to be chance differences.

Table VII shows the difference between the mean of the retarded boys group and the mean of the norm group of boys was -1.01 on factor A. The "t" test of significance gave an evaluation of the differences between the two means as 3.74. This was significant at the one per cent level. This group of boys possessed personality traits characteristic of factor A-.

On factor B (Intelligence), the difference between means was -5.25. The "t" test result was 12.21. This was significant at the one per cent level. The group was less intelligent than the norm group.

The difference between means was +.63 on factor D. The "t" test of significance evaluation was 2.33. This was significant at the one per cent level. This placed these children as high D.

The group of educable mentally retarded boys with intelligence quotients in the 60-69 range scored on the low or minus side of factor G. The difference between mean raw scores on this factor was -.87. The "t" test gave an evaluation of 3.00. This was significant at the one per cent level.

TABLE VII

COMPARISON OF A GROUP OF 39 BOYS, WITH INTELLIGENCE QUOTIENTS RANGING FROM 60-69, WITH THE NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED BOYS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	5.10	1.65	-1.01	3.74	1%
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	1.77	2.64	-5.25	12.21	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	5.36	1.67	- .30	1.11	
D	-PHLEGMATIC vs. +EXCITABLE	3.68	1.69	4.31	1.65	+ .63	2.33	1%
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	5.15	1.59	+ .18	.69	
F	-SERIOUS vs. +HAPPY-GO-LUCKY	5.00	1.77	5.21	1.71	+ .21	.75	
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	4.90	1.75	- .87	3.00	1%
H	-SHY vs. +VENTURESOME	5.19	1.62	5.18	1.38	- .01	.04	
I	-TOUGH-MINDED vs. +TENDER-MINDED	4.06	1.76	4.05	1.50	- .01	.04	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	5.08	1.21	+ .36	1.80	5%
N	-SIMPLE, NATURAL vs. +SHREWD	3.46	1.92	3.59	1.69	+ .13	.46	
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	3.95	1.97	- .32	1.00	
Q ₃	-LAX vs. +SELF-CONTROLLED	6.26	1.79	5.92	1.54	- .34	1.33	
Q ₄	-COMPOSED vs. +DRIVEN	3.78	1.98	3.54	2.16	- .24	1.85	1%

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

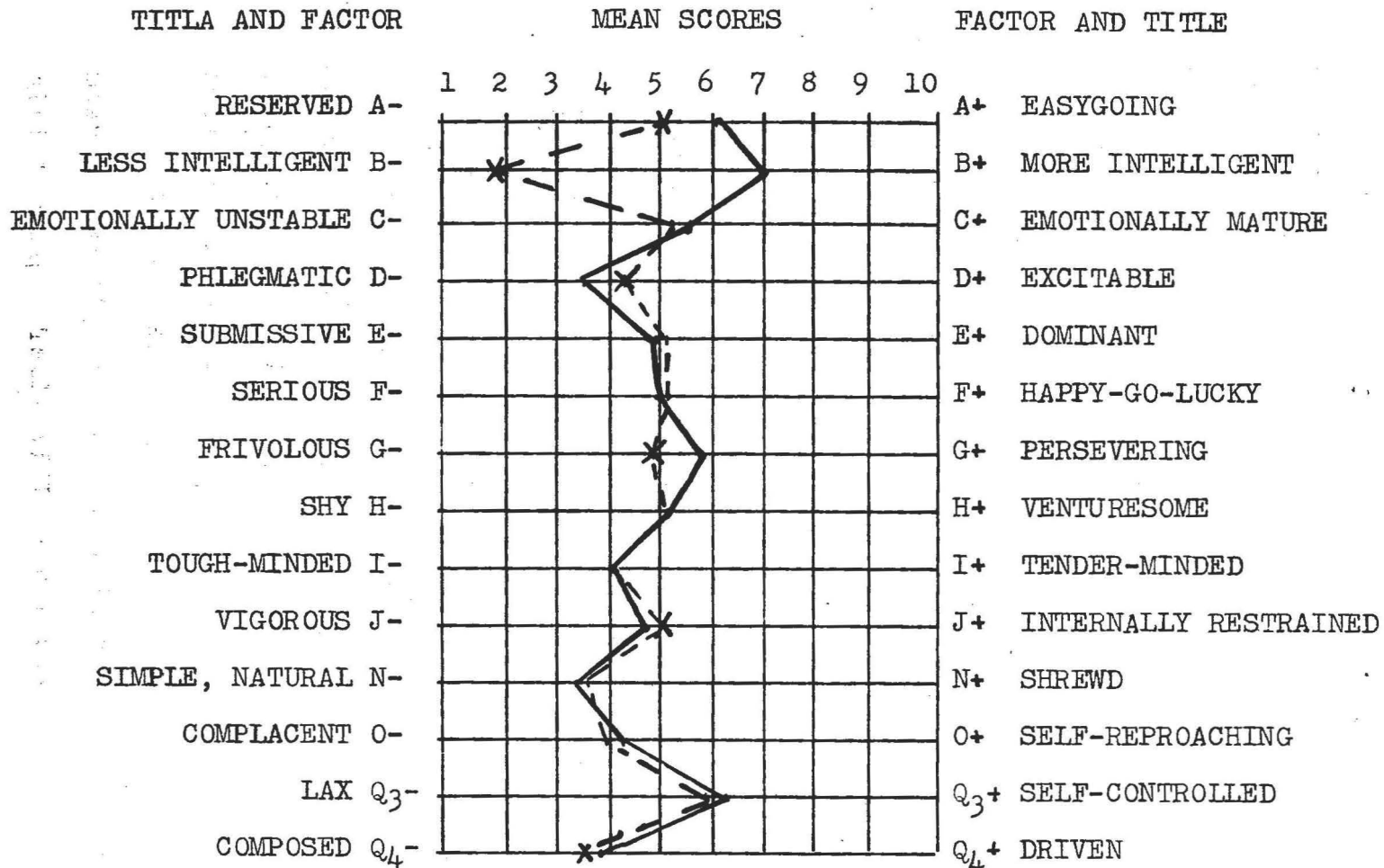


FIGURE 6

A COMPARISON OF THE MEAN RAW SCORES OF BOYS, WITHIN AN IQ RANGE OF 60-69, WITH THE NORMS OF THE CPQ

RETARDED BOYS - - - - - NORMS OF THE TEST _____
SIGNIFICANT DIFFERENCE X

On factor J, the difference between means was +36. The "t" test of significance gave a "t" of 1.80. This was significant at the five per cent level. This group possessed more of the J+ traits than the norm group.

The difference between means on factor Q_4 was -.24. The "t" test evaluation between the means gave a "t" of 1.85. This was significant at the one per cent level. This group possessed more of the traits pertaining to the Q_4 - child than did the norm group.

To summarize, there was a significant difference between the 60-69 IQ boys' group and the norm group of boys on six of the fourteen factors of the test. The mean scores of this retarded group of boys were higher than the mean scores for the normal population on factors D and J. They were lower on factors A, G, Q_4 , and B.

VII. THE 70-80 IQ GIRLS' GROUP

There were 19 girls in the 70-80 IQ group of girls. The mean scores, made by this group of girls on the CPQ test, were significantly different from the norm group on only four factors.

Table VIII, page 48, and Figure 7, page 49, show the mean scores of both the 70-80 IQ girls' group and the CPQ girls' group. Table VIII also lists the results of the "t" test evaluation between means on each factor and, if it was

TABLE VIII

COMPARISON OF A GROUP OF 19 GIRLS, WITH INTELLIGENCE QUOTIENTS RANGING FROM 70-80, WITH THE NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED GIRLS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	6.11	1.83	.00	.00	
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	2.63	2.00	-4.39	9.34	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	5.32	1.89	-.34	.63	
D	-PHLEGEMATIC vs. +EXCITABLE	2.88	1.59	3.89	1.76	+1.01	2.41	1%
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	4.68	1.59	-.29	.78	
F	-SERIOUS vs. +HAPPY-GO-LUCKY	3.22	1.50	3.65	1.60	+.43	1.05	
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	5.63	1.18	-.14	.50	
H	-SHY vs. +VENTURESOME	5.19	1.62	5.26	1.68	+.07	.18	
I	-TOUGH-MINDED vs. +TENDER-MINDED	6.35	1.61	6.42	2.01	+.07	.15	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	4.47	1.66	-.25	.64	
N	-SIMPLE, NATURAL vs. +SHREWD	2.56	1.60	3.63	1.58	+1.07	2.89	1%
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	4.42	2.04	+.15	.32	
Q ₃	-LAX vs. +SELF-CONTROLLED	6.89	1.56	6.05	1.73	-.84	2.10	1%
Q ₄	-COMPOSED vs. +DRIVEN	3.28	1.91	3.74	1.71	+.46	1.15	

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

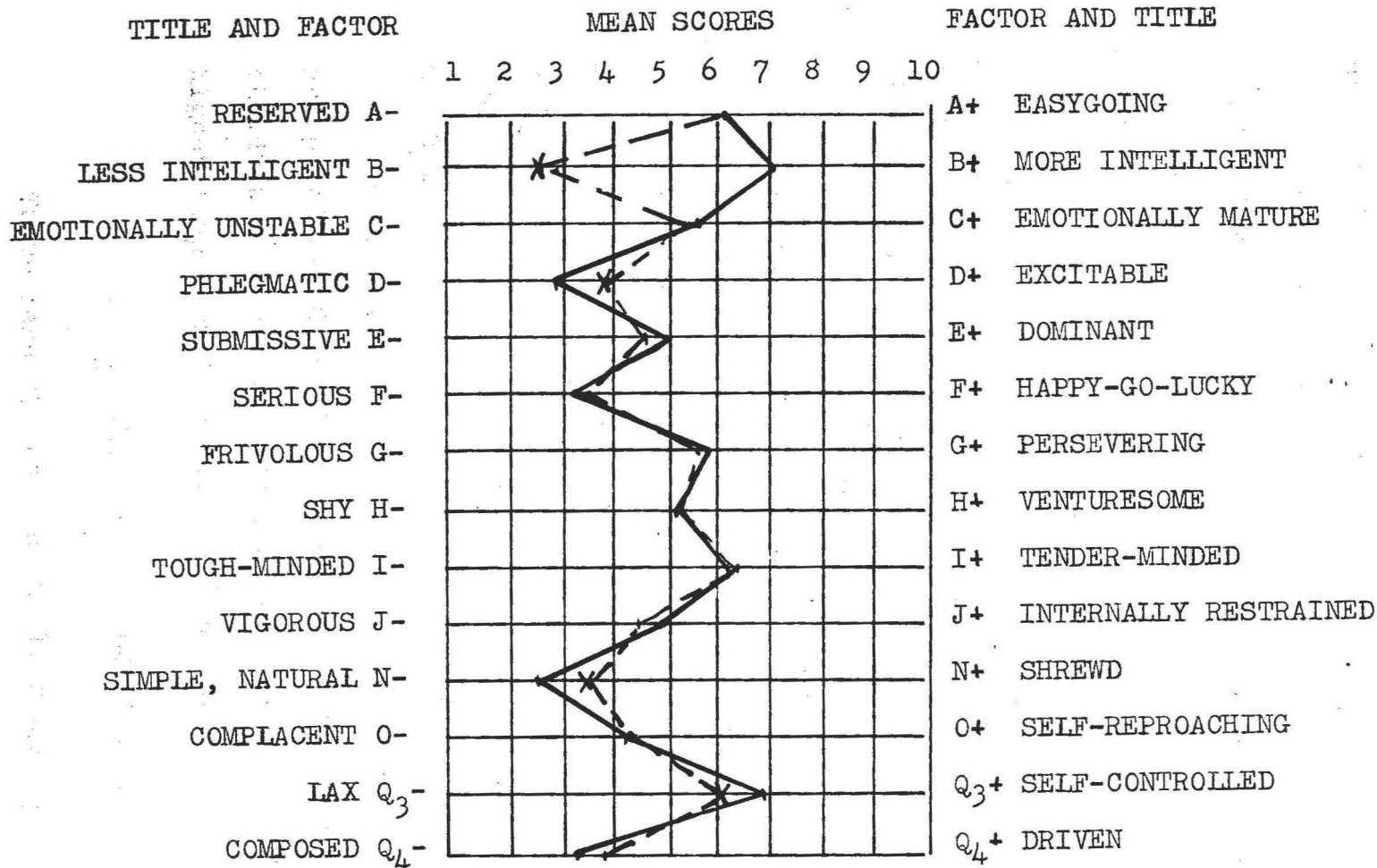


FIGURE 7

A COMPARISON OF THE MEAN RAW SCORES OF GIRLS, WITHIN AN IQ RANGE OF 70-80, WITH THE NORMS OF THE CPQ

RETARDED GIRLS - - - - - NORMS OF THE TEST - - - - -
SIGNIFICANT DIFFERENCE X

significant, the level of significance.

The difference between mean scores on factor B was -4.39. The "t" test of significance gave a result of 9.34. This was significant at the one per cent level. This girls' group was less intelligent than the norm group.

On factor D, the difference between mean scores of this group and the norm group of girls was +1.01. The evaluation by the "t" test of significance resulted in a figure of 2.41. This was significant at the one per cent level. This group possessed traits more nearly that of the high score pole of factor D than did the normal population.

On factor Q_3 , the mean score of the 70-80 IQ girls' group revealed they had traits of personality more nearly like that of the low score pole of factor Q_3 than did the norm group. The difference between mean scores of the two groups was -.84. The "t" test of significance evaluation was 2.10. This was significant at the one per cent level.

To summarize, the data on this 70-80 IQ girls' group indicated they were significantly lower than normal children on factors B and Q_3 . They were significantly higher than normal on factors D and N.

VIII. THE 70-80 IQ BOYS' GROUP

There were 39 boys in the IQ range of 70-80. This group was significantly different from the norm group of

boys on five of the fourteen factors of the test.

Table IX, page 52, and Figure 8, page 53, show the mean scores of the 70-80 IQ boys' group and the mean scores of the norm group of boys. Table IX also shows the difference between the mean of the two groups on each factor, the result of the "t" test evaluation between means on each factor, and, if the evaluation was significant, the level of significance.

The difference between the means of the two groups on factor A was $-.54$. The "t" test result was 1.71 . This was significant at the five per cent level. These boys had personality traits more nearly like the low score pole of factor A than the normal population.

There was a difference, significant at the one per cent level on factor B, indicating the boys were less intelligent than the normal population. The difference between means was -4.88 . The "t" test of significance yielded a figure of 12.51 .

On factor G, the difference between means was $-.94$. The "t" test of significance produced a "t" of 3.79 . This was significant at the one per cent level. The behavior traits of this group were more nearly like those of the low score pole of factor G than were the traits of the norm group.

The boys' experimental group scored on the high side of factor N. The difference between the two mean scores on

TABLE IX

COMPARISON OF A GROUP OF 35 BOYS, WITH INTELLIGENCE QUOTIENTS RANGING FROM 70-80, WITH THE NORMS OF THE CPQ

FACTOR	TITLE	CPQ MEAN	σ	RETARDED BOYS' MEAN	σ	DIFFERENCE BETWEEN MEANS	"t" TEST	LEVEL OF SIGNIFICANCE
A	-RESERVED vs. +EASY GOING	6.11	1.64	5.57	1.79	- .54	1.71	5%
B	-LESS INTELLIGENT vs. +MORE INTELLIGENT	7.02	2.20	2.14	2.24	-4.88	12.51	1%
C	-EMOTIONALLY UNSTABLE vs. +EMOTIONALLY MATURE	5.66	1.51	5.34	1.22	- .32	1.52	
D	-PHLEGMATIC vs. +EXCITABLE	3.68	1.69	3.60	1.62	- .08	.29	
E	-SUBMISSIVE vs. +DOMINANT	4.97	1.60	5.08	1.46	+ .11	.44	
F	-SERIOUS vs. +HAPPY-GO-LUCKY	5.00	1.77	4.77	1.82	- .23	.61	
G	-FRIVOLOUS vs. +PERSEVERING	5.77	1.61	4.83	1.35	- .94	3.79	1%
H	-SHY vs. +VENTURESOME	5.19	1.62	5.49	1.49	+ .30	1.15	
I	-TOUGH-MINDED vs. +TENDER-MINDED	4.06	1.76	3.91	1.65	- .15	.52	
J	-VIGOROUS vs. +INTERNALLY RESTRAINED	4.72	1.57	4.86	1.52	- .14	.54	
N	-SIMPLE, NATURAL vs. +SHREWD	3.46	1.92	4.26	1.97	+ .80	2.94	1%
O	-COMPLACENT vs. +SELF-REPROACHING	4.27	1.84	4.54	1.73	+ .27	.90	
Q ₃	-LAX vs. +SELF CONTROLLED	6.26	1.79	5.74	1.46	- .54	2.18	1%
Q ₄	-COMPOSED vs. +DRIVEN	3.78	1.98	3.60	2.35	- .18	.45	

Note: A minus difference between means indicated a low score trait. A plus difference between means indicated a high score trait. After applying the "t" test of significance and the homogeneity of variance, if the difference was found significant, its level of significance is shown.

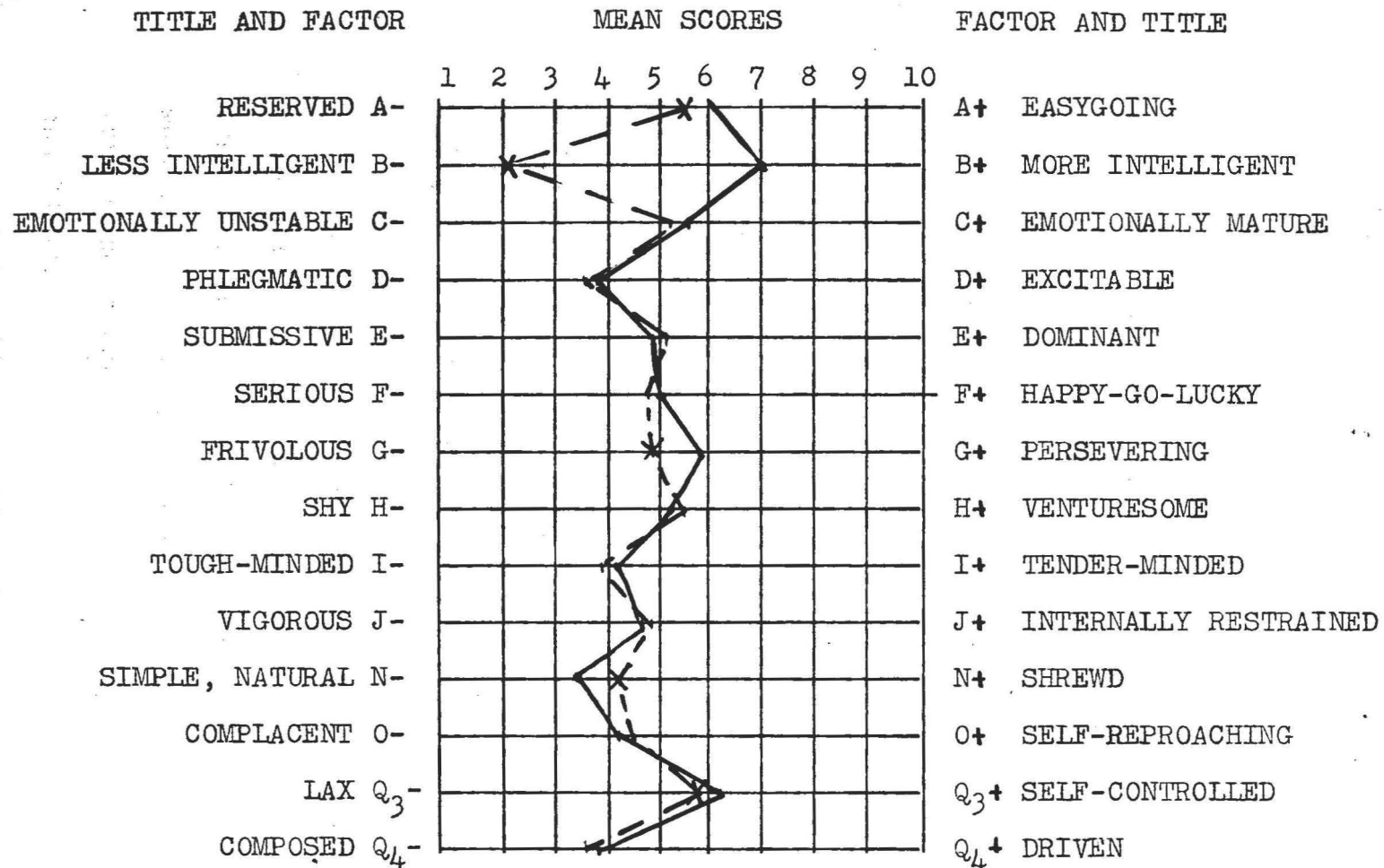


FIGURE 8

A COMPARISON OF THE MEAN RAW SCORES OF BOYS, WITHIN AN IQ RANGE OF 70-80, WITH THE NORMS OF THE CPQ

RETARDED BOYS - - - - - NORMS OF THE TEST - - - - -
SIGNIFICANT DIFFERENCE X

this factor was $+ .80$. The "t" test of significance produced a "t" of 2.94. This was significant at the one per cent level.

The last difference of significance between means was on factor Q_3 . The boys scored on the low side of this factor. The difference between means on this factor was $- .54$. The "t" test evaluation produced a "t" of 2.18. This was significant at the one per cent level.

To summarize, the 70-80 IQ boys' group was significantly different from the norm group on five of the fourteen factors of the CPQ test. This group scored significantly lower on factors A, B, G, and Q_3 than the norm group. They scored significantly higher than the norm group on factor N.

IX. SUMMARY

The data found by administering The Children's Personality Questionnaire, the "CPQ" to 158 educable mentally retarded children were presented in this chapter.

The students' test scores were first divided into two groups with all the boys represented in one group and all the girls represented in the other group. These two groups were divided further, into three groups each, according to intelligence quotients. These IQ groups were 50-59, 60-69, and 70-80.

Boys and girls were grouped separately at all times

since tables of norms for the CPQ test are separate for boys and girls. These separate tables are provided because boys and girls normally score differently on six of the fourteen personality factors of the test.

It was found that all of the groups deviated from the norm on the intelligence factor (B) to a greater degree than from the norm on any other factor.

Seven of the eight groups, on which statistics were compiled, scored significantly higher on factor N than the norm groups. The 60-69 IQ group of boys did not show this trait.

All boys' groups scored low on factor A. Boys also scored low on factors G and Q₃. They scored high on factor N.

The data indicated the educable mentally retarded girls were low on factors E and H. The girls scored high on factors D and N.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter presents a condensed version of the entire research on the personality of the mentally retarded child with some conclusions based on the data obtained as a result of that research.

I. SUMMARY

It was the purpose of this survey to describe the personality of the educable mentally retarded child in comparison to that of the normal population. It was hoped the information gained by this research might supply helpful information that could be used by teachers and schools in dealing with and helping educable mentally retarded students.

A comparison was made between educable mentally retarded boys and normal boys of approximately the same age range. Educable mentally retarded girls were compared to a normal group of girls. Each of the two educable mentally retarded groups was divided into three groups according to certain ranges of intelligence quotients in order to make further comparisons.

In order to make the comparisons, The Children's Personality Questionnaire, the "CPQ" was administered to a number of students and the mean scores and their standard

deviations compared to the mean scores and standard deviations of the group used in standardizing the test. This norm group consisted of 741 girls and 735 boys.

The CPQ is a pencil and paper test. The test measures fourteen dimensions or factors of the personality. Each factor is bipolar and represents one aspect of personality. A score is significant according to how far it varies in either direction from the mean. Neither a high score nor a low score is especially desired. When both Form A and Form B of the test are administered, each factor is covered by a total of ten items.

By contacting a number of Indiana Public Schools conducting classes for educable mentally retarded students, the writer was able to have the test administered to 92 boys and 66 girls. The mean age of these students was 12.18. The mean of the intelligence quotients was 64.97. These students were all attending classes for educable mentally retarded children in Indiana Public Schools. These schools were located in Princeton, Vincennes, Bedford, Bloomington, Logansport, and Marion.

Data for boys and girls were treated separately since the norms of the CPQ are in separate tables for boys and girls. After the scores for the 92 boys and the 66 girls were listed, each of these groups was divided into three IQ sub-groups. These groups were the 50-59 IQ, 60-69

IQ and 70-80 IQ.

In analyzing the data, the writer calculated mean raw scores and standard deviations for each group on each of the fourteen personality factors. These were compared with the mean raw scores and standard deviations of the CPQ norm group according to sex. Arithmetical differences between means, the "t" test of significance to evaluate the differences between means, and homogeneity of variance to find if the groups differed in their variances rather than in their means were calculated for each group on each of the fourteen factors. By these calculations, it was possible to determine the level of significance of the difference.

The data indicated that the total group of 66 educable mentally retarded girls were significantly different from the CPQ norm group of girls on seven of the fourteen factors. The data indicated the girls' group, when compared to the norm group, possessed personality characteristics more like those for the high score pole of factors D, N, and O and the low score pole of factors B, E, H, and Q_3 . These differences were all significant at the one per cent level. The largest differences, excepting intelligence, were in characteristics represented by factors $D+$, $E-$, and $N+$. The scores for the 50-59, 60-69, and 70-80 IQ divisions of the girls' group did not differ greatly from the total group.

The total group of 92 boys were significantly different

from the CPQ norm for boys on nine of the fourteen factors. The data indicated the boys' group, when compared to the norm group of boys, possessed personality characteristics more like those for the high score pole of factors H, J, and N and the low score pole of factors A, B, C, F, G, and Q₃. These differences were all significant at the one per cent level. The total boys' group differed most from normal on the traits represented by factors G, A-, and Q₃-.

The most universal deviation from normal, excepting intelligence which was controlled in this research, was that the data indicated the traits represented by N+ was present significantly in seven of the eight groups.

II. CONCLUSIONS

The main conclusion reached as a result of the data collected in this research was that educable mentally retarded students do not differ nearly so much from normal on any other personality factor as they do on intelligence.

The data indicated educable mentally retarded children differ significantly from normal children on many personality factors.

There is a probability the A- traits indicated by the scores of the boys' group and the D+ and H- traits indicated by the girls' scores hinder their progress in the classroom. It would seem logical to think a calm friendly atmosphere

in the classroom would help these students.

Part of the related research presented in Chapter II supports these conclusions. The facts that boys are less well adjusted than girls and that children with low intelligence are likely to encounter problems in personality adjustment seem to go along with the findings of this research. The possession of N+ traits of personality by the low intelligence groups was not mentioned in related literature to the author's knowledge.

Due to the large amount of statistics to be compiled in research such as this, the writer was limited in the number of students to be tested and the different groups in which they might have been placed. It would be interesting to compare those students under twelve years of age with those students over twelve years of age. It would be of interest to compare educable mentally retarded students just entering educable mentally retarded classes with those who had attended a certain length of time. Finally, additional students, perhaps from the larger city schools, should be tested to see if they substantiate the data of this report.

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APPENDIX

What You Do and What You Think

Print Your Name: First _____ Last _____

Your Age _____ Grade in School _____ Boy or Girl _____

Read each statement and mark an on the side that fits you better. Some questions will not have the words just the way you want them but mark every one the best you can. You may ask for help if you don't know a word. Just raise your hand and the teacher will come to your desk. Do not work long on one question. Mark it and go right on to the next one. **MARK EVERY ONE.** Most of the questions have two boxes to choose from but other questions have three boxes. Always look at ALL the boxes and pick just one of them for your answer.

1. Do you speak first to a new child or do you wait for him to speak to you
2. Would you rather be a great hunter or a school teacher
3. Can you read well or do most children read better
4. Would you rather study about birds or listen to a story about a trip
5. Does mother say you talk too much or are you quiet
6. When your friends fight, do you just leave them alone or do you try to settle it for them
7. When people tell about things you have seen, do you want to tell them too or just listen and agree with them
8. In a game on the playground do you stand around or run a lot
9. If children don't play with you do you start another game or do you feel badly
10. Would you like to start a new club or don't you like clubs

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DO NOT WRITE BELOW THIS LINE

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q ₁	Q ₂
Form A Raw Score														
Form B Raw Score														
Form A + B Raw Score														
Standard Score														
PROFILE IN STENS	10	•	•	•	•	•	•	•	•	•	•	•	•	•
	9	•	•	•	•	•	•	•	•	•	•	•	•	•
	8	•	•	•	•	•	•	•	•	•	•	•	•	•
	7	•	•	•	•	•	•	•	•	•	•	•	•	•
	6	•	•	•	•	•	•	•	•	•	•	•	•	•
	5	•	•	•	•	•	•	•	•	•	•	•	•	•
	4	•	•	•	•	•	•	•	•	•	•	•	•	•
	3	•	•	•	•	•	•	•	•	•	•	•	•	•
	2	•	•	•	•	•	•	•	•	•	•	•	•	•
	1	•	•	•	•	•	•	•	•	•	•	•	•	•
FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q ₁	Q ₂

In every question, mark just one box.

11. Wear is to clothes as eat is to food or table or hat
12. Do you talk back to mother or are you afraid to
13. Would you rather talk with your teacher or talk with a good friend
14. Do you like to cross a busy street or are you afraid to cross
15. Shy is the opposite of big or timid or bold
16. Does teacher sometimes say you are careless and untidy or does she never say so
17. Do you wish you were so good-looking that people would turn to look or don't you like people to look
18. Should everyone have an airplane or are cars enough
19. The opposite of difficult is same or easy or hard
20. When you have put off doing what you should, do you go on thinking about it or just forget it
21. Is mother's way of doing something better or is your own new way better
22. Can you work while people laugh and talk or would you rather they keep still
23. The next number in 7, 5, 3, ..., is 9 or 0 or 1
24. Do you have a good time or do things go wrong
25. Would you rather hunt birds or draw pictures of birds
26. When you get angry do you want to cry and sulk or to smash things on purpose
27. Usually means the same as generally or seldom or always
28. If people push you in a bus, do you get mad or do you just smile
29. On the playground do you play alone or play with others
30. When something of yours needs fixing do you ask father to see to it or fix it yourself

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Do not write here.

B _____ D _____ E _____ F _____

In every question, mark just one box.

- Do your plans often not work or do they work out well
- When a visitor comes to your house do you talk to him first or do you feel too shy
- Would you rather play ball or read a book
- Do teachers scold you or think you are all right
- In school, do you do well what is wanted or do your friends please teacher better than you do
- Who should talk first, younger children or older children
- Would you rather go to school or go on a long auto trip
- Do loud noises scare you or do you just laugh
- On a playground do you do what you want to do or do what most people want
- When people start talking as you listen to TV or radio does it bother you or don't you hear them talking
- In a play, would you rather be a speed pilot or a famous writer
- If people wanted you to do something you did not want to do, would you get angry or just go along
- If people tease you do you get angry and shout or walk away and leave them
- Have you ever sold things to people or would you not want to sell things
- Would you rather collect stamps or play football
- If someone has a new idea, do you say it is good or wait a while to make sure
- Do you think your ideas are right and good or are you not sure
- Are your parents always ready to hear you talk or are they sometimes too busy
- As a job to help mother would you rather clean up your room or write out some notes for her
- Which story would you like better, one about a new machine or a famous general

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Do not write here.

G_____ H_____ I_____ J_____

In every question, mark just one box.

51. In school do you work because the teacher might punish you or because you like to study
52. If children play with your things without asking do you shout at them or do you let them play
53. In a game would you rather just play around or work hard to win
54. When mother calls you in the morning do you find it hard to wake up or do you just jump right up
55. Do you wish school would not be such a bother or is school all right as it is
56. When you start new things do you do them fast or slow
57. Would you rather go to school or work at home
58. In dreams, do animals chase you or are dreams nice
59. Are grown-ups always happy to listen to you or do they get angry when you talk
60. Can you do most things well or can others do things better
61. When you read do you find it hard to keep your mind on it or can you read right on to the end
62. In your school work do you often forget or do you feel sure you can remember things
63. Do you like to listen to long stories or do you get tired
64. Do you feel lonely and sad often or hardly ever
65. At home would you first help wash the dishes or listen to music or TV
66. Are you happy to see your school friends or sometimes do you not want to see people
67. Do you think you are always polite or are you perhaps a little too noisy
68. Are your troubles big or small
69. On days when there is no school, do you just do what comes or plan what you will do for the day
70. If friends borrow your things without asking, is it all right or are you angry

DID YOU PUT ONE MARK DOWN FOR EVERY STATEMENT? CHECK BACK AND SEE.

Do not write here.

N _____ O _____ Q₃ _____ Q₄ _____

What You Do and What You Think

Print Your Name: First _____ Last _____

Your Age _____ Grade in School _____ Boy or Girl _____

Read each statement and mark an on the side that fits you better. Some questions will not have two words just the way you want them but mark every one the best you can. You may ask for help if you don't know a word. Just raise your hand and the teacher will come to your desk. Do not work long on one question. Mark it and go right on to the next one. **MARK EVERY ONE.** Most of the questions have two boxes to choose from but other questions have three boxes. Always look at ALL the boxes and pick just one of them for your answer.

- 1. Would you rather be a minister in a church or a doctor in a hospital
- 2. When you are angry do you break things or only want to break things
- 3. Do you succeed in most things you try or do things often go wrong for you
- 4. Are you happy to stay with young children or won't you stay with them
- 5. When a child laughs at you do you feel badly or do you laugh too
- 6. In your group is someone else the leader or are you the leader
- 7. Does your mother think you are too lively and excited or quiet and calm
- 8. When you have started a big job do you soon forget about it or find that you cannot forget it
- 9. Do you have many friends or just a few close friends
- 10. If you must drink out of a glass others have used do you insist on washing it or don't you mind

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DO NOT WRITE BELOW THIS LINE

FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q ₃	Q ₄
Form A Raw Score														
Form B Raw Score														
Form A + B Raw Score														
Standard Score														
PROFILE IN STENS	10	.	.	.	.	.	.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.	.	.	.	.	.	.	.	.	.	.	.	.
	1	.	.	.	.	.	.	.	.	.	.	.	.	.
FACTOR	A	B	C	D	E	F	G	H	I	J	N	O	Q ₃	Q ₄

In every question, mark just one box.

11. Fail is the opposite of succeed or praise or try
12. Do you sometimes speak angrily to your parents or is it wrong to do so
13. Would you rather listen to a teacher or talk yourself
14. Would you like better to have bears here now or to hear stories about bears
15. West is opposite from South or North or East
16. Can you touch a big bug or would you dislike to touch one
17. School life is hard or easy
18. When your friends argue, do you join the argument or keep quiet till they finish
19. School is to learn as battle is to sword or fight or shoot
20. In your family are you the happy one or the one in trouble
21. When you get angry do you tremble and shake or talk loud
22. Do you like to tell stories or don't you like to tell stories
23. Tom is older than Bill. Bill is older than Jim. Who is oldest? Bill or Jim or Tom
24. When people ask if you will do something, is it easy to decide or hard to decide
25. Does your teacher think you run around too much or sit still enough
26. Are you afraid in the dark or is there nothing to be afraid of
27. Speak is to shout as walk is to run or tumble or sit
28. If teacher scolded you badly would you cry when you told mother or just laugh when you told her
29. When you study a spelling lesson do you ask for help or work by yourself
30. When you grow up would you rather be a lawyer in an office or fly a plane

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Do not write here.

B _____ D _____ E _____ F _____

In every question, mark just one box.

1. If people pester you, do you get angry or do you just laugh it off
2. Can you easily stand up in class and talk or do you feel shy
3. Do you like best to play old games or to try new games
4. Do you wish you were better looking or are you good looking now
5. Do you obey the rules all the time or only when someone is looking
6. Do grown-ups talk all the time or often listen to you
7. When you hear a sad story do tears come to your eyes or are you not bothered
8. When you say, "I bet I'm right," are you in the end right most of the time or wrong most of the time
9. When mother is angry with you, do you feel all right anyway or feel like crying
10. If you were high up on a big rock would you be scared or would you like looking around
11. Which story would you like better, one about killing Indians or how Indians made clothing
12. If a policeman told you to be more careful in crossing the street would you feel badly or would you be glad he's looking out for you
13. Would you rather be a bird or a race horse
14. Have you never fainted or do you have fainting spells
15. If you hear people talking about a place you know, do you start telling them about it or keep quiet unless they speak to you
16. If someone says, "Let's all do this," do you say, "Good, let's do it" or do you first ask, "Why?"
17. When children ask for help in an exam do you let them do their own work or help them unless teacher is watching
18. Does your father do things with you or do you not like to bother him when he is busy
19. Would you rather ride a bicycle or listen to music
20. When you have a new idea do you tell it or keep it to yourself

GO RIGHT ON TO THE LAST PAGE.

Do not write here.

G _____ H _____ I _____ J _____

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LIBRARY

In every question, mark just one box.

51. Do you think school has too many punishments or do you think school is fun
52. Would you rather read an exciting story or study about birds
53. When people play a joke on you do you get mad at them or take it quietly
54. When a small thing upsets you, do you get so mad you want to throw things or can you keep calm
55. Would you rather read funny books or do arithmetic
56. On a playground do you make a lot of noise or keep rather quiet
57. Would you rather tell your mother about things at school or about a visit to a farm
58. Do you leave your bed for mother to make or do you make it yourself
59. Are you good because you like to be good or because you get into trouble if you are bad
60. Are you getting along well or do you have many problems
61. When visiting a new building do you like to have someone show you around or do you like to find your own way
62. When your school work is wrong do you feel it is no use or do you feel you must do better
63. Would you rather talk to people or show them a game you know
64. If you do something wrong do you worry about it a lot or soon forget it
65. Would you rather learn a lesson in school or watch a game
66. First thing in the morning are you ready for fun or are you still tired and sleepy
67. Would you rather go on a walk with a friend or go to a picnic with mother
68. Do people think that you make many mistakes or few mistakes
69. When a problem is too hard do you give it up and forget it or come back after a little while and try again
70. When you are hurried do you still put your clothes away or just leave them

DID YOU PUT ONE MARK DOWN FOR EVERY STATEMENT? CHECK BACK AND SEE.

Do not write here.

N _____ O _____ Q₃ _____ Q₄ _____