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The Relationship Between the Intelligence & Emotional Stability of Seventh & Eighth Grade Pupils

Thomas Boone
Western Kentucky University

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Boone,

Thomas Edwards

1950

THE RELATIONSHIP BETWEEN
THE INTELLIGENCE AND EMOTIONAL STABILITY
OF SEVENTH AND EIGHTH GRADE PUPILS

BY

THOMAS EDWARDS BOONE

A THESIS
SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

WESTERN KENTUCKY STATE COLLEGE

JANUARY, 1950

Approved:-

Major Professor

Department of Education

Graduate Committee

Lee Francis Jones

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CHAPTER I
INTRODUCTION

1. Purpose of the study.

A question nearly as old as the intelligence test itself led the author to make the investigation upon which this thesis is based. For years people in education and related fields have speculated as to whether the most intelligent children were the most stable emotionally or whether these brighter children tended more readily than the dull or average child to exhibit undesirable personality variations.

Practically everyone has, at some time in his life, used one or two isolated circumstances to prove the point that the more intelligent children were emotionally unstable or that the duller children were more unstable than the brighter children. Each person, of course, in an argument of this nature always has at least one case to back up his belief.

In keeping with modern educational practices of objective measurement rather than subjective opinion, the author has made an effort to shed additional light upon this controversy by giving a series of objective examinations of intelligence and personality to students of the seventh and eighth grades of the Warren County Schools.

2. Scope.

This study was based upon the results of three hundred fifty-five intelligence tests and an equal number of personality tests which were administered to seventh and eighth grade students of nine consolidated schools of Warren County, Kentucky. Table I lists the schools included in the study and the number of teachers in each school. Table II gives the number of pupils tested in each of the nine schools.

TABLE I
THE SCHOOLS STUDIED

Name of School	Number of Teachers
Alvaton	7
Delafield	5
Greenwood	3
Hadley	4
North Warren	13
Oakland	4
Richardsville	15
Richpond	6
Woodburn	5

TABLE II
NUMBER PUPILS TESTED

Name of School	Number Tested
Alvaton	24
Delafield	32
Greenwood	16
Hadley	45
North Warren	45
Oakland	21
Richardsville	85
Richpond	62
Woodburn	25
Total	<hr/> 355

3. Procedure.

The pupils, varying in age from twelve to sixteen, were administered two tests during the month of February, 1949. These tests were Form A of the Henmon-Nelson Tests of Mental Ability and the B.P.C. Personal Inventory, a personality measure designed by graduate students of Professor Boynton, formerly of George Peabody College in Nashville.

Standard procedures were followed in administering all tests. These tests were scored by the writer with the assistance of his mother. Very close cooperation was given by the county school superintendent, principals, and seventh and eighth grade teachers of the nine schools studied.

4. Selection of Tests.

The Henmon-Nelson Test was chosen because of its validity, ease of administration, and scorability. The B. P. C. Inventory was selected because of its relatively simple instructions which could be understood by children of all intelligence levels and also because of the ease with which it may be scored.

5. Results of Similar Studies.

After checking all current psychological literature for the past three years in Psychological Abstracts, and after a further checking of available books on intelli-

gence, emotional stability, personality, and educational psychology, the author found that no identical studies had been made and that relatively few studies of a similar nature are recorded in the literature. No definite conclusions in regard to this problem can be made in the light of recent studies and the opinions of educators and psychologists since there is such a vast number of conflicting opinions and survey results in this field.

Tiffin, Knight and Josey¹ report that Thurstone found no relationship between emotional maladjustment, as revealed by his Personality Schedule, and intelligence. However, Thurstone² does say that students who are most maladjusted make higher college grades. Yet, he fails to say whether those making higher grades are more intelligent.

Ruch³ states that intelligence alone is no protection against emotional maladjustment and Sherman⁴ in his book agrees with Ruch by stating that the frequent implication that good intelligence is a positive factor in preventing conflicts is a fallacy obvious to any worker dealing with personality disorders.

¹
Tiffin, Knight and Josey, The Psychology of Normal People, (Boston: D.C. Heath Co., 1940)

²
L. L. Thurstone and T. G. Thurstone, Instructions for Using the Personality Schedule, (Chicago: The University of Chicago Press, 1929)

³
F. L. Ruch, Psychology and Life (Chicago: Scott Foresman and Co., 1949)

⁴
Mandel Sherman, Mental Conflicts and Personality (New York: Longmans, Green and Company, 1938), p. 31.

Morris Kimber⁵ of the University of Southern California at Los Angeles administered the California Test of Personality to four hundred students and then proceeded to give them the Army Alpha Intelligence Test and found a very low correlation between the scores.

In another study made at Brooklyn College in New York, Victor Eimicke⁶ gave five hundred sales trainees two forms of the Bernreuter Personality Inventory and also the Army Alpha Intelligence Test. Here he found a correlation of .14 between the intelligence test and one form and a -.09 correlation between the second form of the personality and the intelligence test.

Using still another well known personality test, The Minnesota Multiphasic Personality Inventory, Daniel Brower⁷ of New York University in testing forty-eight undergraduate students whose I.Q.'s varied from 100 to 137 found the following results: That intelligence quotients correlated -.60 with hypochondriasis, -.65 with hysteria, and -.57 with psychopathic deviation.

⁵
Morris Kimber, "The Insight of College Students into the Items on a Personality Test" Educational Psychological Measurement, VII (1947), 411-20.

⁶
Victor W. Eimicke, "A Preliminary Study of the Relationships Between the Bernreuter Personality Inventory and Performances on the Army Alpha Examination and the George Washington Social Intelligence Test" Journal of Psychology, XXV (1948), 381-87.

⁷
Daniel Brower, "The Relation Between Intelligence and Minnesota Multiphasic Personality Inventory Scores" Journal of Social Psychology, XXV (1947) 243-45.

Milton Gurvits⁸ reports that the intelligence rating of 851 psychopaths and 3649 non-psychopaths, all inmates of a federal penitentiary, were studied and he concluded that intelligence is not a significant factor in the diagnosis of psychopathic personality.

Pintner⁹ and Goddard¹⁰ made separate studies of two "typical" groups of juvenile delinquents. Goddard stated that 50% of all delinquents studied by him were mentally defective and Pintner found that 46% of his "typical" delinquent group were feebleminded.

Healey and Bronner¹¹ found the incidence of feeblemindedness among delinquents to be 13% of those checked. Burt¹² found that 8% of the delinquents he tested were feebleminded and Slowson¹³, in a similar survey, found feeblemindedness to prevail in 13.4% of the delinquents that were checked by him.

⁸
Milton S. Gurvits, "The Intelligence Factor in Psychopathic Personality" Journal of Clinical Psychology III (1947), 194-96.

⁹
R. Pintner, "One Hundred Juvenile Delinquents Tested by the Binet Scale" Pedagogical Seminary XXI, No.4 (1914), pp.523-31.

¹⁰
H.H. Goddard, Feeblemindedness, Its Causes and Consequences, (New York: Macmillan, 1914)

¹¹
W. Healy and A. Bronner, Delinquents and Criminals, Their Making and Unmaking, (New York: Macmillan, 1926).

¹²
C. Burt, Young Delinquent, (New York: Appleton-Century, 1929)

¹³
J. Slowson, Delinquent Boy, (Boston: R.G. Badger Co., 1926)

Lane and Witty¹⁴ arranged results of twenty studies of juvenile delinquents made since 1919 and found that feeblemindedness among them ranged from eight to thirty per-cent. Skinner¹⁵ reports that the median I.Q. of seven hundred delinquents at St. Charles School for Boys was eighty-eight or two points below the low average level. Of the total seven hundred boys, eighty per-cent were below average and ten per-cent were feebleminded.

Healey and Bonner¹⁶ state that feeblemindedness is found five to ten times more frequently among delinquents than in the general population. This would lead us to believe that there is a positive correlation between emotional stability and intelligence. Another significant factor which they bring out is that the scores of so called "problem children" on intelligence tests are considerably below the norms for the group of which they are a part.

¹⁴

H.A. Lane and P.A. Witty, "Mental Ability of Delinquent Boys," Journal of Juvenile Research, XIX, No. 1 (1935) pp. 1-12.

¹⁵

Charles E. Skinner, Educational Psychology (New York: Prentice-Hall Inc., 1948), p. 397.

¹⁶

Healey and Bronner, op. cit.

CHAPTER II
THE SCHOOLS STUDIED

The Henmon-Nelson Test of Intelligence and the B. P. C. Personal Inventory were administered to three hundred fifty-five children of the seventh and eighth grades in nine schools of the Warren County, Kentucky, School System. In discussing the results of the tests, the schools will be referred to by an arbitrarily assigned number rather than by name.

Tables I and II of Chapter I give information concerning the number of teachers in each of the nine schools and the number of pupils tested in each school.

CHAPTER III

THE TESTS USED

The intelligence measure used in this study was the Henmon-Nelson Test of Mental Ability, Elementary School Examination for grades three to eight, Form A. This test correlates significantly with other tests of intelligence. There is a correlation of .81 existing between this test and the Binet-Simon Scale. The Henmon-Nelson Test correlates .82 with the California Test of Mental Maturity and .92 with the Otis Self Administering Test. Norms for this test were established on the basis of scores of two hundred twenty thousand pupils from every state in the United States and also from Canada. The test is readily scored by simple objective methods.

The B. P. C. Personal Inventory may be scored for four separate characteristics, but since this study is dealing primarily with the relationship existing between emotional stability and intelligence, only the personality scale was checked and correlated. The questions on this Inventory are all answered by circling the yes or the no and each question, depending upon its significance, is scored a different value if answered in the affirmative or in the negative.

A sample form of the B. P. C. Personal Inventory and the scoring sheet are included on the two following pages.

P. C. -- Personal Inventory -- Scoring Key

:Gen:Con:Sch:Per:No:Answer

DIRECTIONS FOR GIVING THE TEST. Say to the students:
Please answer each question frankly to the very best of your ability. As the directions say, in each question you should draw a line around the answer which is the truest answer for you. If you think you would answer a question as Yes sometimes and No other times, answer it here the way you think is truest for you, all things considered. Be sure to answer all the questions; do not skip any."

Do not say anything to the students about signing their names until after they finished the test. Then tell them to turn the tests over and sign their names on the backs of the sheets. If a student asks about signing his name before the test is begun, say, "Just fill in the blanks at the top of the page."

DIRECTIONS FOR SCORING THE TEST. There are four scoring keys. A paper can be scored with any one key, or it can be scored with any number of keys, up to four. If one wishes to check for personality abnormalities, the key headed Per. should be used. If the problem is one of scholastic maladjustment, the key headed Sch. should be used. If the detection of abnormal conduct or undesirable overt behavior tendencies is the problem, then the key headed Con. should be used. The Gen. key probably should be used rather rarely. It lacks the specificity of meaning of the other three keys. It is for the most severe general problem cases, personality, scholastic, and conduct, all combined and in exaggerated form. The greater an individual's score, as determined by any one of the four keys, the stronger is his tendency toward the particular type of abnormality upon which he is being checked.

:Gen:	Con:	Sch:	Per:	No:	Answer
:	:	:	:	:	:
:	:	4	4	1	No
2	:	3	4	2	Yes
:	4	2	4	3	Yes
3	:	4	3	4	Yes
:	3	5	1	5	Yes
4	2	:	3	6	Yes
:	:	:	:	:	:
-3	-3	:	2	7	Yes
7	3	3	3	8	No
:	:	4	4	9	Yes
14	2	3	3	10	Yes
2	:	3	2	11	No
4	2	3	4	12	No
7	2	3	1	13	Yes
5	3	3	5	14	Yes
1	:	3	3	15	Yes
2	3	1	2	16	Yes
5	6	6	3	17	Yes
7	3	3	3	18	Yes
1	3	1	4	19	Yes
:	4	4	1	20	Yes
:	2	:	5	21	Yes
3	:	3	3	22	Yes
:	:	:	:	:	Yes
:	:	1	4	23	Yes
:	3	4	:	24	Yes
:	3	4	1	25	No
:	:	:	:	:	:
6	2	:	:	26	Yes
:	:	:	:	:	:
15	4	12	9	27	Yes
7	3	5	4	28	Yes
3	3	3	:	29	Yes
:	:	:	:	:	:
:	4	4	3	30	No
4	1	3	2	31	No
:	:	:	:	:	:
3	5	3	1	32	Yes
2	5	3	1	33	Yes
:	:	:	:	:	:
4	5	3	3	34	Yes

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May Not

Film

Well!

B. P. C. --PERSONAL INVENTORY

Grade: _____ Age: _____ Sex: _____

Draw a circle around the truest answer to each of the following questions?

1. Do you think other people like you as much as they do other people? Yes No
2. Do you (or would you) have a light in your room at night if possible? Yes No
3. Do you ever get so angry that you "see red?" Yes No
4. Do you ever feel as if you were smothering? Yes No
5. Do you sometimes wish you had never been born? Yes No
6. Is it easy to get you cross, or "mad" over very small things? Yes No
7. Do you ever have the feeling that you are falling, just before going to sleep? Yes No
8. Do you usually know what you want to do next? Yes No
9. Are you afraid during a thunder storm? Yes No
10. Did you ever have the habit of stuttering or stammering? Yes No
11. Do you usually feel well and strong? Yes No
12. Do you feel well rested in the morning? Yes No
13. Do you feel somewhat tired a good deal of the time? Yes No
14. Do you feel bored a good deal of the time? Yes No
15. Do you often feel lonely? Yes No
16. Do you get tired of people soon? Yes No
17. Did you ever run away from school? Yes No
18. Did you ever want to run away from school? Yes No
19. Did you ever have a strong desire to hurt a person or kill an animal? Yes No
20. Did you ever get so angry that you wanted to kill anybody? Yes No
21. Are your feelings easily hurt? Yes No
22. Do you feel that life is a great burden? Yes No
23. If you are a boy, are you shy with girls? If a girl, are you shy with boys? Yes No
24. Do (or did) other children think you were queer or "different"? Yes No
25. Are you usually in good spirits----just feel fine? Yes No
26. Do you feel that you know considerably more about some of your subjects than your teacher realizes? Yes No
27. Have you ever failed a subject since you left the elementary or grammar school? Yes No
28. Did you ever fail a grade in grammar school and have to repeat it? Yes No
29. Do you dislike quizzes and examinations very much? Yes No
30. Do you almost always understand what it is your teacher want you to do? Yes No
31. In the main, do you like to go to school? Yes No
32. Do you think that your teachers expect you to spend too much time studying your lessons at home? Yes No
33. Do any of your teachers make _____

CHAPTER IV

ANALYSIS OF TEST RESULTS

After administering and scoring the three hundred fifty-five Personal Inventories and an equal number of the Henmon-Nelson tests, the author found the following results.

Intelligence quotients earned on the Henmon-Nelson test varied from a low of 51 (low grade moron) to a high of 145 (genius or near genius). The range of intelligence quotients for the Henmon-Nelson test was found to be 94 points. The mean intelligence quotient for all three hundred fifty-five cases was found to be 91.0, which is within the lower limits of average intelligence. The author has no explanation for this low mean.

The scores earned on the B. P. C. Personal Inventory, the highest possible being 136, ranged from a high of 108 to a low score of 60. These scores, however, may be slightly misleading, since a low score on this test indicates a well adjusted personality, and the higher the score, the more poorly adjusted is the individual. The test has no norms. The range of the personality inventory was 102, indicating a vast difference in the emotional stability of those students tested. The mean personality score that was found for the three hundred fifty-five students was 49.3. The mean personality scores and intelligence test ratings are given in Table III.

TABLE III
MEAN I.Q. AND MEAN PERSONALITY SCORE
FOR EACH SCHOOL STUDIED

School	Mean I.Q.	Mean Per.
Alvaton	103.0	37.4
Delafield	78.8	51.5
Greenwood	99.0	45.1
Hadley	89.3	47.6
North Warren	91.7	49.6
Oakland	85.3	50.4
Richardsville	89.6	55.2
Richpond	94.2	48.8
Woodburn	91.7	44.2
Mean for all Schools	91.0	49.3

In correlating the results of the two series of tests, the author found the following results. The correlation between the three hundred fifty-five B. P. C. Personal Inventories and the scores on a like number of Henmon-Nelson Tests of Mental Ability was found to be a $-.48$, indicating a very low relationship between a child's intelligence and emotional stability.

The following formula was used in deriving this correlation.

$$r_{xy} = \frac{\left[\sum x'y' - \frac{(\sum x')(\sum y')}{N} \right]}{\sqrt{\left[\sum x'^2 - \frac{(\sum x')^2}{N} \right] \left[\sum y'^2 - \frac{(\sum y')^2}{N} \right]}}$$

An effort to obtain the coefficient of alienation was then made by using the information received from the preceding correlation. This coefficient of alienation was derived by use of the formula listed below.

$$K = \text{sq. root of } 1-r^2$$

The coefficient of alienation was found to be a $-.87$, and the interpretation of this would indicate that if one knew the personality rating of a child, or the Intelligence Quotient of a child, and wished to predict the other trait on the above basis, then his estimation would be only 13% better than mere chance or guess.

An examination of Table IV which plots personality test scores against intelligence quotients fails to reveal any significant correlation.

TABLE IV

TOTAL OF ALL SCHOOLS STUDIED IN SURVEY

I. Q.	Personality Rating - - -																						
	3-7	8-12	13-17	18-22	23-27	28-32	33-37	38-42	43-47	48-52	53-57	58-62	63-67	68-72	73-77	78-82	83-87	88-92	93-97	98-102	102-107	108-112	
143-147				1				1															
138-142																							
133-137							1	1	1														
128-132					3				1														
123-127	1		1	1	1		3	1															
118-122			1			2	4	3	1	2	1								1				
113-117			1	1		2	1	6		1					1								
108-112				1	3	4	3	2	3	1	1	2		2			1						
103-107		1		2	2	2	9	2	5	4	1	3	1										
98-102	1		1	2	1	3	3	2		3	1	3	1	1									
93-97				1	2	1	4	4	2	5	4	2	1	2	1								
88-92		1	1	1			1	8	7	5	3	3	4	4	1	1		1					
83-87				1	3	2	6	2	6	11	3	6	2	2		3	1						
78-82				1	2		4	3	3	3	2	5	4	3		2							
73-77				1		1	3	4	2	3	2	1	3	1		1		1					
68-72					1	1	1	1	3	2	1	4	1	3	3	3	3						1
63-67									1	2	1	1	1				1	2	1				
58-62									3	1	2	2	1	1	1		1						
53-57								1				1	1		1		1				1		
48-52										1			1	1						1			

CHAPTER V
SUMMARY AND CONCLUSIONS

The purpose of this study was to determine the relationship between intelligence and emotional stability in the seventh and eighth grade children of Warren County Schools.

Both the B. P. C. Personal Inventory and the Henmon-Nelson Test of Mental Ability were administered to a total of three hundred fifty five students in the seventh and eighth grades of Warren County Schools. In studying the correlation obtained, the coefficient of alienation and other information, the author has reached the following conclusions in regard to the study.

For all practical purposes, the knowledge of a child's intelligence quotient will be of little benefit to teachers, educators, and others working with children, in predicting their emotional stability either at present or in the future. This statement is based upon the fact that the correlation found between these two aspects of a child's personal make up was found to be $-.48$ or only 13% better than mere chance.

In this study the author found a wide variety of combinations of intelligence and emotional stability. These combinations included children with high intelligence quotients and poor emotional adjustment,

low intelligence quotients and good emotional adjustment, some low in both phases, and others who rated high in both emotional stability and in intelligence.

The same statement may also be made with regard to having a knowledge of a child's emotional stability and then trying to predict his intelligence. The chance here, too, of making an accurate prediction would be only 13% better than mere chance.

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