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DIFFERENTIAL EVALUATION OF SELECTED TESTS WHEN UTILIZED WITH INSTITUTIONALIZED AND NON-INSTITUTIONALIZED TRAINABLE MENTALLY RETARDED

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TITLE

DIFFERENTIAL EVALUATION OF SELECTED TESTS WHEN UTILIZED WITH INSTITUTIONALIZED AND NON-INSTITUTIONALIZED TRAINABLE MENTALLY RETARDED

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CHAPTER I

INTRODUCTION

The systematic evaluation of children's abilities constitutes one of the principle activities of psychologists who deal with mentally retarded children in clinics, schools and institutions. One of the areas in which the psychologist is best equipped to make a unique contribution is in the administration and interpretation of standardized examinations. Usually the psychologist who has been adequately trained in individual examinations will administer several different ability examinations in order to evaluate the strengths and weaknesses of the child and the evenness of his performances on various measures. The psychologist is often requested to classify a child as "retarded", or "normal", "trainable", or "educable", on the basis of the individual ability examinations he has administered. It is the responsibility of the psychologist to obtain the best possible ability rating on a child by administration of carefully standardized examinations. The examinations employed should be normed so that a child's performance can be compared against some known criteria.

The problem of assessment of the intellectual ability

of children classified as "trainable mentally retarded", i.e., mental ages of one-third to one-half that of their chronological age, has been especially difficult due to multiple handicaps often found within this range of intellectual ability. The problem, in part, in assessment of the "trainable mentally retarded" is the lack of instruments which have been normed and designed to be administered to children within this level of intellectual ability. For an examination to be valid with the "trainable", procedures must include the use of an examination which will provide the most appropriate data. The range of standardized instruments for psychological assessment of the child below mental age of three becomes restricted to a limited number of examinations. The amount of research on the concurrent and predictive validity between standardized instruments when administered to a "trainable" population has been quite scant. Many of the examinations administered to the "trainable" do not give items on the scales which extend low enough to sample the ability of the "trainable" which opens questions as to their validity.

The need for valid and reliable instruments to assess the intellectual abilities of the "trainable mentally retarded" seems evident when one examines the trend of development of programs and number of these children in the United States. It was estimated by the President's Panel of Mental Retardation

(1962) that there were 300,000 to 350,000 individuals classified as moderately retarded (IQ of 35 to 50). They also estimated 3 children out of every 1,000 births will be moderately retarded, unlikely to progress beyond a mental age of 7 years even in adulthood. Dingman and Tarjan (1960) estimated that there are 437,500 mentally retarded with an IQ below 50; 87,500 between 0 and 20 IQ and 350,000 between 20 and 50 IQ. Such estimations can only be made in the crudest fashion using common sense extensions of hospital population figures and applied to a United States Population base of 175 million. These figures are already outdated, since the estimated population of the U. S. in 1968 was 200 million. Kirk (1957) estimated that a community should plan classes for one to two TMR children per 1,000 school aged children. Dunn (1963) found from U. S. Office of Education reports for 1957-58, that there was a 260 per cent increase in public day services for the trainable mentally retarded in the five years from 1953-1958. Though no current estimations of present percentages of programs for the trainable were found, it may be assumed that the high percentage of growth has continued. The trainable mentally retarded account for about .4 per cent of the school population according to Gardner and Nisonger (1962). Trainable children most frequently have normal parents and siblings and come from all socio-economic levels. Physical

abnormalities and medical problems are frequently present; disorders in communication, motor and visual coordination, and behavior are also common (Heber, 1961).

The President's Panel also recommended that there is a need for development of methods of measurement of the mentally retarded. There is a need to conduct research on the validity of individual intelligence examinations with the trainable mentally retarded and also development of and research with evaluative instruments other than intelligence examinations for use with the "trainable mentally retarded". In current practice, IQ and/or mental age is the primary basis for classification of the population termed mentally retarded and probably will continue to be the major method in the future. If this is to be the case then it is necessary to obtain information through research utilizing various tests of intelligence in order to determine which instruments best assess the mental capacities of the "trainable". There is also a need for evaluative instruments especially designed for assessing the basic skill areas of the "trainable". Measures of intelligence should also correlate highly with skills measured by basic skills tests designed for use with the "trainable".

Statement of the Problem

The purpose of this study was to determine the relative

merits of the Stanford-Binet Intelligence Scale (S-B) and the Hiskey-Nebraska Test of Learning Aptitude (H-NTLA) as predictors of success of trainable mentally retarded children and youth who were in a school program in an institutional setting and of those who were in a public school special education program, through comparisons with raw scores of a criterion, namely, the Developmental Test for Non-Educable Retardates (DTN-ER) and its subtests. The DTN-ER is a developmental skills scale which is constructed to measure adaptive behavior and achievement. It was also proposed to study the correlation between S-B and H-NTLA mental ages, as well as, the correlation between the "mean mental age" of the S-B and the H-NTLA with the DTN-ER.

A secondary purpose of this study was to determine the extent to which the DTN-ER, when employed with trainable mentally retarded children and youth, was related to: (1) chronological age, (2)number of months in a school program, and (3) institutionalization versus non-institutionalization.

In order to determine relationships and/or differences at the .05 or .01 levels of confidence referred to in the previously stated problem, the following hypotheses were stated:

1. No significant relationship exists between Stanford-Binet and Hiskey-Nebraska mental ages

when employed with trainable mentally retarded.

2. No significant relationship exists between Stanford-Binet mental age and the DTN-ER total score and subtest scores when employed with trainable mentally retarded.
3. No significant relationship exists between Hiskey-Nebraska mental age and the DTN-ER total score and subtest scores when employed with trainable mentally retarded.
4. No significant relationship exists between "mean mental age" and the DTN-ER total score and subtest scores when employed with trainable mentally retarded.
5. No significant relationship exists between chronological age and DTN-ER total score and subtest scores when employed with trainable mentally retarded.
6. No significant relationship exists between number of years in a school program and the DTN-ER total score and subtest scores when employed with trainable mentally retarded.
7. No significant differences exist between institutionalized and non-institutionalized on the DTN-ER total score and subtest scores when Stanford-

Binet mental age, Hiskey-Nebraska mental age, and "mean mental age" were statistically controlled.

Limitations

This study was limited to 64 trainable mentally retarded children from age five and one-half to seventeen and one-half enrolled in school programs in the Beatrice State Home for the Mentally Retarded at Beatrice, Nebraska, and the General Arnold Training Program for the Mentally Retarded at Lincoln, Nebraska.

The 64 subjects in this study were selected by stratified random sampling from all trainable mentally retarded subjects from age five and one-half to seventeen and one-half with Binet or WISC IQs from 30 to 60 who were enrolled in the school programs at the Beatrice State Home and General Arnold Program in the fall of 1968. The design of this study was ex post facto rather than experimental, therefore, cause-and-effect relationships can not be drawn. Instead, correlational and descriptive differences can be ascertained. The results of this study can be generalized to the trainable school population of the Beatrice State Home and General Arnold Program, but must be generalized with caution to the general trainable mentally retarded population.

Definition of Terms

The following terms were defined as they were employed in this study:

Intelligence--Intelligence is (1) the capacity to learn, (2) the totality of knowledge which has been acquired, and (3) the ability to adjust or to adapt to the total environment, particularly to new situations. (Robinson and Robinson, 1965, p. 6)

"Mean Mental Age"--Refers to the mean averaged mental age computed from the Stanford-Binet Intelligence Scale, Form L-M, and the Hiskey-Nebraska Test of Learning Aptitude scales administered for the stated purposes of this study.

Mental Age-- Mental age is the chronological age at which the average child does as well as the subject does. (Cronbach, 1960, p. 169)

Mental Retardation--Sub-average general intellectual functioning which originates during the developmental period and is associated with impairment in adaptive behavior. (Heber, 1959, p. 4)

Psychological Examinations--Refers primarily to objective procedures (usually, but not always, standardized) for the assessment of general intelligence and specific aspects of intellectual functioning. (Benton, 1964, p. 17)

Trainable Mentally Retarded--A trainable or moderately retarded child is one: (1) who is of school age; (2) who is developing at the rate of one-third to one-half that of the normal child; (3) who, because of retarded mental development is ineligible for classes for the educable mentally retarded who will, however, pro-

bably not be custodial, totally dependent, or require nursing care throughout his life; (4) who has potentialities for self-care tasks (such as dressing, eating, toileting), and who can learn to protect himself from common dangers in the home, school, or neighborhood; (5) who has potentialities for social adjustment in the home or neighborhood and can learn to share, respect property rights, cooperate in a family unit and with the neighbors; and (6) who has potentialities for economic usefulness in the home and neighborhood by assisting in chores around the house, or in doing routine tasks for remuneration in a sheltered environment under supervision-even though he will require some care, supervision and economic support throughout his life. (Kirk, 1957, p. 13)

Trainable mentally retarded children have the potentialities for training or learning in the areas of self-care, social adjustment to their immediate surroundings, and some activities which will contribute to their economic usefulness in the home as well as in a specialized situation designed for such groups such as sheltered workshops or institutional settings. Functionally, a TMR child matures intellectually from approximately one-fourth to three-fifths the rate expected from a child of "average" ability. In terms of measurable ability on tests of intelligence, TMR children in Nebraska are those who have IQ ratings from 30-60. (Nebraska School Laws, Sections 43-612 to 43-616)

CHAPTER II

REVIEW OF THE RELATED LITERATURE

Review of Literature on Adaptive Behavior and Psychological Evaluation of TMR

One of the preliminary steps in meeting the educational needs of any handicapped child is arranging for complete physical, social, emotional, and psychological evaluations. The degree and significance of the handicap, including diagnosis and prognosis, is vital. Psychologists have a variety of tests designed to assist the diagnosis of patterns of behavior and learning aptitudes of handicapped children; however, when the psychologist is faced with psychological evaluation of the trainable mentally retarded, the number of appropriate measurement instruments is limited. This is especially true when the psychologist is attempting to assess adaptive behavior of the trainable mentally retarded. The assessment of adaptive behavior is of increasing importance due to the present day concepts that mental retardation is characterized by subaverage intellectual functioning associated with deficiences in adaptive behavior. The dimension of adaptive behavior refers "primarily to the effectiveness with which the individual

copes with the natural and social demands on his environment" (Heber, 1961). Leland (1964) described adaptive behavior as a composite of many aspects of behavior and, in addition, a large range of abilities and disabilities. Leland (1966) stated that there will be a relationship of adaptive behavior to measured intelligence. Adaptive behavior instruments include items similar to many elements observed under the heading of measured intelligence. However, instruments measuring adaptive behavior should also measure additional behavioral elements of mental retardates in institutions and in communities. Measures of adaptive behavior can be of value in planning programs, evolving rehabilitation concepts, and generally attempting to develop better and more perfect ways of helping the retarded individual. Hiskey (1963) described adaptive behavior in terms of other-directed behavior leading to self-initiated and self-directed behavior. Adaptive behavior is further described in similar concepts along a dependency-independence continuum of other-directed to self-orientated behavior by Cain, Levine, and Elzey (1963). The dimension of adaptive behavior is not only valuable but may also be regarded as an important new dimension to be considered regarding the diagnosis and evaluation of the retarded child. Adaptive behavior must be stated more positively in rehabilitation terms and must exist as an independent dimension, but may possibly be related