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A proposed study of the effect of non-directive play therapy upon the verbal and performance I.Q.'s of mentally deficient boys.

George C. Hall
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UNIVERSITY OF LOUISVILLE

A PROPOSED STUDY OF THE EFFECT
OF NON-DIRECTIVE PLAY THERAPY
UPON THE VERBAL AND PERFORMANCE
I.Q.'S OF MENTALLY DEFICIENT BOYS.

A Dissertation

Submitted to the Faculty
Of the Graduate School of the
University of Louisville
In Partial Fulfillment of the
Requirements for the Degree
Of Master of Arts

Department of Psychology

by

George C. Hall

Year

1949

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NAME OF STUDENT: George C. Hall

TITLE OF THESIS: A PROPOSED STUDY OF THE EFFECT
OF NON-DIRECTIVE PLAY THERAPY UPON THE VERBAL AND
PERFORMANCE I.Q.'s OF MENTALLY DEFICIENT BOYS

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DATE: June 2, 1949

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I.

INTRODUCTION

INTRODUCTION

The present study is an effort to ascertain the importance of an environmental factor relative to the intelligence quotient of mental deficient's. The significance of such an investigation cannot be overlooked; it is obvious from the great amount of controversy that has appeared in the literature concerning intelligence and its correlates.

There are broad implications from positive results of a study in which the investigator seeks a relationship between the mental deficient's I.Q. and an artificially introduced factor. Such positive results would affect the field of education, especially that of exceptional children by emphasizing the importance of emotional growth. Psychology would be benefited, especially the area of psychotherapy for many therapists are of the opinion that low I.Q. precludes therapeutic aid. Too, the social workers, who deal with the primary relations of individual and social aid, could apply the results to their field of endeavor.

II.

HYPOTHESIS

HYPOTHESIS

A non-directive group play situation will cause a positive change in the verbal and performance I.Q.'s of endogenous mentally deficient boys.

Verbal I.Q. is meant to be the quotient obtained from the Stanford-Binet (1937 revision). Performance I.Q. is meant to be the quotient obtained from the Grace Arthur Point Scale. Endogenous includes those individual meeting the following requirements:(12) "Presence of mental deficiency among the members of the immediate family, absence of neurological signs (of brain lesion)."

DIGEST OF MATERIAL

PART I

DEFINITIONS OF MENTAL DEFICIENCY

According to L. N. Yepsen (36) almost all the definitions of mental deficiency that have appeared in the literature are inadequate. These definitions are termed inferior on the grounds that they are concerned with resultant phenomena rather than causative factors relative to mental deficiency. Yepsen has divided these definitions into three groups:

- 1) Those which use as criteria the inability to learn common acts.
- 2) Those in which the observed community or social behavior is deficient.
- 3) Those in which reference is made to the individual's relationship to, or place in, a larger group, using statistical procedures and quotients in order to form such judgments.

As the author points out, all three statements have qualifications that are true for mental deficient; but, they are also true for other types of mental conditions. Obviously, the confusion and inadequacy of terminology results in poor diagnosis and classification. Dr. Yepsen's article was primarily an effort to clarify and unify definitions of mental deficiency in order to yield a more definitive diagnosis.

Grace Arthur (2), in examining this question, has also criticized the present method of defining and diagnosing mental deficiency. Her main critique, however, is of the British or "social" definition. By this definition the mental normality or subnormality is determined by the locality in which the individual lives. Arthur points out two weaknesses in this definition which have caused it to fall into disuse. The first is that subnormality which is community determined does not account for differences in societies. This point is reinforced by presenting the case of an individual who functioned nicely in rural society but could not adequately adjust to the demands of the urban group. Thus, he was feeble-minded in the urban area, normal in the rural area. The second weakness referred to was the inability to apply the social definition to children. Since children are dependent socially it would be difficult to determine, excepting cases of gross subnormality, when a child could be classified socially incapable.

In reference to the determination of feeble-mindedness in childhood, Edgar A. Doll (8)

has emphasized that "... the diagnosis of feeble-mindedness in children is tentative or prognostic."

It should be pointed out that Doll has used the term "feeble-minded" whereas Yepsen and Arthur have used the terms "mentally deficient" and "subnormal" as well. This situation could be taken as a case in point in regard to the confusion reigning in the area of definition. For Doll (10), mental deficiency includes both feeble-mindedness and intellectual retardation; Feeble-mindedness is further defined as "mental subnormality coupled with social incompetence"; intellectual retardation as "mental subnormality without social incompetence."

Despite attempts at clarification of the definition and diagnosis of mental deficiency most social agencies still employ inadequate methods of classifying clients. As Yepsen (36) has said:

Unfortunately the intelligence quotient is the sole diagnostic technique (used in determining mental deficiency) in many clinics and has a place in the statutes of at least one state.

The present study employs children who have been assigned to special classes on the basis

of intelligence test results. Other measures have been included, however, in order to gain a more complete picture of these subjects. By a statement of findings from these measures the reader can judge and classify the individuals in this investigation according to his own system.

DIGEST OF MATERIAL

PART II

SECTION A

SOCIAL AND INTELLECTUAL

Mental deficiency has always been of interest to man. H.J. Baker (4) relates a brief summary of the history of the mentally retarded from the Christian era in Rome to the early 1900's in the United States. In the opinion of Baker, Seguin, a student of Itard, was the father of modern studies of the feeble-minded. Other workers in the field, during the first half of the nineteenth century, were Horace Mann and S.G. Howe. In 1850, Howe established the Massachusetts School for Idiotic and Feeble-minded Youth. The idea of state schools spread rapidly and eventually it was found necessary to establish special classes in the public school system in order to adequately deal with high grade cases of mental deficiency. The first such class in America was established in 1897 at Springfield, Massachusetts; later at Chicago in 1898, and at Detroit in 1903.

At the end of the nineteenth and start of the twentieth century, almost coincidental with the establishment of state schools and special

classes, modern mental measurement had its beginning. Florence L. Goodenough (14), in a historical review of mental testing, records the efforts of Cattell during the 1890's. Also, she deals with the more significant work of Binet and Simon at the beginning of the present century. The most meaningful work relative to the study of mental deficiency in America was done by H. H. Goddard. Besides translating the Binet-Simon scales into English, Goddard did quite a bit of work toward the furtherance of the study of heredity as a cause of mental deficiency.

Although initial work done with mental tests was important in itself, time was necessary to establish the usefulness of the instruments. The follow-up study was one method of determining the adequacy of testing and classification. One of the earlier investigations relative to the I.Q. constancy of the mental defective was Kuhlman's (19) ten year test and retest program at the Minnesota School for Feeble-minded. Using a group of six hundred and thirty-nine cases having an age range from one to twenty years, Kuhlman attempted to determine the value of the I.Q. method of classification. By

testing these individuals every two years he also analyzed the traits of their mental growth curve. Omitted from the study were those cases in the institution from whom a reliable mental age could not be obtained. The resulting subjects ranged from the grade of idiocy to approximately average normal intelligence; each case was examined two to five times.

From the results of repeated retesting, Kuhlman came to the conclusion that there was a variation in the I.Q. of the feeble-minded. This variation, however, seemed to depend upon the intensity of the feeble-mindedness. For example, the borderline individual seemed to show greater variation in I.Q., the idiot a lesser variation.

Another investigation of institutional cases was that of Minogue in 1926 (23). In an effort to check the constancy of the mental defective's I.Q., Minogue made a study of four hundred and forty-one inmates of Letchworth Village in Thiells, New York. Scores were obtained from the inmates upon entrance into the institution with reexaminations being held over a period of two to ten years. The

I.Q.'s of the group as determined by the Terman tests ranged from 20 to 70. Cases of marked psychopathology and gross physical disability were excluded from the study.

The results of the testing and retesting showed an inverse relation between the degree of change and the frequency with which it occurred. Percentage of change ran in this order: No variation, ten and nine-tenths percent; one to five points variation, sixty and eight-tenths percent; six to ten points variation; nineteen and three-tenths percent; eleven to fifteen points variation, four and eight-tenths percent; sixteen to twenty-five points variation, four and three-tenths percent. It should be noted that the largest percentage of variation, sixty and eight-tenths percent, occurred in the one to five point range, which is considered not significant. All in all there was relatively little variation and that which did occur tended toward a loss of I.Q. points. Another interesting point yielded by the results was the fact that the greatest frequency of variation was

found in the age group past twenty-one. Thus, Minogue, since she considered her sample representative of the feeble-minded as a whole, concluded that: "... intelligence quotients of from 20 to 70 obtained by the use of the Terman tests are constant in more than seven cases out of ten."

Three years after the appearance of Minogue's article on I.Q. constancy, Chipman (6) reported the results of a similar investigation at the Walter E. Fernald State Hospital at Waverly, Massachusetts. One thousand seven hundred and fifty-one cases were tested with the Stanford-Binet Intelligence test when admitted into the institution. Using this initial test as a basis, comparisons were made with the latest test result obtained from the subjects. The individuals investigated represented all grades of the feeble-minded: forty per cent were moron, thirty-seven per cent were imbeciles, twenty-three per cent were idiots. Both sexes were also represented, one thousand and eighty-six of the subjects being male; the remainder, female.

The changes in test scores were recorded and it was found that the variations in I. Q.

showed a slight tendency to decrease, decrease being determined by a loss of five or more I.Q. points. The groups showing greatest variability were, first, the children under sixteen years of age, who showed a marked tendency to decrease. The second group showing greater variability was the older female group; of these individuals, all grades tended to increase in I.Q. standing. Increase was represented by a gain of five or more I.Q. points. The most stable group, idiot grade, yielded the most constant I.Q. standing.

On the basis of these results, Chipman concluded that the Stanford-Binet had been a reliable basis of prediction in seventy-nine per cent of the cases. It must be remembered, however, that the very fact that testing was done in an institution indicates a controlled situation. Studies of mentally deficient persons in society or institutions with special programs did not yield the same results. Kephart's study at the Wayne County Training Home, discussed in another part of this review, is a case in point.

In the same year that Chipman's data was released, Otis (25) reported the results of a somewhat unique investigation at Belchertown State

School Belchertown, Massachusetts. The study is termed unique for it deals with the results of group treatment. Since institutionalization may be classified as group treatment, it should be explained that the subjects for study made up a reading club of twenty-two members. These members, all girls, ranged from high grade to borderline cases with chronological ages from seventeen to forty-nine, the median age being twenty-four. I.Q. range was 53 to 85 points with a median of 68 points. The club, in operation for a one year, eight month period, aimed at encouraging the subnormals to read good books. Writing was also done, though to a lesser extent, in making up reports relative to the books read.

Aside from an improvement in expression by writing, Otis found changes in I.Q. standing. These results were obtained by retesting the girls, who had originally been tested in 1925 or 1926, with the Stanford-Binet. Scores were recorded for three groups, two were composed of club girls divided on the basis of time spent in the club. The third group was composed of non-club members similar to the club members in respect to chronological age.

There was an improvement of 4.4 I.Q. points registered by the experimental group over the control group.

Four conclusions were drawn: First, that training in reading and book work affects the Stanford-Binet test results. Secondly, that the improvement in I.Q. standing is impossible after the age of sixteen years. Third, that the improvement in the case of these girls was due more to changes in vocabulary score and understanding of language than to changes in memory span or reasoning ability. Fourth, that feebleminded girls over sixteen years of age may be trained in reading and book work so that their use of language improves. This latter statement is somewhat in agreement with the conclusion arrived at by M. L. Steckel, discussed later in this review, in which she recommends training for mental deficient girls under sixteen years of age.

One wonders, however, to what extent the improvement was due to special reading instruction. Even though these individuals showed improvement in the vocabulary area on the tests, it is possible that some credit should go to the group meetings and mutual participation. This point will be discussed

further in the section on group therapy.

Not all studies of the mentally deficient were concerned only with I.Q. variability. Some investigators were curious to know how mentally deficient individuals, classified as such in their youth, adjusted to society. One of the earlier follow up studies of this type, conducted by Ruth Fairbanks (11), was the social evaluation of a group classified in 1914 as subnormal. The follow-up was done in the Locust Point District of Baltimore sixteen years after the original classification. although the initial study was composed of one hundred and sixty-two cases, Fairbanks has used only one hundred and twenty-two cases; fifty girls and seventy-two boys. The average I.Q's. for the two groups were 61 and 72 respectively. In the original study it was thought that twenty-two members of the group could never support themselves and that the remaining one hundred and forty-four would, in all probability, have a difficult time becoming economically independent. In 1930 Fairbanks gathered data regarding the social adjustment and stability of these individuals. It was found that forty-eight of the fifty girls and forty-eight of the seventy-two boys had married. Seventy-five of the married

persons had one hundred and seventy-five children. In regard to the stability of these marriages, there were nine divorces and one separation among the men; four divorces and three separations among the women. Of the one hundred and twenty-two subjects there were five cases of illegitimacy and five cases of prostitution. In contrast to the original prediction that it was improbable that these subnormals could be self supporting, ninety-five of the one hundred and twenty-two were, in 1930, self supporting. From the group of twenty-two deemed entirely incapable of self support, it was found that eight of the men and four of the women were not financial burdens of society. The remaining five, however, were being aided by family and community. Considering the total group, despite the fact that the majority did not go beyond the fifth grade, only ten per cent were receiving financial aid.

In view of the data, Fairbanks has made the following statement:

... we must not allow ourselves to over-emphasize the discrepancy between the rather sober prophecies made years ago concerning their (the subnormals') future. They were scientifically sound warnings uttered in the hope that the special needs of the children would be recognized. The results are due to circumstances that are unique and that would seem to justify that hope.

Other investigators have not been so optimistic. In the Montevall Public Schools, Montevall, Alabama, a study was made of a group of mentally deficient girls excluded from the Schools' special classes because of increased age. The investigation, reported by M. L. Stechel in 1934 (30), was concerned largely with the social adjustment of these girls, over sixteen years of age, as indicated by employment and independency from social aid.

Of the one hundred girls investigated in this follow-up study, nineteen had been employed outside the home. Of this group, twelve had been employed in a local packing house, three had cared for children in the neighborhood, two had worked as domestic servants, one had been employed as a messenger in a department store. Others of the total group had been employed but proved inefficient and were discharged. Another group of the girls that were independent of social aid were twenty-seven married ones, five others had married but were divorced. Three of the total group had died. Thirty-six of the total group had caused action to be taken by the authorities. Of this latter group, twenty-two had appeared before the probation officer; nine had given birth to illegitimate children; five

had been committed to a state institution for the feeble-minded.

In consideration of the results, Steckel recommended that mentally defective girls be trained for outside jobs since they appeared to be grossly inadequate when trying to fulfill employment requirements. She does not regard the subnormal married women as better taken care of than their sisters: "Since 'like begets like'... these defective girls married are the source of continued and continually increasing problem to society...."

In 1936, W. R. Baller (5) reported the results of a study aimed at "... throwing additional light upon the factors involved in the social adjustment of mentally subnormal persons who had not come under institutional supervision." The study utilized two groups, one composed of two hundred and six males and eighty females rated below 70 in intelligence quotient. A second, or control, group was composed of "normal" persons. These two groups were matched according to age, sex, and nationality.

There were seven main areas of importance in regard to the deficient's personal histories and

adjustment. First, educational histories showed that some of the mental deficientes had attended high school; a few had even done post high school work. Second, the family life of the deficientes was less stable than that of the "normal" group. The family group of the subnormals seemed to be larger and, also, more susceptible to break up by divorce or antisocial behavior since there were three to seven times as many law breakers in their group. Fourth, although eighty-three per cent of the deficientes had been to a degree self supporting, their employment records were erratic. Fifth, the movement of the subnormal group from one neighborhood to another varied more than the "normal" group. Sixth, the male mental deficientes did not tend to marry, a situation which Fairbanks found to be true. However, at an average age of twenty-one, over sixty per cent of the subnormal girls were married. Seventh, the subnormal's death rate was seven times that of the "normals." The investigator found that adjustment among the males was influenced by higher I.Q. and longer school terms: among the females by number of siblings, economic status of the family, age and nationality.

Despite the negative aspects of the picture, Baller concluded that through better "in school" and "after school" programs, workers may aid in the adjustment of the mentally deficient.

Miles Murphy (22), in 1938, investigated a group of individuals who were classified five to fifteen years previously as borderline cases with I.Q.'s from 60 to 80 points. This study was undertaken at the University of Pennsylvania in order to determine the status of maturity of persons originally termed subnormal. This investigation may be thought of as also being, to some extent, an attempted verification of Doll's opinion relative to the value of mental classification in childhood.

To accomplish his aim, Dr. Murphy reinvestigated the cases of one hundred persons. From this group a sample of ten was chosen, five males and five females. The age and I.Q. ranges of the group when first examined were eight to seventeen and 64 to 87, respectively. Murphy found that seven of the subjects were still living with their parents, three were dependent upon social agencies as a result of family break up. Two of the males were working,

two were dependent and one had had employment at one time. Of the girls, one is in an institution, one does housework, two are married, and one is irregularly employed.

The subjects of this study are not necessarily an adequate sample. As the author, himself, points out: "These cases probably represent a select group." Though the findings of this study are essentially negative, Dr. Murphy's conclusion does not eliminate all hope for adjustment:

Individuals of borderline ability such as those we have in our group have few competitive advantages in ...(the)... struggle for vocational placement.

Previous to the 1940's, work in the area of intelligence and its nature components remained diversified to some extent. In 1940, however, controversy raged over the merits of heredity and environment in relation to I.Q.. Of value in unifying opinions and determining points of view was the Iowa studies. The Thirty-Ninth Yearbook of the National Society for the Study of Education had as its aim: "... to throw light upon the nature and nurture of intelligence." It is especially significant since the society's chairman was G. D. Stoddard

of Iowa, one of the main proponents of nurture in the nature-nurture argument.

Dr. Beth L. Wellman (34), a Stoddard associate in Iowa, presented in the yearbook a study of the effects of different types of schooling upon intelligence. This report was an effort to summarize previous investigations of the Iowa Child Welfare Research Station. The paper was divided into three parts, the first was concerned with mental growth during preschool years; the second, during elementary school years; the third, from preschool to high school and college. The results were based on a two part yearly testing program: One test was administered in the spring, another in the fall. Wellman concluded, in regard to mental growth during preschool years, that culmative gains in I.Q. were made by the preschool children over the first two years of attendance. This conclusion was augmented by the fact that non-preschool children did not gain in I.Q. and orphanage children decreased in I. Q.. In regard to the second part of the study, mental growth during elementary school attendance, Wellman found that the "pattern of change varied with

different elementary schools." The real verification of the second study was found in the results of the third investigation. In examining the mental growth from preschool to high school and college, it was found that there was a relationship between college examinations and length of attendance in preschool classes. Also a relationship was evident between the length of attendance in University schools and results on college entrance examinations.

Another member of the Iowa group, H. M. Skeels (27), reported upon environmental change and its relation to mental growth. The environmental change in this case was referring to home environment, which might well be considered of more basic nature than change in school environment. Skeels' article in the yearbook was a summation of studies done at the Iowa Child Welfare Research Station over a six year period. The report deals with four aspects of the mental growth-home environment relationship. Investigations of the first relationship, length of residence in underprivileged homes, found that the highest I.Q.'s were obtained by children under ten years of age. These children were tested

a few weeks after leaving their homes for an orphanage. The second investigation, a study of mental growth relative to change from an under privileged home to a superior adoptive home, yielded increases in I.Q. in proportion to the quality of homes in which they were placed. Even those children who were placed in institutions showed a slight increase in I.Q.. The third part of Skeels' report deals with a study of placement in infancy of one hundred and fifty-four children under six months of age. These children from the "lower social, economic, and educational levels" were placed in "average and superior foster homes." Two examinations were given to the subjects. The first yielded above average I.Q.'s; the second showed a decrease in I.Q.'s but they remained above average for the general population. Skeels observed that the results did not coincide with the expected results for children from the lower types of environment. The fourth and last report deals with mental growth in relation to change from a relatively non-stimulating environment to one considered more stimulating. Thirteen children from the

Iowa Soldiers' Orphan's Home, who were considered unsuitable for placement because of mental retardation, were relocated in the Iowa Institution for Feeble-minded Children. At the time the shift took place the mean chronological age for the group was nineteen and four-tenths months; the mean I.Q. was 64.3. These children received individual attention from the brighter older girls on the wards of the institution. Also, the attendants gave the children special attention. A control group similar to the group transferred, with the exception of a higher initial I.Q., remained in the orphanage for observation. Treatment in the orphanage was considered by Skeels to be that experienced by children in the average home of its type. There was little time for individual attention.

The average gain in intelligence for the experimental group at the end of a two year period was 27.5 points. Each child showed a gain within a range from 7 points to 58 points. The children in the control group, however, showed an average loss in I.Q. of 20.2 points. All children in this group but one showed losses. The exception gained 2 points

in I.Q.. Skeels felt that the gain in I.Q. was a true gain. He concludes:

- a) A change from mental retardation to normal intelligence in children of preschool age is possible in the absence of organic disease or physiological deficiency by providing a more adequate psychological prescription.
- b) Conversely, children of dull-normal intelligence may become mentally retarded to such a degree as to be classifiable as feeble-minded under the continued adverse influence of a relatively non-stimulating environment.
- c) An intimate relationship between the child and an interested adult seems to be a factor of importance in the mental development of young children.

At the fifty-fifth annual meeting of the American Psychological Association, Marie Skodak and Skeels (28) reported once more on the group studied in part three of the above report. At the first examination, in 1934, the mean I.Q. of the group was 117. The last examination, in 1946, showed a mean I.Q. of 107 on the 1916 Stanford and a mean I.Q. of 107 on Form L. Although there was no correlation between the I.Q.'s of the foster parents and the children under study, Skeels and Skodak concluded:

The intellectual level of the children has remained consistently higher than would have been predicted from intellectual, educational or socio-economic level of the true parents and is superior to the mental level of children in environments similar to those in which the natural parents grew up.

The preceding studies were representative of the work done at Iowa. There had been criticisms from many sides of the conclusions drawn from the studies. One of the milder critiques was that of R. L. Thorndike's (33) check upon the results of Wellman's school studies. By initiating retesting programs at three certain "superior" schools in New York, Thorndike felt that a valid comparison could be made with the Iowa retesting results. The I.Q. scores obtained from two of the schools within the program did not show significant change; in the third school, however, there were changes reported that were similar to those of the Iowa investigators. The data, however, could not be related to the length of time the child remained in school.

Another, and more severe criticism of the Iowa studies was that of Quinn McNemar (20). The main points of attack were the methodological and statistical procedures used in the investigations. McNemar gave specific instances of inaccuracies and corrected them. Thus he charged "We have found much of the supposed evidence for environmental influences on the I.Q. to be entirely non-existent." Wellman,

Skeels and Skodak (35) answered his charges point by point. The answer, however, made it clear that the results were not as sensational as first supposed.

Not of the Iowa group, but working in similar areas of investigation were G. S. Speer and N. C. Kephart. Speer (29), in an effort to check the results of Skeels and Fillmore, reports an investigation of two groups of children; group A's children, having definitely feebleminded mothers possessing mean I.Q.'s of 49 points, group B's children having apparently normal mothers. The number in group A was sixty-eight; group B, fifty-seven. The fathers of both groups were classified as inadequate. Both groups came from homes of low economic status.

The children of group A and group B were placed in boarding homes straight from their own homes. The only factor operating in reference to age at placement was that of need. The zero to fifteen year age range in this study was similar to that of the Skeels and Fillmore investigation's one to fourteen years. Speer has found "... a sharp and consistent drop in I.Q. the longer the child has been in his own home." This statement was derived from the 1916 Stanford test results obtained three

months after placement. This testing procedure varied somewhat with children over twelve and under two or three years of age. The variance was not great enough, however, to prevent the author from drawing pertinent conclusions. The following table indicates the results yielded by the examination:

Age At Placement in Years	Group A (68)		Group B(57)	
	Number	Mdn. I.Q.	Number	Mdn. I. Q.
0 to 2	12	100.5	9	97.3
3 to 5	19	83.7	9	96.7
6 to 8	12	74.6	18	91.7
9 to 11	9	71.5	14	95.0
12 to 15	16	53.1	7	82.3

The above table illustrates the relationship between the children's I.Q. and length of time spent in their own home. Since the relationship is seemingly a direct one, Speer concludes that "... there is no reason why physically normal children of feeble minded mothers may not be placed for adoption, from their own homes, provided this is done before the third birthday."

A related report in this area is that of N. C. Kephart's (17) study of the influence of environmental stimulation upon the rate of mental

growth. The subjects for study were high grade moron and borderline children. Children who were "... brain damaged (through trauma or disease)...." or had "... a more general pathological disturbance (syphilis, endocrine disbalance)....", were excluded from the study. The group for study was rather loosely defined as being those "... to whom the environment appears to have presented definite restrictions against normal socio-psychological development."

Kephart's investigation was aimed at three questions. The first question was concerned with the decline of I.Q. in the home environment. In order to come to a conclusion concerning this issue, fifty children were studied over a three and one half year period. The results indicated a loss. The second question, can a reversal of the negative trend be obtained by placing the child in a more favorable environment, was studied by placing the same fifty children in the Wayne County Training School. The author points out that all institutions are not considered favorable environmental situations; he expresses the opinion that the Wayne County School

"...is directed toward the provision of adequate experience." Over a period of institutionalization for four and one half years the children showed a "... tendency to gain in average annual mental age growth."

After these two preliminary investigations, a third question arose: can a specialized program produce a significant change in I.Q.? An answer to this question was sought by studying a group of sixteen boys over a one and one half year period. These boys, with mean Stanford-Binet I.Q.'s of 66.3, were subject to a program emphasizing personality needs. The program, not described in detail, seemed to emphasize acceptance of the individual to a greater extent than usual by directing social approval "...toward the recognition of productions... showing ingenuity, initiative, and original planning. Only secondary emphasis was placed upon the finished product." Kephart found that the boys showed a mean increase of 10.0 points over the one and one half year period, only one individual showed negative results. Thus, the conclusion is reached that a specialized program can be instrumental in promoting

an increase in I.Q. standing with the type of mental deficients defined in this study.

In 1944, G. A. Muench (21) presented a study of mental defectives eighteen years after their diagnosis, by Mary E. Adams and Edgar A. Doll, as borderline and feebleminded. Of the original group of forty so classified at the Opportunity School, Columbus, Ohio, eight were available for testing eighteen years later. One half of the individuals examined in this follow up study were initially diagnosed as definitely feebleminded, the other half as definitely borderline or dull normal. Muench's aim in this study was: "...to attempt to determine the degree of social adjustment which they (the mental defective) had made, their present level of intelligence and their personal histories since leaving the Opportunity School." In order to realize his goal, the investigator used the following testing devices: 1916 Stanford-Binet, 1937 Stanford-Binet, the Army Alpha, the Ohio Literacy, the Stanford achievement Intermediate Reading Test, the Porteus Maze, and the Vineland Social Maturity Scale. The

author of the study also used his own scale for social competence.

The results of testing for I.Q. change showed, certainly, a significant increase in mean I.Q.. The investigator found a mean increase of 15.4 points in I.Q. using the 1916 Stanford-Binet. The 1937 revision of the Binet showed a 27.2 point increase in mean I.Q.. The Army Alpha showed a mean increase of 10.8 I.Q. points; the Porteus Maze an increase of 24.0 points. It is interesting to note that the reading tests did not register significant increases. The author surmized: "... it seemed evident that the increases in I.Q. were not due to increased reading ability."

The social adjustment of these individuals is termed adequate by the examiner. This evaluation was determined by the Vineland Scale and the examiner's own scale. There was a correlation of .66 between changes in I.Q. and social adjustment. Muench concluded that "... some feeble-minded and borderline individuals can and do make suitable adjustments in our complex society."

Edgar A. Doll, (9) in an article entitled,

"Is Mental Deficiency Curable?", refers to Muench's study. Doll did not agree with the conclusion that some feeble-minded and borderline individuals can make adequate social adjustments. This disagreement is based upon the original diagnosis which, Doll claims, was unsuitable. Since the individuals under investigation were diagnosed between the ages of thirteen and fourteen years, the inadequacy of the classification at this age conforms to a recent statement by Doll (8) that persons cannot be termed feeble-minded until adulthood. The following question was raised in the criticism: "Was their (the feeble-minded and dull normals') change in status due to the fact that they were not committed to institutions but living in a normal society?" The critic answers his question in the negative: "On the contrary, Muench was unable to relate the changes to any specific therapy or regimen." He continues by saying that the study "... revealed delayed growth changes." A conclusion that would be borne out by some institutional experience.

It should be pointed out, however, that the

individuals in Muench's study improved, not because of any "specific therapy or regimen," but without it. If the changes found were "delayed growth" from an original state of inadequacy severe enough to warrant placement in an opportunity room, then might not there be a therapy or regimen which could act as a catalyst for growth?

Perhaps one of the most superficially startling and widely published investigations in recent literature is "Changes in Personal, Social, and intellectual Behavior of Children Originally Classified as Feebleminded", an eight year study conducted by Bernardine Schmidt (26). Dr. Schmidt initiated an experimental educational training program for two hundred and fifty-four children with initial Stanford-Binet I.Q.'s below 70 (the mean I.Q. for the group being 51.7). The technique employed to satisfy certain "predicated needs" of the children, plus the six major objectives of the program, is described by Dr. Schmidt:

"Instructional method was characterized by:
1) group planning; 2) group experiences; 3) in-school reproduction of situational experiences; and 4) the

use of the creative and manipulative arts."

The investigator found at the end of the three year "in-school" period "more than sixty-five per cent were no longer classifiable as feeble-minded." Table thirty-seven of the monograph indicates a mean increase of 19.9 points. At the end of the five year "post-school" period "...only two point seven percent were found to have I.Q.'s between 50 and 57, and none were below that level. At the other end of the scale eighty-six point four per cent ranked in the 'dull' or 'normal' levels. Only seven point two percent of the group remained 'feeble-minded' at the close of the study."

Changes in personal and social behavior were also noted: "By the end of the study, the average adjustment of the total experimental group was equal to that of the average adult, both according to standardized measures and their academic, vocational and social activities."

In various publications several persons have challenged Dr. Schmidt's work. Arthur S. Hill, (16), in the Journal of Exceptional Children, has reported the test results of children with whom teaching methods similar to Schmidt's were used.

His results: "... it may be observed that the I.Q. changes of seventy-two per cent of the group fell within a relatively static classification." Although Hill's group was smaller than Schmidt's and there was a difference in re-test interval, his results should have shown a more positive leaning if Schmidt's conclusions were valid. Edgar A. Doll, (9), was possibly referring to the Schmidt type study when he said: "From time to time cures have been reported on the part of others than psychologists who have presumably been dealing with mental deficiency as a clinical symptom-complexes. Few, if any, of these cures have stood the test of time or the confirmation of other investigators."

A more direct critique of the study is Samuel A. Kirk's article, (18), "Schmidt's Study of 'Feeble-minded' Children", in which he attacks the investigator's basic statistical information concerning the original I.Q.'s of her subjects. Fifty per cent of the children recommended for special classes in Chicago have I.Q.'s above sixty-nine, he claims. Dr. Schmidt (26) has replied by referring Kirk to authorities who supervised the study

and the Child Placement Bureau's records.

Since the preceding issue is not completely settled it would be more profitable to turn to a criticism by Florence L. Goodenough (15) who attacks the study by referring to inconsistencies within the monograph itself. According to Goodenough:

"All in all, it seems not unfair to say that, for the most part, the findings of this study must be taken on faith. And that faith is not strengthened by a critical examination of those parts of the statistical tables that permit checking for arithmetical accuracy." Equally, if not more important is the criticism of Schmidt's lack of methodological explanation. Goodenough points out that Dr. Schmidt elaborates upon results rather than the specific method employed in the treatment of the special classes; there is no adequate recording of that treatment.

PSYCHOTHERAPEUTIC

(Individual and Group Psychotherapy)

Edgar A. Doll (9) expresses the following belief in regard to the "Curability" of mental deficiency by therapy:

...the criterion of curability is referable to the efficacy of specific therapy. Not while taking the treatment but because of it becomes the standard of judgment. We cannot therefore claim a cure but only an adventitious or spontaneous recovery unless the rationale of specific therapy is factually demonstrated.

This is an extremely difficult requirement to fulfill. The present study does not propose to claim a cure but only to report the results after therapy upon one factor. Because of intangible variables it is difficult to deal with individuals in a scientific manner. Psychology is concerned with individuals. Consequently, it finds itself emeshed in a web of criticism from those, usually within its own ranks, who are oriented in scientific methodology. This criticism is frequently needed in order to aid in the construction of more precise studies and in the interpretations of results from the studies.

DIGEST OF MATERIAL

PART II

SECTION B

The demands of scientific methodology, however, often cannot be fulfilled. In view of practical matters an investigator must at times forego a more adequate study, in terms of methodology, in order to have any study at all. This is especially true for the area of psychotherapy. Almost all of the therapeutic work to date has been done with normal individuals, intellectually speaking, since psychotherapists have frequently regarded low intelligence as precluding psychotherapeutic aid.

One of the beginning inquiries into the possible aid for the mentally subnormal through psychotherapy was reported by Lillian Glassman (13). Conducted over a three year period (1938-1940), the study was an effort to determine the possibility of therapeutic success with dull normal children. The study was carried out by comparing the results of psychotherapeutic treatment of twenty-five children of high intelligence with an equal group of dull normal individuals. The mean I.Q.'s for the two groups were 121 and 85, respectively. The experimental and control groups were matched according to

age, sex, economic status, and home situation. All children received very nearly the same number of therapeutic contacts. According to the author there was no variation in the type of treatment given to the two groups. In determining the results of treatment, Glassman used an adjustment rating scale (The A-E scale). The scale is constructed in terms of adjustment problems. Those having better adjustment were rated as "A" by the scale; those having poor adjustment and an increase in personal problems were rated as "E". By analysis of the A-E scale results, the investigator found that treatment was more effective with dull normal children than with the bright. The author of the article emphasizes that the validity of such results would rest to a great extent upon the intensity of maladjustment before the program was put into operation. Using problem behavior as a measure, Glassman concluded that both groups were approximately at the same level of adjustment before therapy began. In view of the results of the study the author makes the following statement:

Our findings appear to be strictly compatible with the basic principles of dynamic psychiatry and social casework. The principles emphasize that the chief therapeutic elements in psychological treatment is the relationship between therapist and patient. If this is so -- if a child is enabled to overcome his emotional disturbances chiefly through being given the experience of a warm, accepting, secure relationship and the opportunity of expressing, in one way or another, his fears and conflicts -- then it should not be expected that high intelligence is necessary for successful results, for insight and intellectual understanding on the part of the patient are not required.

Glassman's study was investigating the relationship of I.Q. standing to therapeutic success the criteria of which was better adjustment. Muench's study, discussed previously, has shown that some individual's diagnosed as feeble-minded have made satisfactory adjustments with a corresponding rise in intelligence level. The subjects of the latter study accomplished their change without a specific therapy or regimen over a period of eighteen years. On the other hand, Glassman's subjects reached their level of adjustment over a three year period through the application of therapy; I.Q. change was not recorded. The two studies are not precisely comparable but they are similar enough for ideas to be

drawn from them. The question arises: Can psychotherapy, over a short period of time, bring about a significant rise in I.Q.?

Before investigating this question further, the case of insitutionalized mental deficientes should be reviewed. F. C. Thorne (32), after a perusal of recognized child guidance methods, established a plan for counseling and guidance at Brandon State School, Vermont. The institute received a complete change of policy in regard to disciplining of inmates. Corporal punishments were abolished; minor punishments were of one day's duration. Major offenses were treated by counseling and psychotherapy. Thorne defines his objectives in counseling mental defectives:

- a) accepting the mental defective as being a worthy individual in spite of his defects,
- b) permitting expression and clarification of emotional reactions,
- c) patiently teaching him methods for resisting frustration and achieving emotional control,
- d) outlining standards for acceptable conduct within the ability of each individual child,
- e) building up self-confidence and respect by providing experiences of success, and
- f) training the child to seek help intelligently through counseling when faced with unsurmountable problems.

An analysis of the results, which was
"... only a preliminary qualitative evaluation..."

Thorne considered "the most important therapeutic factor to be the emotional security gained from living in"... a stable well-regulated environment where one is accepted and has some worthwhile work to accomplish." The results of the therapy was evaluated by conduct, school and records, clinical judgments. Using this yardstick Thorne found that sixty-six per cent of his cases were improved, twenty-three per cent were unchanged, ten per cent were worse. Thorne realized that the above results do not lead to definite conclusions. He does, however, feel that counseling of mental defectives is worthy of the effort. The article closes with the recommendation for further reasearch in the area.

It is recognized that the preceding study was conducted in an institution. Consequently, it is not surprising that the therapy was aimed at adjustment within fairly rigid bounds. This reference is specifically aimed at the stated objectives of the therapy. One cannot help but speculate upon the possible results of a therapeutic program that is not obligated to fulfill any gross social requirement. Hence, the present study intends to utilize

non-directive therapy in a situation that has only the limitations necessary to tie the therapy to the realm of reality. Also, the present study is fulfilling a small part of the recommendation for further research in this area. There is no detracting from the importance of the present study by the fact that it is not dealing with institutionalized cases. Studies related to exceptional children in ungraded classes are of equal, if not of more, consequence than those institutionalized. Society still considers the children in these classes educable and any investigation bearing upon improvement of potentialities may help determine future treatment policies.

Perhaps the most recent study in this area, and more pertinent to this review, is that of Dr. Milton Cotzin (7). At Southbury Training School, Connecticut, Dr. Cotzin initiated a group psychotherapy program to deal with mentally defective problem boys. In this case, nine boys were studied. The chronological ages of the group averaged fourteen years, five months with a range from eleven years, six months to fourteen years and five months. The

average I. Q. of the group was about 62; range from 50 to 79 with only one boy having an I.Q. above 70. The time spent in the institution averaged five years. The nine subjects that compromised the study were selected because of constant referral to the Department of Psychological Services. All nine had experienced individual psychotherapy.

The therapeutic program was added to the regular school curriculum. The ten therapeutic sessions, extending over a three week period, lasted one hour and fifteen minutes each. Treatment had two main aims; The first being to give "...each individual insight on release, in so far as possible, into his own behavior when viewing and assessing the behavior of other individuals in the group." Cotzin's second aim was that "... of having the therapist as a part of the group, gain further knowledge diagnostically about each individual." In order to realize these aims the therapist felt that his neutral role would not be adequate.

Cotzin pointed out that the group was "...aggressive, hostile, resentful, and bitter towards the therapist and towards the other members of the group." These traits were exhibited to such

an extent that the therapist felt that limits should be established. Consequently, a method was utilized whereby the aggressiveness could be controlled.

This was accomplished by setting up boxing matches with "... the therapist acting as impartial referee ..." and the rest of the children acting as audience. Cotzin felt that "It was the beginning of therapy, the start of diagnostic observation." After the children appeared to gain more of a group feeling, another device was used; the "courtroom scene." Within this structure the therapist acted as judge, each child in turn was the defendant on the stand and every other child in turn acted as prosecutor, with the remaining children serving as gentlemen of the jury." The therapist felt that the aims of the therapy were being accomplished: the children appeared to be gaining insight since more positive feelings were being expressed by them. The therapist himself stated that he began to get a real understanding, diagnostically, of the group.

The cases were followed through for one year with a report on the group, in terms of adjustment, given twice. The first report, two months after therapy, demonstrated improvements in behavior.

After a one year period six of the boys still showed improvement; three were classified as well adjusted, the remaining three as fairly well adjusted.

From this exploratory study Dr. Cotzin concludes: "The objective of psychotherapy, namely correction and improvement of personality and of social adjustment, can be met in the mental defective." He points up the importance of group therapy in dealing with mentally deficient individuals. It has been shown that individual therapy sessions with mentally defective persons have not been too successful. The author explains this experience by emphasizing the inability of the mentally defective to verbalize; this type seems to function more adequately in a more concrete situation. Such a conclusion is apparently borne out by test results which demonstrate the subnormal's poor functioning on the verbal and abstract items. Cotzin further concludes that the role of the therapist should be active (indirect participation). The method of structuring, which the author considers adequate, has been discussed previously. Also, the investigator considers nine to be the maximal number to be dealt with in a treatment of this sort. In relation to general application

of results emphasis is placed upon the role of those in charge of the deficient:

... cottage parents or teachers must not assume the role of the adult who originally had part in the genesis of the behavior difficulties... outlets for the repressed hostility and aggression of the child must be provided; adequate means of showing his needs for acceptance, affection, security, leadership, must be available.

According to other workers in the field the needs listed by Cotzin in the above quotation are not related to mentally deficient problem children alone, but to mentally deficient children in general. When dealing in results of investigations with individuals, one can make broad generalizations but not specific claims in regard to prediction. Several investigators have made personality studies of the mentally deficient with known testing devices. Others have studied the problem on a more general social basis. P. T. Teska (31) has reported in the latter area. In an article dealing with the adjustment of the mentally handicapped, Teska concludes that there are four main factors preventing the adequate adjustment of the mentally subnormal:

1. Failure of the parent to recognize the subnormality and to accept emotionally and mentally the handicapped child.

2. The necessity to compete in a school system geared to the needs of children of mentality superior to his.
3. The exaggerated emphasis placed by parents and teachers upon the role of intelligence in successful living.
4. The philosophy shared by too many teachers, parents and even clinicians that subnormality is a regrettable condition about which nothing can be done beyond its recognition.

Teska regards these four points as being generally valid. Because of these antecedents, he found that the mentally subnormal child reacts most favorably to "kindness and confidence." Although the above report is general and ill defined, it gives a fair picture of the general state of affairs in regard to the subnormal. Perhaps an important omission is the possibility of overprotection of the child as well as the rejection which was greatly emphasized.

Hans Neuer (24) points out that "overwhelming parental love and overprotection" may well create a despotic child who never learns self-reliance. Such a situation would certainly not be one to stimulate growth, intellectual or social. Thorne (32) seems to sum the situation by indicating that,

according to unpublished data related to the clinical treatment of five hundred mental defectives, "...the same aetiological factors were operative as in normal children...." For further clarification, Thorne says that the average familial mental defective, because of his subnormal intellectual endowment, cannot compete with others of his age group. The ensuing frustration results in a regression to "infantile emotional behavior with many undesirable compensatory reactions which are normal and understandable for one of his intellectual level."

DIGEST OF MATERIAL

PART III

SUMMARY

A historical survey of studies in mental deficiency shows many diverse and conflicting results. Lack of unity is found even in the basic concepts and definitions of the condition which may account for some of the confusion. Other contributing factors to this general state of affairs may have been variations in methods, procedures, and analysis.

Since the area of mental deficiency is still in an unsettled state, the present study, though exploratory in nature, hopes to add pertinent data that might help to crystallize thought relative to the general problem. Studies of institutionalized mental deficient persons have shown, generally, that the I.Q. of these individuals does vary and that the variation is usually of negative tendency. Investigations of social adjustment have shown that some mentally deficient persons do make adequate social adjustments, with and without special training. Those who have studied environmental changes and their influence upon I.Q. standing noticed a possible direct relationship between them. Reports of psychotherapeutic treatment have been encouraging,

These investigators have felt that mentally deficient clients do become better adjusted through this medium.

Through the methods and procedures outlined on the following pages, it is hoped that results might be obtained concerning what seems to be the next question in the chain of investigations; Does psychotherapeutic treatment cause a variance in I.Q.?

IV

ASSUMPTIONS UNDERLYING HYPOTHESIS

ASSUMPTIONS UNDERLYING HYPOTHESIS

J. E. Anderson (1) says: "From modern discussions the principle emerges that a small sample selected in accordance with criteria rigidly laid down in advance gives more significant and meaningful results than a much larger sample the characteristics of which are unknown."

The sample is assumed to be representative of the group from which it is drawn. This assumption is made on the grounds that the subjects for study will be selected at random from the group meeting the rigid criteria in section V..

The Stanford-Binet I.Q. test (1937 revision) is thought suitable for this level. It has been used many times by various investigators in this area and has often been instrumental in determining the treatment of the individual. This test is particularly reliable with young children, since the probable error increases with age.

The Grace Arthur Point Scale is most valid and reliable when scores are obtained for children between the ages of seven and thirteen.

METHODS AND PROCEDURES

METHODS AND PROCEDURES

A. The students of the Louisville Public School's ungraded classes will be evaluated by the following primary criteria:

- 1) Sex: Male.
- 2) Chronological Age: 8 to 9 years.
- 3) Initial Stanford-Binet (1937): 60 to 69 I.Q..
- 4) Physical record and exam: To determine endogenous classification.

And the following secondary criteria:

- 1) Socio-economic status: Determined by the Minnesota Scale of Paternal Occupation.
- 2) Past educational experience: Determined by the length of time spent in formal education (or special education)
- 3) Status of Social Maturation: Determined by the Vineland Social Maturity Scale.

The experimental and control groups will be chosen from the final group that meets the primary criteria and does not show great variation in the secondary criteria. The names of the individuals meeting the above qualifications will be assigned code numbers. The two groups for study (ten each) will be selected from the table of random numbers.

B. Procedure and Apparatus:

The Testing Program:

The testing program will be divided into three sessions: session one being before therapy;

session two immediately after therapy and session three six months after therapy. Each session will be of two day's duration with the Grace Arthur Scale of Performance Tests being administered on the first day in order to establish a good relation with the subject before administration of the more verbal Stanford-Binet on the second day.

At the first session one half of the control group and one half of the experimental group; as determined by the table of random numbers, will receive Form L of the Stanford and Form I of the Grace Arthur.

At the second session the subjects will be administered the alternate form of the tests given during session one.

At the third session the tests given during session one will be repeated.

The testing will be done by four examiners. Assignment of subjects to examiners will be determined by utilizing the table of random numbers.

The Therapeutic Program:

The experimental group will meet with the therapist for group non-directive play therapy sessions two hours a day, five days a week, from the 27 June

1949 through 20 August 1949. The control group will neither experience psychotherapy nor any special program but will be subject to the testing procedure.

Virginia M. Axline (3) describes the non-directive counselor's eight basic guiding principles in all therapeutic contacts:

1. The therapist must develop a warm friendly relationship with the child, in which good report is established as soon as possible. ((In group therapy).. the therapist must exercise caution to prevent focusing the responses toward one child at the expense of others.)
2. The therapist accepts the child exactly as he is. (To apply this principle in a group situation the therapist is obliged continually to check responses so that one child in a group does not feel at any time that he is being compared or contrasted with any other member of the group.)
3. The therapist establishes a feeling of permissiveness in the relationship so that the child feels free to express his feelings completely. (The children note the ready acceptance of each child's expression by the therapist and the freedom of expression seems to be contagious.)
4. The therapist is alert to recognize the feelings the child is expressing and reflects those feelings back to him in such a manner that he gains insight into his behavior. (When there is more than one child in the playroom the therapist's opportunities to reflect feeling are minimized. ... the therapist must center her attention upon individuals and at the same time scatter her responses so that no child feels neglected.)

5. The therapist maintains a deep respect for the child's ability to solve his own problems if given an opportunity to do so. The responsibility to make choices and to institute change is the child's. (It applies at all times to each child, whether alone or in a group.)
6. The therapist does not attempt to direct the child's actions or conversation in any manner. The child leads the way; the therapist follows. (The child leads and therapist follows in a group contact just as in an individual contact.)
7. The therapist does not attempt to hurry the therapy along. It is a gradual process and is recognized as such by the therapist.
8. The therapist establishes only those limitations that are necessary to anchor therapy to the world of reality and to make the child aware of his responsibility in the relationship. (The limitations in regard to destructive, dangerous and aggressive behavior... apply also to group therapy.)

Materials used in the play room:

Therapy sessions are held in a room equipped with the following play materials: nursing bottles, a doll family; a doll house with furniture; toy soldiers and army equipment; toy animals; play house materials including table, chairs, cot, doll bed, stove, tin dishes, pans, spoons, doll clothes, clothes line, clothespins, and clothes basket; a dideo doll; a large rag doll, ... crayons; clay, finger paints; sandbox, sand; washbasin; toy guns; peg pounding sets; wooden mallets; paper dolls; little cars; airplanes;

a table; an easel; paper; fingerpainting paper; old newspapers; inexpensive cutting paper; pictures of people, houses, animals. All of the materials have proved to be utilized in expressive play.

C. Proposed Analysis of Data Including Statistical Procedure:

1. The most important analysis will be that of the test scores. To determine statistical significance, the Fisher "t" device will be used. This device will also be used on the results obtained from tests at the end of the six month follow up period.
2. Further analysis will be a search for implications indicated by the results.

VI

ASSUMPTIONS UNDERLYING
METHODS AND PROCEDURES

ASSUMPTIONS UNDERLYING METHODS AND PROCEDURES:

A. Methods:

1. The method (Part V, Section A) is assumed to be adequate and suitable. This assumption is made on the grounds that the two study groups are well enough defined by the criteria to be similar.

B. Procedures:

1. It is assumed that the individuals in the study group are living according to their usual routine with the exception of the added factors initiated by the procedures of this investigation. (see Part V, Section B). This assumption is obviously inadequate since control of environmental processes is impossible; however, it is invariably the risk taken in attempting a study of individuals.
2. The assumptions underlying the testing program have been discussed in Part IV.
3. It is also assumed that non-directive group therapy is an adequate situation for growth to occur; an assumption based upon the aim of the method.

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