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GRADUATE COLLEGE

THE SELF CONCEPT AND PERSONAL-SOCIAL BEHAVIOR CHARACTERISTICS OF CHILDREN WITH LEARNING DISABILITIES

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

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degree of

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1976

THE SELF CONCEPT AND PERSONAL-SOCIAL BEHAVIOR

CHARACTERISTICS OF CHILDREN WITH LEARNING DISABILITIES

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THE SELF CONCEPT AND PERSONAL SOCIAL BEHAVIOR OF CHILDREN WITH LEARNING DISABILITIES

CHAPTER I

1. INTRODUCTION

Each year an estimated seventy-five million children in the United States, ages 5-10, answer the call for the beginning of the school year. They are sorted, diagnosed, classified and labeled from the time they enter school until the point in which they terminate. Approximately ten percent of the above figure (7,083,566) are identified as handicapped. In particular, some 2.0% of this number are identified as emotionally disturbed while 1.0% are designated as learning disabled (Bureau of Education for the Handicapped, 1970). At the International Convocation on Children and Young Adults with Learning Disabilities, Harold Howe, U.S. Commissioner of Education, cited that 7% of the children in the United States are unable to succeed in regular classrooms because of learning disabilities (Rappaport, 1969).

In recent years more and more attention has been given to the learning disabled child. The field of learning disabilities sprang from earlier work with the brain damaged

child and the many behaviors associated with brain damaged children are characteristic of these children who have been diagnosed and labeled as learning disabled (Strauss and Lehtinen, 1947). Many definitions of learning disabilities have been presented by authors or task forces according to their respective points of view. There have been references to discrepancies between the child's potential for learning and his actual achievement, known or presumed neurological dysfunction and exclusion of other significant handicaps. Kass and Myklebust (1969) reported the educational definition for learning disabilities as prepared by the Institute for Advanced Study in August, 1967, which stated in part, that children with learning disabilities generally demonstrate a discrepancy between expected and actual achievement in one or more areas such as spoken, read or written language, mathematics and spatial reasoning. Their disabilities do not impair their intelligence, rather they affect specific areas of learning and behavior (Brutten, Richardson, and Mangel, 1973).

Bryan (1974) pointed out that there is evidence to suggest that children with learning disabilities may experience interpersonal difficulties with peers, teachers and parents. A traditional psychodynamic viewpoint of learning problems interpreted them as resulting from the child's failure to identify with his parents, peers or teachers (Pearson, 1954). Under this framework the child may hate or fear someone in his environment so much that he cannot learn. In other cases, a child may feel too inadequate to risk competition, he may

secretly wish to retaliate against those who exploit him, or he may manifest a need not to know (Myklebust, 1969).

Many authorities have attempted to explore the relationship between learning disabilities and emotional problems. The consensus is that a positive relationship exists between the two variables (Strauss and Lehtinen, 1947, Clements, 1966, Johnson and Myklebust, 1967). Research efforts which centered on learning disabled children have been directed towards diagnostic and remedial intervention. Little attention has been paid to the social forces, particularly within the classroom, which might be associated with the presence of a learning disability. The majority of authorities in the field seem to believe that learning disorders and emotional problems are related, however there is a paucity of research evidence to support their beliefs. Those who have sought to provide hard research data have not been able to obtain significant findings when comparing personality variables of an experimental group of learning disabled subjects with a control group of normals (Connolly, 1969, Myklebust and Boshes, 1969, Goldstein, 1970).

Although there is considerable literature concerning the behavioral characteristics of the learning disabled child, there appears to be a limited number of studies directed toward determining whether positive changes in behavior and self-concept are the result of placement and treatment in a learning disabilities laboratory. This investigation is concerned with the changes in self concept and the personal

social behavior characteristics observed and measured in regular classroom following placement and treatment in a learning disabilities laboratory.

BACKGROUND OF THE PROBLEM

A. Statement of the Problem

The general problem to which this investigation is addressed may be expressed by this question: Does placement and treatment in a learning disabilities laboratory yield a positive change in the self concept and personal social behavior of children with learning disabilities? This investigation was designed to obtain information for answering the following questions:

(1) Is there a statistically significant difference between mean gain scores, using t-tests for independent data, in self concept between the experimental and control groups of children with learning disabilities, following placement and treatment in a learning disabilities laboratory, as measured by their performance on the Primary Self-Concept Inventory Test (Muller and Leonetti, 1974)?

(2) Is there a statistically significant difference between mean gain scores, using t-tests for independent data, in the personal social behavior between the experimental and control groups of children with learning disabilities following placement and treatment in a learning disabilities laboratory as measured by the teachers' perception on the

Pupil Rating Scale for Learning Disabilities-Personal Social Behavior (Myklebust, 1971)?

Related Literature

There are a large number of individuals in our population who show deviations of intellect and behavior that require special resources for their education. Over the past twenty years attention has increased concerning the concept of brain dysfunction as a primary causative factor in learning and behavioral disorders of children.

The epidemic of encephalitis that occurred during World War I affected a large number of children and attention was attracted to the behavior disorders that were exhibited by these children. The earliest reports of Hohman (1922), and Ebaugh (1923), described symptoms of anti-social behavior, irritability, impulsiveness, emotional lability and hyperactivity but reported no significant cognitive impairment. Shortly after World War II, Strauss published his classical work on the "brain injured" child (Strauss and Lehtinen, 1947). He advanced the theory that brain damage in children resulted in a specific cognitive and behavior syndrome; the hyperactivity perceptual confusion syndrome. Since that time the role of organic factors in the etiology of certain childrens' behavior disorders has become increasingly accepted so that now the literature in this area is vast. Cruikshank and Paul (1971) stated that distractibility is the more central characteristic of brain damaged

children. They postulated that the characteristics of disinhibition, hyperactivity, impulsivity and perservation may be explained to some extent by the brain damaged child's distractibility, that is, his inability to filter out extraneous stimuli and to focus selectively on a task. The behavioral characteristics most frequently cited included: hyperactivity, short attention span, distractibility and emotional liability (Clements, 1966).

Rodgers, Lilienfeld and Pasamanick (1956) studied 500 children who had been referred because of behavioral problems. Forty percent of the children exhibited a variety of other psychopathological conditions ranging from anti-social behavior to neurotic symptoms. Through examinations of medical records, the frequency of pre and post natal complications in the group was compared with that in a normal group of 350 children from the same classroom matched for race, sex and birthplace. The behaviorally deviant group as a whole exhibited a significant excess of certain complications, notably prematurity and abnormalities of pregnancy. The behavioral syndrome most significantly associated with these complications was hyperactivity-confusion, which was found to be responsible for all of the statistically significant differences observed between the two groups. The findings of this study led Pasamanick and Knoblock (1960) to postulate that a continuum of reproductive causality exists in which the effect of damage to the

brain is seen as varying according to its extent; when severe, death, mental retardation or cerebral damage result. When minimal cognitive perceptual and CNS integrative difficulties occur, it leaves a group of children "minimally brain damaged," predisposed to develop behavioral difficulties depending on individual, socio-familial or educative experience.

Teuber (1960), in discussing the relationship between cerebral damage of dysfunction and personality, described two points of the view: the "hard" and the "soft." In the "hard" the lesion is seen as directly instrumental in the production of the behavior disorder, with a general brain-damage syndrome or a series of specific syndromes depending on the site or lesion. In the "soft," cerebral status is a relatively minor variable, the behavioral effect of which is made quite unpredictable by the over-riding importance of the individual personality.

Lucas (1963) studied 72 children referred by school authorities because of undesirable classroom behavior or poor academic progress (mostly the former). The behavioral symptoms exhibited included withdrawal, anti-social behavior, hyperactivity and neurological immaturity. A large number of medical, historical, behavioral and neurological variables were measured. The most frequent were intercorrelated and subjected to a rotated factor analysis. Only three behavioral factors were extracted: namely, motor incoordination, hyperactivity and antisocial behavior. The behavior symptom

or hyperactivity and poor impulse control showed correlations with certain neurological abnormalities of uncertain significance such as poor coordination, motor difficulties and abnormal movements. Kirk and Kirk (1971) have indicated that children with learning disorders in the perceptual and conceptual area tend, in many instances, to have correlated behavior disorders of hyperactivity, lack of attention and general maladaptive behavior.

Patterson (1964) questioned medical psychiatric classifications of behavior disorders and suggested that they should be assessed according to dimensions of hyperactivity, aggressiveness, immaturity, anxiety and withdrawal behavior which lead to more workable homogenous groupings. Intermediate views, such as those held by Bender (1956) and Birch (1964), suggested certain deficits, especially of cognitive and motor function, are directly the results of cerebral pathology, but that the specific behavior syndromes are largely determined by the reactions of the individual child and his environment to these primary deficits. Behavioral problems are not a simple consequence of a weak motor inhibition (hyperkinesia) as a good number of authorities believe, but a consequence of poor development of affective structures, despite the normality of the environment (Lievens, 1974).

There are a number of studies that investigated the role of attentional processes in learning disabilities. Dykman and his associates (1971) developed the theory that organically based deficiencies in attention explain the core

group of symptoms associated with learning disabilities. Experimental evidence by Burks (1957) supported the view that damage to the area occupied by the reticular activating system of the midbrain has direct affects upon attentional control. Combinations of negative personality traits, behavioral characteristics and problems have been associated with these children. The findings of Broadbent (1962) concerning the attentional processes were helpful in understanding the short attention span and distractibility of children with learning disabilities. He concluded that the brain in all probability has two attention mechanisms which assist in listening to speech, one of which is a continuing content and the other the modulation of the voice. If the "locking-on" modulation listening mechanism has been impaired, not only will two or more voices be receptively unseparated, but more primary stimuli than language will attract the child's attention almost reflexively (the startle reflex).

Most experimental or clinical studies relevant to children have been concerned with answering simplistic questions, principally, whether "brain damage" in children, independent of site or age of onset: (1) has discernible effects on behavior or personality, and if so, (2) whether it tends to produce specific types of psychopathology.

Among cases of severe reading disabilities about 75% showed personality maladjustment (Gates, 1941). Blanchard (1964) pointed out that the academic area usually affected by a learning inhibition is reading. According to some

psychoanalytically oriented theorists (Klein, 1931; Strachey, 1930) reading is symbolically a sublimated aggressive activity. If the child is attempting to repress aggressive impulses, even the act of reading (sublimated aggression) may not be permissible. The predominating characteristics which define children with learning disabilities have been academic failure, reading, primarily, and behavioral problems, hyperactivity, particularly.

Morgan (1961) discussed the frustration existing when the striving behavior of an organism is blocked by obstacles and the organism's need to attain its goals remains unsatisfied. The presence of a learning disability serves to effectively impede progress towards the child's goal of satisfactorily fulfilling his role as a learner. This blockage is often present for a number of years, thus the youngster is forced to function under a condition of chronic nonsuccess (Myklebust, 1971). Some children experiencing difficulties in learning are easily convinced that they are stupid. The feeling is further enhanced by the attitudes of others within their environment. Learning becomes disliked and they seek opportunities to avoid it. Sometimes failure causes children to become timid and withdrawn. Insecurity is manifested by nervous habits. Other children may compensate for their feelings of inferiority by developing various forms of anti-social behavior (Bond and Tinker, 1967).

Rappaport (1969) distinguished between two types of behavior characteristics that are shown by children with brain

dysfunction: the acting-out and the passive-resistive. The first type is commonly described in the literature as hyperactivity. The passive-resistive type of behavior disorder appears to occur as frequently; however, this type of behavior is not actively destructive.

The desire to learn is deep and the development of self-worth and self-value is one of the most important aspects in the development of an able learner, a curious learner and a mature learner (Lipton, 1963). Sullivan (1953) stated that the individual's self concept develops in the course of interaction with "significant others," namely, the persons who provide the rewards and punishments in his life. In his book on the subject of "self," Hamachek (1965) stressed the importance in the first two years of life of the self-image, which he felt should be completed before the child enters adolesence. The learning disabled child's self concept may be disturbed by his inability to read, and the reactions of parents and teachers reinforce the feelings of despair and loneliness (Gallagher, 1962). Hake (1969) reported in a research study comparing poor readers and above average readers that the poor readers told more stories of children who did not like themselves.

The self concepts of boys may be structured differently from that of girls. Academic achievement was found to be significantly correlated with self concept in boys but not in girls (Fink, 1962).

Brutten, Richardson and Mangel (1973) postulated that the self concept is the way the child feels about his inadequacy, his worth and his basic ability to meet life challenges. The learning disabled child's sense of unfitness mounts as the requirements of school increase. The demands made on the child conflict with the youngster's picture of himself as helpless. He appears unable to get and maintain warm, protective relationships. The ego of the child is essentially the core of his psychological makeup and it controls the impulses and drives. It directs the expression of impulses to conform with the requirements of his environment and society. If the child's ego is strong, then he is more able to cope with stress; however, the learning disabled child is more vulnerable to stress and he finds the world less well organized for him. Conscious or unconscious self-depreciation with lowered self-esteem or self hatred dominates in many learning disabled children. In one small class of young, minimally brain damaged children, the average over-all self-concept was at the fifteenth percentile, while the esteem in social, home and school areas hovered at about the seventh percentile (Sarvis, 1965).

Children with learning disabilities often bring about a difficulty or inability to integrate life experiences or develop a stable inner universe resulting in a weakness of the ego and certain immaturity, which unbalances the personality. Children with learning disabilities have poor perceptual problems and the child, by definition, has an ego defect (Griffen, 1968).

In a study conducted in the Oklahoma City Public Schools, self-esteem scores were obtained on children in the ESAA Reading program. The results in each school were analyzed using t-tests for significant gains. The number of schools which had significant self-esteem gains in at least one grade level was eleven of twenty-four schools. Self-esteem scores were analyzed on a pre- and post-test basis by grade level to determine at which levels the greatest amount of growth or loss occurred. Fourth grade students showed the greatest amount of growth, whereas students in grades two and seven reported losses in self-esteem (Schnee and Worley, 1975).

Disturbances of personal-social behavior are found in a number of learning disability children. These problems have been referred to as inattention, irritability, hyperactivity, disinhibition and distractibility. Not all children with deficits in learning present behavior problems, but in some cases these problems are an indicator of the disability. Hebb (1949) stated that the human brain is built to be active and that activity motivates behavior. Problems in behavior tend to be the result of inactivity in the system. In some studies done by Hebb, where the subjects were paid to be perceptually isolated, there was evidence of disorganized thought process and impaired problem solving.

The present investigation focused on the self-concept and personal social behavior of children with learning disabilities. Eight items of a personal-social nature are

included in the Pupil Rating Scale by Myklebust (1971-Appendix A). They are: Coorperation, Attention, Organization, New Situations, Social Acceptance, Responsibility, Completion of Assignments and Tactfulness. Myklebust (1971) indicated that in the areas of:

Cooperation

Participating in group activities requires the ability to follow directions without unduly disrupting the activities of others. The learning disabled child may be unable to inhibit his reactions to speak out randomly or to wait his turn. He may engage in other inappropriate acts; however, his disruptiveness may be episodic and he may be aware that his behavior is unsuitable, but he is incapable of altering it. Keogh and Tchir (1962) reported that teachers of kindgergarten and first grade children who were diagnosed as learning disabled rated them as hyperactive and aggressive. In an extensive study of 76 quartets of children, it was reported that parents of learning disabled children perceived them as less acceptable and more disturbed than siblings or a controlled sample (Owen, et al., 1971).

Attention

The inattention of the learning disabled child is legend and no facet of his behavior has been mentioned more frequently. Inattention may appear in two major types: distraction from within and distraction from without. Children who cannot control inner distractions are described as disinhibited, whereas, children who overact to the

surrounding environment are designated as distractible (Myklebust, 1971). Children with learning disabilities were consistently found to be highly distractible when measures of distractibility were congruent with Cruickshank's definition of distractibility--inability to filter out extraneous stimuli and focus selectively on the task (Elkind, et al., 1965, Hallahan, et al., 1973, Keogh and Donlon, 1972, Mondani and Tutke, 1969, Sabatino and Ysseldyke, 1972).

Organization

A fundamental characteristic of the normal learner is his ability to organize immediate circumstances into a meaningful world. The learning disabled child, in contrast, often lacks the facility in planning even the most obvious aspects of what is required. He cannot organize tasks sequentially and he requires suggestions as to the next step. Gardner (1966a, 1966b) contended that the child has a limited span of attention and memory for separate items and cannot easily organize material. Since the child is unable to screen out distractions, this also effects his selective recall of memories.

New Situations

The child's reactions to new situations are important indicators of a disability. Some of these children display a low tolerance for any type of chance, while others overact to a particular stressful situation that involves surprise, complex social demands or fatigue. On this item excitability, tolerance and self-control are rated.

Social Acceptance

One of the most common observations made by parents of children with learning disabilities is that their child often lacks the ability to relate well with other children. These children frequently experience difficulties in conforming to group norms and therefore they encounter problems in their relationships with their peers. The behavior of children with learning disabilities often deviates from normal patterns. Their peers may view them as unfriendly, disobedient or naughty and these reactions reveal the child's lack of social acceptance. Research evidence indicated that the average social maturity scores for learning disabled children is inferior to the scores of the general population (Behrens, 1963, Myklebust and Boshes, 1969). The child may be clumsy, awkward and inept in the play with children of his age and has difficulty in fine motor movements. Social incompetence results in behavioral disorders such as aggressiveness, withdrawal and outbursts of tears in combination or separately (Birch, 1964).

Responsibility

Children with learning disabilities, as measured by the Vineland Social Maturity Scale (Doll, 1969), are frequently shown to be deficient in their ability to assume responsibility (Myklebust and Boshes, 1969). Their ability and capacity to act independently is impaired. They appear below average in various aspects of learning to care for themselves. The attainment in self-help is a critical factor

of the child's total integrity and well-being. On the Scale, this item not only refers to the ability to be helpful or to be a leader, but it includes the ways in which the child shows general initiative and self-sufficiency.

Completion of Assignments

An observable characteristic for evaluating children with deficits in learning is their inability to understand and to complete class assignments. Because of their handicap, these children frequently are unable to finish assigned work in reading and arithmetic, or work that involves writing. Their handicap may include slowness in reading and poor ability in arithmetic or in written language (Myklebust and Johnson, 1967). Direction of effort is quite different from what the teacher tries to stimulate in these children and often seems to be "determined egocentric caprice or by negativistic reaction to instruction" (Birch, 1964). The child may read markedly below his expected level and may have difficulty in oral reading and poor comprehension of what has been read. He may experience difficulties in arithmetic concepts and have an inability in dealing with abstractions and transferring learning from one situation to another.

Tactfulness

According to Myklebust (1971) tactfulness means that the child is perceptive in discerning the wishes of others and he has the ability to deal with them without giving offense.

In their work with learning disabled children, Myklebust and Johnson (1967) referred to this ability as social

perception. A deficiency in social perception precludes learning the significance of certain nonverbal aspects of daily living. Hence, not being aware of the meaning of the action of others, the child appears rude and disregards the feelings of others.

Instruments Used in the Investigation

Two instruments were selected for this study. They were the Primary Self-Concept Inventory Test (Muller and Leonetti, 1974) and the aforementioned Pupil Rating Scale-Screening for Learning Disabilities (Myklebust, 1971).

The Primary Self-Concept Inventory (PSCI) is designed to measure six aspects of factors of self concept. These factors can be clustered into three major domains: personal-self, social-self, and intellectual-self. Factor descriptions and their corresponding items appear in Table 1. The test may be scored to yield a total self concept score, three domain scores and six factor scores.

The Primary Self-Concept Inventory (PSCI) is composed of 20 items: two warm-up items and eighteen scored items. Each item depicts at least one child in a positive role and at least one child in a negative role. There are separate male and female forms of the test, so that the sex of principal characters in the test items may be matched with that of the child. The children are told a simple descriptive story about each illustration and are instructed to draw a circle around the person that is most like himself (Muller and Leonetti, 1974).

Several of the more important qualities of the Primary Self-Concept Inventory are:

1. It measures self concept relevant to school achievement.
2. It is appropriate for use with children in grades kindergarten through six.
3. It can be administered in any language or combination of languages.
4. It can be administered to groups of children.

The Primary Self-Concept Inventory Test (Muller and Leonetti, 1974) was designed to provide an effective procedure for evaluating several aspects of self-concept relevant to school success. Pearson product moment correlation coefficients were computed between test and retest scores of the PSCI for two samples (n=372, n=100). These coefficients were r = .91 and r = .57, respectively. These coefficients were significantly different from zero ($p \leq .01$). The first of these values suggests very high reliability.

Repeated factor analyses yielded highly consistent results, indicating that the test is measuring the six factors outlined in Table 1. The manual reported that in the view of five specialists who have done post-graduate work in measurement and evaluation the test is a valid and useful instrument for assessing self-concept.

Table 1

A Listing of Factors constituting the

Primary Self-Concept Inventory

Factor		
		Personal-Self Domain
1.	Physical Size:	assesses child's perception of his/her relative physical size.
2.	Emotional State:	assesses child's perception of his/her emotional state: i.e., happy or sad, angry or not angry.
		Social-Self Domain
3.	Peer Acceptance:	assesses child's perception of his/her acceptance by his/her peer group.
4.	Helpfulness:	assesses child's perception of himself/herself in the helper-helpee relationship.
		Intellectual-Self Domain
5.	Success:	assesses child's perception of his/her tendency to succeed or fail in task-oriented pursuits.
6.	Student-self:	asseses child's perception of his/her ability to conform to classroom behavior expectations.

The Pupil Rating Scale (PRS) (Myklebust, 1971) was devised to meet the need for an effective screening procedure. According to the manual, the PRS was developed on the hypothesis that if areas of deficit are carefully defined and delineated, they can be observed and rated by regular classroom teachers who are in close contact with children. In the development of screening procedures such as the PRS, the primary concern is the extent to which the technique accurately reveals the deficiency in question. To secure data on this problem a number of screening tests were administered simultaneously to the same population, thus permitting statistical comparison of the PRS with various other measures of learning and facility. The PRS appears to be an economical, effective procedure for identifying children who are not achieving normally, though they have the potential for doing so. In written communication with the author, Dr. Helmer Myklebust, it was found that the Scale does not have "test-retest" reliability, and that validity is shown by discriminant analysis. The PRS is the only standardized scale in the area covered (Myklebust, 1971).

TABLE 2

TEST-RETEST RELIABILITY COEFFICIENTS FOR PRS AND SELF-CONCEPT MEASURES FROM PRE-POST TESTING OF EXPERIMENTAL AND CONTROL GROUPS

Measure	Treatment Group Test-Retest Reliability Coefficients	
	Experimental (N=60)	Control (N=50)
Personal Rating Scale	.58**	.80**
Cooperation	.60**	.71**
Attention	.67**	.60**
Organization	.65**	.74**
New Structures	.42**	.69**
Social Acceptance	.54**	.61**
Responsibility	.55**	.64**
Completion of Assignments	.56**	.65**
Tactfulness	.31**	.56**
Primary Self-Concept Inventory	.55**	.58**
Domain		
Personal	.89**	.56**
Social	.42**	.47**
Intellectual	.24	.28*

* p .05
** p .01

Inspection of Table 2 shows that all measures in both groups are significant beyond the .01 significance level with the exception of the tactfulness and intellectual item for the experimental group. Minimum correlation coefficient values required for significance at the .01 level for the experimental and control groups are .329 and .358 respectively. Similarly,

minimum correlation coefficient values required for significance at the .05 level are .252 and .276 for the experimental and control groups respectively.

PROBLEM TO BE INVESTIGATED

A related problem in the area of learning disabilities to be investigated was that of selecting a battery of tests that would measure the self-concept and personal social behavior characteristics of primary age children. Allport (1937) has shown that ratings of behavior are most accurate when the items being rated are rigorously defined and when there is agreement on the scope of the judgments to be made. Gillman (1969) has argued that the development of a positive self-concept is a necessary prerequisite to academic achievement and should not only be reliable and valid, but easily administered and scored.

The specific purposes of this investigation were to: (1) investigate the differences in self-concept between experimental and control groups of children with learning disabilities, as measured by their performance on the Primary Self-Concept Inventory (PSCI) (Muller and Leonetti, 1974); (2) to investigate the differences in personal social behavior between experimental and control groups of children with learning disabilities, as measured by the teachers' perception on the Pupil Rating Scale (PRS)--Personal Social Behavior (Myklebust, 1971) (Appendix A).

For these purposes it was decided to use two standardized measures to investigate the relationships and differences

between the self-concept and personal-social behavior characteristics of children with learning disabilities.

Based upon the review of the literature the following hypotheses were formulated:

1. There is a statistically significant increase in mean gain scores on cooperation by the experimental group as compared with the control group.

2. There is a statistically significant increase in mean gain scores on attention span by the experimental group as compared with the control group.

3. There is a statistically significant increase in mean gain scores on organization by the experimental group as compared with the control group.

4. There is a statistically significant increase in mean gain scores on new situations by the experimental group as compared with the control group.

5. There is a statistically significant increase in mean gain scores on social acceptance by the experimental group as compared with the control group.

6. There is a statistically significant increase in mean gain scores on responsibility by the experimental group as compared with the control group.

7. There is a statistically significant increase in mean gain scores on completion of assignments by the experimental group as compared to the control group.

8. There is a statistically significant increase in mean gain scores on tactfulness by the experimental group as compared with the control group.

9. There is a statistically significant increase in mean gain scores on the personal-self domain by the experimental group as compared with the control group.

10. There is a statistically significant increase in mean gain scores on the social-self domain by the experimental group as compared with the control group.

11. There is a statistically significant increase in mean gain scores on the intellectual-self domain by the experimental group as compared with the control group.

CHAPTER II

METHOD

Limitations

The sample was drawn from the Oklahoma City Independent School District and specifically from the group of 38 schools, kindergarten through fourth grade, geographically located within the school system. In accordance with the Family Educational Rights and Privacy Act of 1974 (Section 513 of P.L. 93-380; Title 20, Section 12326, US.C.A.) permission forms for individual testing (Appendix B) were sent to the parents of approximately 300 children diagnosed as learning disabled.

Testing Program

Permission was sought from the Office of Research and Evaluation of the Oklahoma City Public School District to conduct this study. The senior research associate gave specific permission.

One hundred and ten children from twenty-three schools were selected for this investigation. The Primary Self-Concept Inventory Test (PSCI), consisting of six factors of self-concept and three major domains of personal-self,

intellectual-self and social-self, was administered by a certified school psychometrist. The pretests were given at the beginning of the investigation and following an interval of one semester the post-tests were administered. The Pupil Rating Scale--Personal-Social Behavior (Myklebust, 1971), Appendix A, was administered by regular classroom teachers. In those situations where team teaching existed, two or more teachers administered the Scale. The pre-tests were administered at the beginning of the investigation and following an interval of one semester the post-tests were given. The data from the Primary Self-Concept Inventory Test and the Pupil Rating Scale were scores by the investigator.

Subjects

The subjects (Ss) used in this investigation were chosen from the Oklahoma City Public Schools, specifically Grades Kind ergarten through fourth. Chronological ages of the children within the investigation ranged from seven years, zero months, to nine years, eleven months. This age was chosen because Muller (1974) has stated that children with negative feelings of self-worth be identified early so that appropriate remedial procedures can be applied.

Intellectual ability of the children in the investigation was within the average range of intellectual functioning as determined by the full scale scores obtained on the Wechsler Intelligence Scale for Children--Revised and the

Stanford Binet Intelligence Scale. Children with learning disabilities are defined as those children with normal or potentially normal intelligence who, because of some neuropsychological factor, are noted to have learning disabilities of a perceptual, conceptual, or integrative nature (Special Education in Oklahoma, a Handbook).

The experimental group consisted of those children who were attending the learning disability laboratories for the first time. The group consisted of sixty children (45 boys and 15 girls) who were selected randomly from grades two, three, and four, and ranging in chronological ages from seven years, zero months, to nine years, eleven months.

Wyatt (1972) stated that of children referred to remedial reading clinics for special treatment, from 75 to 90% were boys. According to Hellmuth (1965) the learning disabled child is usually a boy, who is performing significantly below average grade placement and general intellectual functioning level in reading and spelling.

The control group consisted of fifty children (40 boys and 10 girls) who were randomly selected from grades two, three, and four and ranging in chronological ages from seven years, zero months to nine years, eleven months. The group consisted of those children who have been diagnosed as learning disabled by the Department of Pupil Services, but who were not currently placed in a learning disabilities laboratory due to the following reasons: (1) learning disabilities laboratory within the the elementary school had a full attendance, (2) there was

no learning disabilities laboratories available in the elementary school when the children were in attendance.

The Primary Self-Concept Inventory Test (PSCI) and Pupil Rating Scale--Personal-Social Behavior were administered to all subjects at the beginning of the second semester of the school year 1975-76 and following an interval of one school semester, the tests were readministered. The Primary Self-Concept Inventory Test (PSCI) consisted of six major factors of self-concept, and three domains: personal-self domain, intellectual-self domain and social-self domain. The testing was administered to the children by the investigator individually and in small groups. The testing time ranged from fifteen to twenty minutes. All testing was done within a two week period. The tests were administered according to standardized test instructions. The Pupil Rating Scale--Personal-Social Behavior was administered by regular classroom teachers. The instructions of the Pupil Rating Scale were given in this manner:

> You are to rate each child in the areas of cooperation, attention, organization, new situations, social acceptance, responsibility, completion of assignments and tactfulness.
>
> When you make your evaluation, indicate only one rating in each of the areas of personal-social behavior. Indicate your judgment of the child's level of functioning.

Design

This study examined similarities and differences among the six major factors of self concept, the three major

domains: personal-self, intellectual-self and social-self and the eight aspects of the personal social behavior scale. The dependent variables which were most significant to the investigation were self-concept and personal social behavior. The independent variables which were most significant to this investigation were placement in the learning disabilities laboratory and the regular classroom.

After the data were gathered, the means and standard deviations were calculated and t-tests for dependent data were computed to determine if statistically significant differences in mean gain scores between pre-test and post-test scores for the experimental and control groups existed. In order to find similarities and differences between the experimental and control groups, t-tests for independent data were conducted. The .05 level of confidence was used to accept the hypotheses that there were significant differences in self-concept and social-personal behavior of children with learning disabilities following placement and treatment in a learning disabilities laboratory.

CHAPTER III

RESULTS AND DISCUSSION

One hundred and ten children from the Oklahoma City Public Schools were selected for this study. The groups designated as experimental and control were given the Primary Self Concept Inventory Test at the beginning of the study. Following an interval of one semester the PSCI was re-administered to both groups. The children in this investigation were rated by their regular classroom teachers on the eight aspects of the Pupil Rating Scale at the beginning and at the end of the investigation.

Comparison of Mean Gain Scores for the Experimental and Control Groups for the PRS Measures

Eight alternate hypotheses were formulated concerning the mean gain scores between the experimental and the control groups. The application of t-tests for independent data were used to compare the mean gain scores. The means and standard deviations on the PRS measures for the experimental and control groups were computed and are reported in Table 3. Examination of the mean gain scores indicated that none of the t-ratios were significant at the $p<.05$ level of confidence.

TABLE 3

COMPARISONS OF GAIN SCORES FOR EXPERIMENTAL AND CONTROL GROUPS FOR THE PRS MEASURES

Group		PRS Measure							
		Cooperation		Attention		Organization		New Situations	
Experimental (N=60)	Mean	.10		.17		.18		.05	
	Standard Deviation	.75	t=-.64	.67	t=.77	.70	t=-.28	.75	t=-.74
(N=50)	Mean	.20		.06		.22		.06	
Control	Standard Deviation	.88		.79		.68		.65	

*p<.05

TABLE 3 (Continued)

PRS Measure									
Social Acceptance		Responsiblity		Completion of Assignments		Tactfulness		Total Scale	
.05		.12		.12		-.05		1.08	
.79		.72		.85		.65		4.11	
	t=-1.25		t=-.31		t=.24		t=-2.49		t=-.21
.24		.16		.08		.34		1.24	
.80		.77		.72		.98		3.48	

*p<.05

Though the t ratio (-2.49) for the PRS tactfulness item was larger than required for significance, the difference in the mean gain scores was not in the hypothesized direction. The investigator rejected the hypotheses and concluded that there were no statistically significant differences in mean gain scores between the experimental group as compared to the control group on the eight aspects of personal social behavior.

Comparisons of PRS Pre and Post Ratings for Experimental and Control Conditions

The application of t-tests for dependent data was used to compare the differences between pre/post ratings of the experimental and control groups on the eight aspects of the PRS measures. The means and standard deviations were computed and are reported in Table 4. In the entire table of the 36 t-ratios, eight achieved statistical significance at the $p < .05$ level of confidence and one of these eight provided some support to the hypotheses.

Specifically, the results suggest a mean gain in the experimental group on the attention item. Both groups showed significant gains on the organization item; however, on the social acceptance, tactfulness and total, it was the control group only that showed significant mean gains.

TABLE 4

COMPARISONS OF PRS PRE AND POST RATINGS FOR EXPERIMENTAL AND CONTROL CONDITIONS

Treatment Group		Cooperation			Attention			Organization		
		Pre	Post	t	Pre	Post	t	Pre	Post	t
Experimental (N=60)	Mean	2.68	2.78	1.03	2.37	2.57	2.35*	2.40	2.58	2.03*
	Standard Deviation	.89	.76		.82	.80		.85	.77	
Control (N=50)	Mean	2.60	2.80	1.61	2.54	2.56	.19	2.26	2.48	2.29*
	Standard Deviation	1.11	1.17		.84	.81		.90	.95	
	t	.44	-.17		-1.09	.04		.84	.63	

*p < .05

TABLE 4 (Continued)

	New Situations			Social Acceptance			Responsibility		
	Pre	Post	t	Pre	Post	t	Pre	Post	t
	2.63	2.68	.52	3.07	3.13	.66	2.53	2.63	1.06
	.74	.62		.71	.75		.81	.84	
	2.64	2.70	.65	2.72	2.96	2.13*	2.40	2.56	1.48
	.75	.86		.93	.86		.81	.95	
	.05	-.12		2.00*	1.13		.86	.43	

*p < .05

TABLE 4 (Continued)

Completion of Assignments			Tactfulness			Total		
Pre	Post	t	Pre	Post	t	Pre	Post	t
2.60	2.73	1.24	3.20	3.18	-.20	21.48	22.27	1.45
.83	.88		.66	.65		4.74	4.42	
2.40	2.44	.39	2.98	3.32	2.45*	20.60	21.76	2.34*
.78	.91		1.06	1.01		5.07	5.74	
1.29	1.72*		1.33	-.85		.94	.52	

*p <.05

Comparisons of PSCI Mean Gain Scores for Experimental and Control Groups

Three alternate hypotheses were formulated concerning the mean gain scores between the experimental and control groups. The application of t-tests for independent data was used to compare the mean gain scores. The mean and standard deviations on the PSCI measures for the experimental and control groups were computed and are reported in Table 5.

Inspection of this table reveals that none of the t-ratios were significant. Though the t-ratios for the Personal Self Domain yielded -1.87 and was larger than the required t-ratio for significance, the mean difference in gain was not in the hypothesized direction. The investigator rejected the hypotheses and concluded that there were no statistically significant differences in mean gain scores between the experimental group as compared to the control group in the areas of personal-self, social-self, and intellectual-self domains of self concept.

TABLE 5

COMPARISONS OF SELF-CONCEPT INVENTORY TEST MEAN GAIN SCORES FOR EXPERIMENTAL AND CONTROL GROUPS

Group		Self-Concept Domain						Total Score	
		Personal		Social		Intellectual			
Experimental (n=60)	Mean	-.23		-.13		-.05		-.15	
	Standard Deviation	1.47		1.53		1.29		2.84	
			-1.87		t=.95		t=-.05		t=-1.45
Control (n=50)	Mean	.26		.16		-.04		.58	
	Standard Deviation	1.26		1.72		.78		2.33	

*p < .05

Comparisons of PSCI Pre & Post Ratings for the Experimental and Control Groups

The application of t tests for independent and dependent data was used to compare the differences between the experimental and control group on the three aspects of the PSCI measures. The means and standard deviations were computed and are reported in Table 6.

Inspection of Table 6 reveals that none of the t ratios were significant. In only three instances was the post test mean value larger than the pre-test mean for a dependent t comparison. These three instances were all in the control condition and yielded non significant t ratios of 1.46, .82 and 1.26 at the $p < .05$ for the Personal-Self, Social-Self and Total respectively.

TABLE 6

COMPARISONS OF PRIMARY SELF-CONCEPT INVENTORY PRE AND POST SCORES FOR EXPERIMENTAL AND CONTROL GROUPS

Treatment Group		Self Domain											
		Personal			Social			Intellectual			Total		
		Pre	Post	t	Pre	Post	t	Pre	Post	t	Pre	Post	t
Experimental (N=60)	Mean	4.57	4.40	-.88	4.08	3.92	-.84	5.52	5.40	-.70	14.17	13.72	-1.26
	Standard Deviation	1.18	1.56		1.33	1.39		.98	1.15		2.27	3.22	
Control (N=50)	Mean	4.34	4.60	1.46	3.90	4.10	.82	5.78	5.74	-.36	14.02	14.44	1.26
	Standard Deviation	1.36	1.31		1.69	1.61		.51	.75		2.60	2.50	
	t	.93	.72		.64	.64		1.71	1.79		.32	1.30	

*p < .05

For the convenience of the reader the eleven hypotheses are stated below:

1. There is a statistically significant increase in mean gain scores on cooperation by the experimental group as compared with the control group.

2. There is a statistically significant increase in mean gain scores on attention span by the experimental group as compared with the control group.

3. There is a statistically significant increase in mean gain scores on organization by the experimental group as compared with the control group.

4. There is a statistically significant increase in mean gain scores on new situations by the experimental group as compared with the control group.

5. There is a statistically significant increase in mean gain scores on social acceptance by the experimental group as compared with the control group.

6. There is a statistically significant increase in mean gain scores on responsibility by the experimental group as compared with the control group.

7. There is a statistically significant increase in mean gain scores on completion of assignments by the experimental group as compared to the control group.

8. There is a statistically significant increase in mean gain scores on tactfulness by the experimental group as compared with the control group.

9. There is a statistically significant increase in mean gain scores on the personal-self domain by the experimental group as compared with the control group.

10. There is a statistically significant increase in mean gain scores on the social-self domain by the experimental group as compared with the control group.

11. There is a statistically significant increase in mean gain scores on the intellectual-self domain by the experimental group as compared with the control group.

As a result of statistical analysis the investigator rejected all of the alternate hypotheses and concluded that there were no significant differences in the mean gain scores between the experimental and control groups in personal-social behavior and self concept of children with learning disabilities following placement and treatment in a learning disabilities laboratory.

CHAPTER IV

SUMMARY AND CONCLUSIONS

A review of the literature revealed that disturbances of personal social behavior and poor self-concept are found in a number of children with learning disabilities. Though a child may be emotionally stable when he entered school, continued failure will inevitably have harmful effects on his personality.

It was the purpose of this study to provide new information concerning the changes in self-concept and personal social behavior of children with learning disabilities as observed and measured in the regular classroom following placement and treatment in a learning disabilities laboratory.

Robert Valett made this comment in 1969:

> The primary objectives in educating children with learning disabilities are the identification and remediation of specific disabilities. To achieve these two objectives, all disabilities need to be operationally defined in educational and behavioral terms. While medical and psychological terminology is of supplemental value in clarifying etiology and in specifying diagnosis and relevant treatment goals and plans, the primary model must still be educational.

This statement seems to be the rationale for the behavior modification approach to learning disabilities.

A related problem in this investigation was the selection of standardized tests which would adequately measure the self-concept and personal social behavior of primary age children.

The specific purposes of this investigations were to provide information for answering the following questions:

(1) Is there a statistically significant difference between mean gain scores using t-tests for independent data, in self concept between experimental and control groups of children with learning disabilities following placement and treatment in a learning disabilities laboratory as measured by their performance on the Primary Self-Concept Inventory Test (Muller and Leonetti, 1974)?

(2) Is there a statistically significant difference between mean gain scores using t-tests for independent data, in the personal social behavior between experimental and control groups of children with learning disabilities as measured by the teacher's perception on the Pupil Rating Scale for Learning Disabilities - Personal Social Behavior (Myklebust, 1971)?

One hundred and ten children from the Oklahoma City Public Schools, kindergarten through fourth grade, were selected for this investigation. The groups designated as

the experimental group (n=60) and control group (n=50) were given the Primary Self Concept Inventory Test (PSCI) at the beginning of the investigation and re-administered it at the end of the investigation. Eight aspects of the PRS were measured by regular classroom teachers at the beginning of the investigation and re-evaluated on the same instrument at the end of the investigation.

Eleven hypotheses were tested in this study. Eight alternate hypotheses were formulated concerning the difference in mean gain scores between the experimental and control group on personal social behavior.

Three alternate hypotheses were formulated concerning the differences in mean gain scores between the experimental and control group on the personal-self, intellectual-self and social-self domains of self concept.

Conclusions

The findings of the present investigation did not support the hypotheses concerning the differences in personal social behavior and self concept of children with learning disabilities following placement and treatment in a learning disabilities laboratory. As pointed out in the review of the literature, those who have sought to provide significant findings when comparing personality variables of children with learning disabilities and control groups have been unable to obtain significant findings. From the review of the literature it is apparent that a correlation

exists between emotional problems and learning disabilities. This position is not held by all authorities but it appears to be the view point of the majority. Because of the obstacles involved in conducting sound research in this area, it is not surprising to find contradictory opinions and studies whose results are inconclusive or unclear.

Few definitive statements can be made because the percentage of emotional problems and maladjustment reported by a particular investigator varies with the standards he uses as well as the type of population studied. (Connolly, 1969). The results concerning two classroom observation studies indicated that the absolute amount of time engaged in social interactions with teachers and peers did not discriminate learning disabled from comparison children. The nature of these interactions, however, did discriminate among groups. In several studies by Douglas and her colleagues (1972), it was found that hyperactive children were not unusually distractible and that they did not differ from controls on a continuous performance task or on a color distraction task (Bryan and Wheeler, 1972)

The present investigation indicated that in the area of self concept forty-four of sixty subjects in the experimental group and forty-one of fifty subjects in the control group had a maximum score of six on the pre-test in the Intellectual-Self Domain. Little opportunity for obtaining an indication of gain was possible. This was not the case for the

Personal-Self and Social-Self domains which yielded eleven of sixty and eleven of fifty scores of six on the pretest, respectively.

The present investigation used standardized instruments to investigate the differences between the experimental group (n=60) and the control group (n=50) on the eight aspects of personal social behavior and three domains of self concept. The application of t tests for independent and dependent data was used to analyze differences in mean gain scores between the experimental and control groups. From inspection of Table 3, and Table 5, it is obvious that none of the t ratios were significant. Baker (et al., 1970) has indicated that strong statistics such as the t test are more than adequate to cope with weak measurements, and with some minor reservations, probabilities estimated from the t distribution are little affected by the kind of measurement scale used. According to Boneau (1970), having violated a number of assumptions underlying the t tests, and finding that by and large such violations produce a minimal effect on the distribution of t's, we must conclude that the t-test is a remarkably robust test in the technical sense of the word. When a number of t tests are done on the same data some will be significant merely by chance alone (Fisher, 1950).

The results do not lend support to the practice of mainstreaming; however, they must be considered inconclusive

because of the duration of this investigation, insensitive instruments which did not supply adequate reliability information, lack of supportive evidence which relates educational practices to affective changes or practices that focus on cognitive rather than non-cognitive gains.

Recommendations

1. Further research needs to be carried out over a much longer period of time.
2. Larger groups of children with learning disabilities should be used in any further research. This would give more stability to the statistical analysis.
3. More research needs to be done in the area of self-concept as it pertains to the child with learning disabilities. The findings related to this area could have immediate implications within the educational process.
4. Selection of more sensitive instruments with wider variability to measure differences in personal social behavior should be considered.
5. The significant differences in this investigation which were in the wrong direction are indicative that any further research should consider the null hypothesis.

REFERENCES

REFERENCES

Allport, G. Personality: a psychological interpretation. New York, Holt, 1937.

Baker, B.O., Hardyck, C.D., & Petrinovich, L.D. "Weak Measurements versus strong statistics: empirical critique of S.S. Steven's perscriptions on statistics," in A. Haber, R. P. Runyon, & P. Badia (Eds.) Readings in statistics, Addison-Wesley Publishing Co., Reading, Mass., 1970.

Behrens, T. "A study of psychological and electroencephalographic changes in children with learning disabilities." Unpublished doctoral dissertation, Northwestern University. In H.R. Mykleburst (Ed.) Progress in learning disabilities, Vol. 2, New York: Grune & Stratton, 1971.

Bender, L. Psychopathology of children with organic brain disorders. Springfield, Illinois: C.C. Thomas, 1956.

Birch, H.G. (Ed.). Brain damage in children. Baltimore: Williams & Wilkins, 1964.

Blanchard, P. Psychoanalytic contributions to the problems of reading disabilities, Psychoanalytic Study of the Child, 1946, 2, 163-187.

Bond, G.L. & Tinker, M.A. Reading difficulties: their diagnosis and correction. New York: Appleton-Century-Crofts, Inc., 1967, 9.

Boneau, C.A. The effects and violations of assumptions underlying t-tests. Psychological Bulletin, 57, 1960, 49-64.

Broadbent, D.E. Attention and the perception of speech. In A. Bannaytyne (Ed.) Language, reading and learning disabilities, Illinois: C.C. Thomas, 1971, 434.

Bryan, T.H. An observational analysis of classroom behaviors of children with learning disabilities. Journal of Learning Disabilities, 1974, 7, 26-34.

Bryan, T.H., & Wheeler, R. Perception of learning disabled children: The eye of the observer. Journal of Learning Disabilities, 1972, 5, 484-88.

Brutten, M., Richardson, S.O., & Mangel, C. Something's wrong with my child. New York: Harcourt, Brace, Inc., 1973, pp. 48-49.

Burks, H.F. The effect of brain pathology on learning. Exceptional children, 1957, 24, 169-172.

Clements, S. Some Aspects of the Characteristics, Management and Education of the Child with Learning Disabilities. Arkansas: Arkansas Association for Children with Learning Disabilities, 1966.

Clements, S.D., Lehtinen, L.E., & Lukens, J.E. Children with minimal brain injury. National Society for Crippled Children and Adults, May, 1964.

Connolly, C. The psychosocial adjustment of children with dyslexia. Exceptional Children, 1969, 36:126-27.

Cruickshank, W.M., & Paul, J.L. The psychological characteristics of brain-injured children. In W.M. Cruickshank, (Ed.) Psychology of Exceptional Children and Youth, New Jersey: Prentice-Hall, 1971.

Douglas, V.I. Stop, look and listen: The problem of sustained attention and impulse control in hyperactive and normal children. Canadian Journal of Behavioral Science, 1972, 4(4), 259-282.

Dykman, R.A., Suzuki, T., Ackerman, P., & Peters, J.E. Children with learning disabilities: Conditioning, differentiation and the effect of distraction. American Journal of Orthopsychiatry, 1970, 40: 766-781.

Edbaugh, F.G. Neuropsychiatric sequelae of acute epidemic encephalitis in children. American Journal of Diseases in Children, 1923, Vol. 25, 89-97.

Elkind, D., Larson, M., & VanDoormick, W. Perceptual decentration learning and performance in slow and average readers. Journal of Educational Psychology. 1965, 56, 50-56.

Fink, M.B. Self concept as it relates to academic underachievement, California Journal of Educational Research, 1962, 13, 2.

Fisher, L., Special Education in Oklahoma, A Handbook, Oklahoma State Deparment of Education, 1974, p. 5.

Fisher, R.A. Statistical methods for research workers. New York: Hafner Publishing Co., 1950.

Gallagher, J.R. In word blindness or specific developmental dyslexia. A.W. Franklin (Ed.), London: 1962.

Gardner, R.W. The development of cognitive structures, In C. Schneer (Ed.) Cognition: theory, research and promise. New York: Harper, 1966a.

Gardner, R.W. The need of teachers for specialized information on the development of cognitive structures. In W.M. Cruickshank, (Ed.), The Teacher of Brain-Injured Children, Syracuse, New York, Syracuse University Special Education and Rehabilitation, Monograph No. 7, 1966..

Gates, A. The role of personality maladjustment in reading disability. Journal of Genetic Psychology, 1941, 59, 77-83.

Gillman, G.B. The relationship between self-concept intellectual ability, achievement and manifest anxiety, among select groups of Spanish-Surname Migrant students in New Mexico. Unpublished doctoral dissertation, University of New Mexico, 1969, ERIC #ED 029-723.

Goldstein, S. A study of the self-concepts of selected boys with learning disabilities. Unpublished Master's thesis, University of Kansas, 1970.

Griffen, M. The role of child psychiatry in learning disabilities. In H. Myklebust (Ed.) Progress in learning disabilities: Vol. I. New York: Grune & Stratton, 1968, 75-87.

Hake, J.M. Covert motivations of good and poor readers, Reading Teacher, No. 8, 22: 1969, 731-35.

Hellmuth, J. (Ed.) Learning disorders, Vol. I, Seattle: Special Child Publications, 1965.

Hallahan, D.P. & Cruickshank, W.M., Psycho-educational foundations of learning disabilities. Englewood Cliffs, New Jersey: Prentice-Hall, 1973.

Hamachek, D.C. The self in growth, teaching and learning. Englewood Cliffs, New Jersey: Prentice Hall, 1965.

Hebb, D.O. The organization of behavior. New York: John Wiley & Sons, Inc., 1949.

Hohman, L.B. Post-encephlitac behavior disorders in children. John Hopkins Hospital Bulletin, 1922, 33, 372-75.

Kass, C., & Myklebust, H., Learning disabilities: an educational definition. Journal of Learning Disabilities, 1969, 2: 277-79.

Keogh, B,K., & Donlon, G. McG:, Field independence, impulsivity, and learning disabilities. Journal of Learning Disabilities, 1972, 5, 331-336.

Keogh, B.K., & Tchir, C.A., Teachers perceptions of educationally high-risk children. Technical Report SERP 1972-A2, Graduate School of Education, University of California, Los Angeles, California, 1972.

Klein, M. A contribution to the theory of intellectual inhibition. International Journal of Psychoanalysis, 1931, 12.

Kirk, S.A., & Kirk, W.D. Psycholinguistic learning disabilities: Diagnosis and remediation. Urbana, University of Illinois Press, 1971.

Kurlander, L., & Colodny, D. Psychiatric disability and learning problems: In L. Tarnapol (ed.), Learning disabilities: introduction to educational and medical management. Springfield: C.C.Thomas, 1969, 131-53.

Levy, H.B. Square pegs, round holes. Little, Brown & Co., 1973, pp. 28-47.

Lievens, P. The organic psychosyndrome of early childhood and its effect on learning. The Journal of Learning Disabilities, Vol. 7, 10, 1974, 31.

Lipton, C. Cultural heritage and the relationship to self-esteem. Journal of Educational Sociology, 1963, 36, 23-212.

Modani, M.S., & Tutko, T.A. Relationship of academic underachievement to incidental learning. Journal of Consulting Clinical Psychology 1969, 33(5), 558-560.

Morgan, C. Introduction to psychology. New York: Basic Books, 1968.

Muller, D.G., & Leonetti, R. Primary Self-Concept Inventory Test. Learning Concepts: Austin, Texas 1974.

Myklebust, H., & Boshes, B. Minimal brain damage in children. Washington, D.C., U.S. Department of Health, Education and Welfare, 1969.

Myklebust, H. (Ed.), Progress in learning disabilities: Vol. II. New York: Grune & Stratton, 1971.

Myklebust, H., & Johnson, D. Learning disabilities: educational principles and practices. New York: Grune & Stratton, 1967.

Myklebust, H. The Pupil Rating Scale. New York: Grune & Stratton, 1971.

Owen, F.W., Adams, P.A., Forrest, T., Stolz, L.M., & Fisher, S. Learning Disorders in Children: Sibling Studies, Society for Research in Child Development Monographs No. 144, 1971, 36.

Pasamanick, B., Rodgers, M., & Lilienfeld, A., Pregnancy experience and the development of behavior disorders in children. American Journal of Psychiatry, 1956, 112.

Pasamanick, B., & Knoblock, M. Brain damage and reproductive causality. American Journal of Orthopsychiatry, 1960, 30.

Patterson, G., & James, R. A behavior modification technique for the hyperactive child. Behavior Research Therapy, 1965, 2.

Pearson, G. Psychoanalysis and the education of the child. New York: Norton, 1954.

Rappaport, S.R. Public education for children with brain dysfunction. New York: Syracuse University Press, 1969, 152-53.

Rodin, E., Lucas, A., & Semson, C. A study of behavior disorders in children by means of general purposes. New York: Pergamon Press, 1963, 115-24.

Sabatino, D.A., & Ysseldyke, J.E. Effect of extraneous "background" on visual-perceptual performance of readers and non-readers. Perceptual and Motor Skills, 1972, 35, 323-328.

Sanacore, J. Reading self concept: Assessment and enhancement. In G.L. Bond & M.A. Tinker (Eds.) Reading Teacher, Vol. 29, 2, 1975.

Sarvis, M.A., Evil self image: A common denominator in learning problems. Mental Hygiene, 1965, 49, 308-10.

Schnee, R., & Worley, L. Emergency School Act, Journal of Research and Evaluation of the Oklahoma City Public Schools. Vol. 5, 7, 1975.

Strachey, J. Some unconscious factors in reading. International Journal of Psychoanalysis, 1930, 11.

Strauss, A.A., & Lehtinen, L.E. Psychopathology and education of the brain-injured child. New York: Grune & Stratton, 1947.

Sullivan, H. Conceptions of modern psychiatry. New York, Norton, 1953.

Teuber, H. The premordid personality and reaction to brain damage. American Journal of Orthopsychiatry, 1960, 30.

Valett, R.E. The evaluation of and programming of basic abilities. Journal of School Psychology, Summer, 1968.

Wyatt, N.M. The Reading Achievement of First Grade Boys Versus First Grade Girls. In B.R. Ragan & G.D. Shepherd (Eds.) Modern Elementary Curriculum Holt, Rinehart & Winston, 1971, 244.

APPENDICES

APPENDIX A

PERSONAL-SOCIAL BEHAVIOR SCALE

PERSONAL-SOCIAL BEHAVIOR

	Rating
Cooperation	
Continually disrupts classroom; unable to inhibit responses	1
Frequently demands attention; often speaks out of turn	2
Waits his turn; average for age and grade	3
Above average; cooperates well	4
Excellent ability; cooperates without adult encouragement	5
Attention	
Never attentive; very distractible	1
Rarely listens; attention frequently wanders	2
Attention adequate for age and grade	3
Above average in attention; almost always attends	4
Always attends to important aspects; long attention span	5
Organization	
Highly disorganized; very slovenly	1
Often disorganized in manner of working; inexact, careless	2
Maintains average organization of work, careful	3
Above-average organization; organizes and completes work	4
Highly organized; completes assignments in meticulous manner	5
New Situations (parties, trips, changes in routine)	
Becomes extremely excitable, totally lacking in self-control	1
Often overreacts; finds new situations disturbing	2
Adapts adequately for age and grade	3
Adapts easily and quickly with self-confidence	4
Excellent adaptation; shows initiative and independence	5

Social Acceptance

Avoided by others	1
Tolerated by others	2
Liked by others; average for age and grade	3
Well liked by others	4
Sought by others	5

Responsibility

Rejects responsibility; never initiates activities	1
Avoids responsibility; limited acceptance of role for age	2
Accepts responsibility; adequate for age and grade	3
Above average in responsibility; enjoys responsibility; initiates and volunteers	4
Seeks responsibility; almost always takes initiative with enthusiasm	5

Completion of Assignments

Never finishes even with guidance	1
Seldom finishes even with guidance	2
Average performance; follows through on assignments	3
Above-average performance; completes assignments without urging	4
Always completes assignments without supervision	5

Tactfulness

Always rude	1
Usually disregards feelings of others	2
Average tact; behavior occasionally inappropriate socially	3
Above average in tactfulness; behavior rarely inappropriate socially	4
Always tactful; behavior never socially inappropriate	5

SCORE _____

APPENDIX B

PERMISSION FORM FOR INDIVIDUAL TESTING

OKLAHOMA CITY PUBLIC SCHOOLS

900 North Klein
Oklahoma City, Oklahoma

Dear Parents,

Your child is eligible to participate in a special project in the Oklahoma City Public Schools. Those selected from your school will be given the Primary Self-Concept Inventory.

In order for your child to participate in this project you will need to sign on the line below. We are looking forward to working with your child. Please return this form as soon as possible. Thank you.

Mary Jo Jones, Psychometrist
Oklahoma City Public Schools

Principal_____

_____
(school)

_____
(parent or guardian signature)

APPENDIX C

RAW SCORES FOR EXPERIMENTAL AND CONTROL GROUPS

PRS

Girls N=15 Exp	Cooperation			Attention			Organization			New Situations		
	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	4	3	-1	3	2	-1	2	3	1	3	2	-1
02	3	3	0	3	3	0	3	3	0	3	2	-1
03	2	3	1	3	3	0	4	4	0	4	4	0
04	3	3	0	2	2	0	2	2	0	3	3	0
05	2	3	1	3	4	1	3	4	1	2	3	1
06	1	4	3	2	3	1	2	4	2	1	3	2
07	3	4	1	3	3	0	2	3	1	3	3	0
08	3	2	-1	3	3	0	3	3	0	3	3	0
09	2	2	0	2	2	0	2	2	0	2	2	0
10	3	4	1	3	3	0	3	2	-1	3	3	0
11	2	2	0	3	3	0	2	3	1	3	3	0
12	4	3	-1	4	3	-1	3	3	0	3	3	0
13	3	3	0	2	2	0	3	3	0	2	2	0
14	2	2	0	1	2	1	3	3	0	2	2	0
15	3	3	0	2	2	0	2	2	0	2	2	0

PRS Girls N=15	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	3	3	0	1	2	1	1	2	1	4	3	-1	23	20	-1
02	3	3	0	3	3	0	2	3	1	4	3	-1	24	23	-1
03	4	4	0	4	4	0	4	4	0	3	3	0	28	29	1
04	3	3	0	2	2	0	3	2	-1	3	3	0	21	20	-1
05	3	3	0	3	4	1	3	4	1	3	4	1	22	29	7
06	2	4	1	2	3	1	2	4	2	2	3	1	14	27	13
07	3	4	1	3	4	1	3	3	0	3	3	0	23	27	4
08	3	3	0	2	3	1	2	3	1	3	3	0	22	23	1
09	2	2	0	2	2	0	2	2	0	3	3	0	17	17	0
10	4	3	-1	3	3	0	3	3	-	3	4	1	25	25	0
11	3	3	0	2	3	1	2	4	2	3	3	0	20	24	4
12	3	4	1	3	4	1	2	3	1	4	4	0	26	27	1
13	2	3	1	2	1	-1	2	2	0	4	4	0	21	21	0
14	2	3	1	1	1	0	2	3	1	3	4	1	16	20	4
15	3	3	0	2	2	0	2	2	0	3	3	0	19	19	0

PRS Boys (N=45)	Cooperation			Attention			Organization			New Situations		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	1	2	1	2	2	0	2	2	0	2	3	1
02	3	3	0	2	2	0	2	2	0	2	3	1
03	3	2	-1	2	2	0	2	2	0	3	2	-1
04	2	2	0	2	2	0	2	3	1	2	2	0
05	2	2	0	2	2	0	2	2	0	3	3	0
06	2	2	0	2	2	0	2	1	-1	2	3	1
07	2	2	0	2	3	1	2	3	1	3	3	0
08	1	2	1	1	3	2	2	3	1	2	3	1
09	3	2	-1	3	2	-1	3	2	-1	3	3	0
10	2	3	1	1	2	1	1	2	1	2	3	1
11	2	2	0	2	2	0	2	2	0	2	2	0
12	3	3	0	2	3	1	3	2	-1	3	3	0
13	3	4	1	2	3	1	1	3	2	1	2	1
14	3	3	0	3	3	0	3	3	0	3	3	0
15	3	3	0	2	2	0	3	3	0	2	3	1
16	3	3	0	3	3	0	2	2	0	3	3	0
17	3	3	0	2	2	0	2	2	0	3	3	0
18	3	2	-1	1	2	1	1	1	0	2	2	0
19	1	2	1	1	1	0	2	2	0	2	2	0

PRS Boys (N=45)	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	3	4	1	2	3	1	2	3	1	2	4	2	16	23	7
02	3	4	1	3	3	0	3	4	-1	3	3	0	21	24	3
03	3	2	-1	2	2	0	3	2	-1	3	2	-1	21	16	-5
04	3	3	0	1	1	0	2	2	0	3	3	0	17	18	1
05	4	3	-1	2	2	0	2	2	0	4	3	-1	21	19	-2
06	4	3	-1	2	3	1	2	2	0	3	3	0	19	19	0
07	4	3	-1	3	3	0	3	3	0	2	2	0	21	22	1
08	2	4	2	2	3	1	2	4	2	2	3	1	14	25	11
09	3	3	0	4	2	-2	4	2	-2	3	3	0	26	19	-7
10	2	2	0	2	2	0	2	2	0	3	3	0	15	19	4
11	2	2	0	2	2	0	2	2	0	2	2	0	27	16	-11
12	1	2	0	3	3	0	2	3	1	3	3	0	21	22	1
13	3	3	0	2	3	1	3	4	1	3	4	1	18	26	8
14	3	5	2	3	3	0	3	3	0	4	4	0	25	27	2
15	3	3	0	2	2	0	4	5	1	4	5	1	23	26	3
16	5	4	-1	3	3	0	3	3	0	3	3	0	25	24	-1
17	3	2	-1	3	2	-1	2	2	0	4	3	-1	22	19	-3
18	2	2	0	1	1	-1	2	1	-1	3	3	0	17	14	-3
19	2	4	2	2	2	0	2	2	0	2	2	0	14	17	3

PRS Boys (N=45)	Cooperation			Attention			Organization			New Situations		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
20	3	3	0	3	3	0	2	3	1	3	3	0
21	4	4	0	3	2	-1	3	3	0	3	3	0
22	3	3	0	2	2	0	2	2	0	3	3	0
23	3	2	-1	1	2	1	3	2	-1	3	3	0
24	3	4	1	3	3	0	4	3	-1	3	3	0
25	3	2	-1	2	2	0	3	2	-1	3	2	-1
26	3	3	0	2	2	0	1	2	1	2	3	1
27	3	3	0	2	2	0	2	3	1	2	3	1
28	1	2	1	2	2	0	3	3	0	2	3	1
29	2	1	-1	2	2	0	1	2	1	1	2	1
30	4	4	0	3	3	0	3	3	0	3	3	0
31	3	3	0	3	5	2	3	4	1	4	3	-1
32	1	2	1	2	3	1	2	3	1	2	2	0
33	3	3	0	3	3	0	4	4	0	3	3	0
34	2	2	0	2	1	-1	2	2	0	2	1	-1
35	4	4	0	4	4	0	3	3	0	3	3	0
36	2	2	0	2	2	0	2	2	0	2	2	0
37	3	3	0	3	3	0	3	3	0	3	3	0
38	2	2	0	1	1	0	1	1	0	3	2	-1

PRS Boys (N=45)	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
20	3	4	1	3	4	1	2	3	1	3	3	0	22	26	4
21	4	4	0	3	3	0	2	3	1	4	4	0	26	26	0
22	3	3	0	4	3	-1	2	2	0	3	3	0	22	21	-5
23	3	2	-1	1	2	1	2	2	0	4	3	-1	26	17	-9
24	4	3	-1	3	2	-1	4	3	-1	3	3	0	27	24	-3
25	4	3	-1	3	2	-1	3	2	-1	3	3	0	24	19	-6
26	3	3	0	1	2	1	2	2	0	3	3	0	17	20	3
27	2	3	1	3	2	-1	3	2	-1	3	3	0	20	21	1
28	3	3	0	2	3	1	3	3	0	3	4	1	19	23	4
29	3	2	-1	2	3	1	2	1	-1	3	3	0	16	16	0
30	3	3	0	3	3	0	3	3	0	4	4	0	26	26	0
31	4	3	-1	3	3	0	3	2	-1	3	2	-1	26	25	-1
32	3	3	0	3	4	1	2	2	0	3	3	0	18	22	4
33	3	3	0	4	4	0	4	4	0	4	4	0	28	28	0
34	3	2	-1	2	2	0	2	2	0	3	2	-1	18	14	-4
34	4	5	1	3	3	0	3	3	0	4	4	0	28	29	-1
36	2	2	0	2	2	0	2	2	0	3	2	-1	17	16	-1
37	3	3	0	3	3	0	3	4	1	3	3	0	24	25	1
38	2	2	0	2	1	-1	1	2	1	3	3	0	15	14	-1

PRS Boys (N=45)	Cooperation			Attention			Organization			New Situations		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
39	2	3	1	2	3	-1	2	2	0	3	1	-2
40	3	4	1	3	3	0	2	2	0	5	3	-2
41	5	4	-1	5	4	-1	5	4	-1	4	4	0
42	3	3	0	3	4	1	3	3	0	3	3	0
43	3	3	0	2	3	1	2	2	0	3	4	1
44	5	4	-1	4	4	0	4	4	0	3	3	0
45	3	3	0	2	3	1	1	2	1	3	2	-1

PRS Boys (N=45)	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
39	3	3	0	2	2	0	2	2	0	2	3	-1	16	19	3
40	4	3	-1	3	3	0	3	3	0	4	4	0	16	25	9
41	4	4	0	5	4	-1	5	4	-1	5	4	-1	38	32	-6
42	3	4	1	3	4	1	3	3	0	4	4	0	25	28	3
43	4	4	0	3	3	0	3	4	1	4	3	-1	24	26	2
44	4	4	0	3	3	0	5	4	-1	4	3	-1	32	29	-3
45	3	3	0	3	2	-1	3	2	-1	3	3	0	21	20	-1

Self Concept Girls (N=15)	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	3	5	2	5	5	0	6	6	0	14	16	2
02	5	5	0	5	4	-1	6	6	0	16	15	-1
03	3	3	0	3	5	2	6	6	0	12	14	2
04	5	6	1	6	4	-2	6	6	0	17	16	-1
05	6	6	0	4	4	0	6	6	0	16	16	0
06	4	6	2	6	5	-1	6	6	0	16	17	1
07	6	6	0	4	4	0	6	6	0	16	16	0
08	6	4	-2	3	5	1	5	6	1	14	14	0
09	5	3	-2	4	3	-1	6	6	0	15	12	-3
10	6	6	0	5	6	1	6	5	-1	17	17	0
11	5	4	-1	4	4	0	4	3	1	13	11	-2
12	3	6	-3	6	6	0	6	6	0	15	18	3
13	6	6	0	5	4	-1	6	6	0	17	16	-1
14	5	4	-1	5	4	-1	5	5	0	15	13	-2
15	6	6	0	3	5	2	6	6	0	15	17	-2

Self-Concept Boys (N=45)	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	5	3	-2	4	3	-1	6	6	0	15	12	-3
02	4	6	2	3	3	0	6	6	0	13	15	2
03	5	5	0	4	1	-3	6	6	0	15	12	-3
04	5	5	0	5	6	1	6	6	0	16	17	1
05	4	4	0	6	6	0	6	6	0	16	16	0
06	3	2	1	3	4	1	6	6	0	12	12	0
07	5	6	1	6	6	0	4	6	2	15	18	3
08	4	3	-1	5	3	-2	6	2	-4	15	8	-7
09	2	0	-2	1	3	-2	5	6	1	8	9	1
10	4	4	0	2	4	2	6	5	-1	12	13	1
11	4	2	-2	2	5	3	5	4	-1	11	11	0
12	3	4	1	5	6	1	6	6	0	14	16	2
13	4	6	2	6	4	-2	6	5	-1	16	15	-1
14	5	5	0	4	6	2	6	6	0	15	17	2
15	6	6	0	6	6	0	6	6	0	18	18	0
16	4	3	-1	3	4	1	6	6	0	13	13	0
17	3	2	-1	6	2	-4	6	5	-1	15	9	-6
18	5	6	1	4	3	-1	6	6	0	15	15	0
19	5	2	-3	3	1	-2	6	2	-4	14	5	-9

Self-Concept Boys (N=45)	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
20	6	3	-3	2	2	0	4	5	1	12	10	-2
21	2	4	2	3	3	0	6	5	1	11	12	1
22	5	6	1	2	4	2	6	6	0	13	16	3
23	5	5	0	2	4	2	3	5	2	10	14	4
24	3	4	1	3	2	-1	5	3	-2	11	9	8
25	6	6	0	6	5	-1	5	6	1	17	17	0
26	5	5	0	3	3	0	6	6	0	14	14	0
27	4	6	2	4	5	1	6	5	-1	14	16	2
28	3	4	1	5	2	-3	6	6	0	14	12	-2
29	5	5	0	3	1	-2	6	6	0	14	12	-2
30	5	6	1	3	4	1	6	6	0	14	16	2
31	5	3	-2	4	3	-1	6	6	0	15	12	-3
32	3	6	3	3	6	3	5	6	1	11	18	7
33	6	5	-1	4	3	-1	6	6	0	16	14	-2
34	3	4	1	6	4	2	6	6	0	15	14	-1
35	3	3	0	5	3	-2	6	5	-1	14	11	-3
36	3	0	-3	2	1	-1	4	1	-3	9	2	-7
37	6	4	-2	3	4	1	3	5	2	12	13	1
38	6	3	-3	5	5	0	6	6	0	17	14	-3

Self-Concept

Boys (N=45)	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
Exp	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
39	6	6	0	5	4	-1	6	6	0	17	16	-1
40	5	5	0	5	5	0	4	3	-1	14	13	-1
41	5	3	-2	4	2	-2	6	5	-1	15	10	-5
42	6	6	0	4	4	0	5	6	1	15	16	1
43	5	3	-2	3	5	2	6	6	0	14	14	0
44	6	6	0	6	5	-1	6	6	0	18	17	-1
45	3	3	0	4	3	-1	1	6	5	8	12	-4

Self Concept Girls (N=10)	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	6	6	0	6	6	0	6	6	0	18	18	0
02	3	3	0	2	4	-2	6	6	0	11	13	2
03	6	5	-1	2	2	0	6	6	0	14	13	-1
04	6	5	-1	6	4	-2	6	6	0	18	15	-3
05	6	5	-1	2	3	1	6	6	0	14	14	0
06	2	6	4	5	5	0	6	6	0	13	17	4
07	6	6	0	6	3	-1	6	5	-1	18	14	-4
08	3	5	2	4	5	1	6	6	0	13	16	3
09	3	3	0	3	2	-1	6	6	0	12	11	-1
10	6	3	-3	6	5	-1	6	6	0	18	14	-4

Self Concept Boys (N=40)	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	5	6	1	4	5	1	6	6	0	15	17	2
02	5	4	-1	6	6	0	6	6	0	17	16	-1
03	3	3	0	1	6	5	6	6	0	10	15	5
04	6	6	0	4	3	-1	6	6	0	16	15	-1
05	6	6	0	3	6	3	6	6	0	15	18	3
06	3	4	1	1	4	3	6	6	0	10	14	4
07	6	6	0	3	3	0	5	4	-1	14	13	-1
08	3	5	2	2	2	0	5	6	1	10	13	3
09	4	5	1	1	4	3	6	6	0	11	15	4
10	3	4	1	2	4	2	5	5	0	10	13	3
11	6	4	-2	6	6	0	6	6	0	18	16	-2
12	5	6	1	6	6	0	6	6	0	17	18	1
13	5	5	0	6	6	0	6	6	0	17	17	0
14	6	6	0	5	6	1	6	6	0	17	18	1
15	4	3	-1	3	3	0	5	2	-3	12	8	-4
16	3	2	-1	4	3	-1	5	6	1	12	11	-1
17	6	6	0	5	6	1	6	6	0	17	18	1
18	4	5	1	4	0	-4	6	6	0	14	11	-3
19	5	6	1	2	6	4	6	6	0	13	18	5

Self Concept Boys (N=40)	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
20	4	6	2	5	2	-3	6	6	0	15	14	-1
21	3	3	0	6	6	0	6	6	0	15	15	0
22	3	3	0	6	5	-1	6	6	0	15	14	-1
23	3	3	0	3	3	0	6	6	0	12	12	0
24	3	3	0	5	4	-1	6	6	0	14	13	-1
25	4	3	-1	4	6	2	6	6	0	14	15	-1
26	6	6	0	1	0	-1	4	6	2	11	12	1
27	5	6	1	5	6	1	6	6	0	16	18	2
28	5	5	0	5	4	-1	5	5	0	15	14	-1
29	3	5	2	1	3	2	6	6	0	10	14	4
30	4	5	1	5	3	-2	4	6	2	13	14	1
31	3	3	0	3	3	0	6	6	0	12	12	0
32	5	6	1	5	4	-1	6	6	0	16	16	0
33	1	3	2	1	2	1	6	4	-2	8	9	1
34	5	2	-3	4	3	-1	6	6	0	15	11	-4
35	3	4	1	5	5	0	6	6	0	14	15	1
36	3	5	2	3	4	1	6	6	0	12	15	3
37	6	6	0	5	4	1	5	6	1	16	16	0
38	5	5	0	6	6	0	6	6	0	17	17	0

Self Concept Boys (N=40) Control Group	Personal Self Domain			Social Self Domain			Intellectual Self Domain			Total		
	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
39	3	3	0	3	3	0	6	4	-2	12	10	-2
40	5	6	1	4	5	1	6	6	0	15	17	2

PRS Girls (N=10) Control Group	Cooperation			Attention			Organization			New Situations		
	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	3	3	0	2	3	-1	2	3	0	3	4	1
02	5	5	1	3	4	-1	2	3	1	3	3	0
03	3	5	2	3	3	0	2	3	1	3	3	0
04	4	4	0	1	3	-2	2	3	1	3	4	1
05	2	3	1	2	3	-1	1	2	-1	1	2	1
06	4	2	-2	3	3	0	3	3	0	3	3	0
07	1	1	0	1	2	-1	2	2	0	2	2	0
08	1	1	0	1	2	-1	2	1	1	2	1	-1
09	3	3	0	3	3	0	2	3	-1	3	3	0
10	5	3	-2	2	4	2	2	2	0	4	3	-1

PRS

Girls (N=10)	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	2	3	-1	3	3	0	2	2	0	3	3	0	20	23	3
02	3	4	-1	3	4	1	3	4	1	4	5	1	25	32	7
03	3	4	-1	2	3	1	3	3	0	5	4	-1	24	28	4
04	4	4	0	3	4	1	3	4	1	3	4	1	23	30	-3
05	2	2	0	2	3	1	2	3	1	2	3	1	14	21	7
06	4	3	1	3	3	0	2	3	1	3	3	0	27	23	-4
07	2	2	0	2	2	0	3	2	-1	2	1	-1	15	14	-1
08	2	2	0	2	2	0	3	1	-2	2	1	-1	18	12	-6
09	1	3	2	3	3	0	3	3	0	3	3	0	21	24	-3
10	3	3	0	3	2	-1	2	2	0	4	4	0	25	23	-2

PRS Boys (N=40)	Cooperation			Attention			Organization			New Situations		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	3	5	2	4	4	0	3	3	0	4	4	0
02	4	5	1	3	4	1	4	5	1	4	4	0
03	2	1	-1	1	1	0	1	1	0	2	1	-1
04	1	2	1	2	2	0	1	1	0	2	2	0
05	2	2	0	2	2	0	2	2	0	3	3	0
06	3	3	0	3	2	-1	2	2	0	3	3	0
07	1	3	2	1	1	0	1	2	1	2	3	1
08	1	1	0	3	2	-1	2	3	1	3	1	-2
09	1	2	-1	2	2	0	3	3	0	3	2	-1
10	2	3	1	2	3	1	1	3	2	3	3	0
11	4	4	0	3	3	0	2	2	0	3	3	0
12	2	1	-1	4	3	-1	4	4	0	2	3	1
13	3	3	0	3	3	0	3	3	0	2	2	0
14	2	3	-1	3	2	-1	2	2	0	3	2	-1
15	5	4	-1	4	4	0	3	3	0	3	3	0
16	5	5	0	4	4	0	3	3	0	4	4	0
17	1	1	0	2	2	0	2	2	0	2	1	-1
18	4	5	1	4	3	-1	3	3	0	3	3	0
19	3	3	0	1	1	0	1	1	0	2	2	0

PRS

Boys (N=40)	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
01	3	4	-1	3	3	0	3	3	0	3	5	2	26	31	5
02	3	5	2	3	4	1	4	4	0	3	5	2	28	36	8
03	2	4	2	1	2	1	2	2	0	2	3	1	13	15	2
04	2	2	0	1	1	0	1	2	1	2	3	1	12	15	3
05	2	3	1	4	3	-1	2	2	0	2	3	1	19	20	1
06	3	3	0	2	2	0	3	2	-1	3	3	0	22	20	-2
07	2	3	1	1	2	1	1	1	0	2	3	1	11	18	7
08	3	2	-1	2	2	0	2	3	1	2	3	1	18	17	-1
09	1	2	-1	3	3	0	3	3	0	1	3	2	17	20	3
10	2	3	1	2	2	0	2	3	1	3	3	0	17	23	6
11	4	3	-1	4	4	0	2	2	0	4	4	0	26	25	-1
12	4	4	0	3	5	2	5	4	-1	2	3	1	26	27	1
13	3	2	-1	2	2	0	3	2	-1	5	5	0	24	22	2
14	3	3	0	2	2	0	2	2	0	4	3	-1	21	19	-2
15	2	2	0	3	3	0	2	3	1	5	4	-1	27	26	-1
16	4	4	0	4	4	0	3	3	0	4	5	1	31	32	-1
17	2	3	-1	2	2	0	1	2	1	2	3	1	14	16	-2
18	4	4	0	3	3	0	3	4	1	4	4	0	28	29	-1
19	3	3	0	1	2	1	1	1	0	3	6	3	15	16	-1

PRS

Boys (N=40)	Cooperation			Attention			Organization			New Situations		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
20	3	2	-1	3	2	-1	3	2	-1	2	3	-1
21	3	4	-1	2	2	0	1	2	1	3	3	0
22	3	3	0	3	3	0	3	3	0	3	3	0
23	1	1	0	2	1	-1	2	1	-1	1	1	0
24	3	3	0	4	3	-1	3	3	-1	3	3	0
25	2	4	+2	3	3	0	2	4	-2	3	4	1
26	2	2	0	3	2	-1	2	2	0	2	2	0
27	2	2	0	2	2	0	2	2	0	2	2	0
28	3	3	0	3	3	0	5	5	0	4	4	0
29	2	2	0	2	2	0	1	2	1	1	2	1
30	2	3	+1	2	3	1	3	3	0	2	3	1
31	3	2	-1	2	2	0	3	3	0	3	4	1
32	2	2	0	2	2	0	2	2	0	2	3	1
33	2	2	0	3	3	0	3	3	0	2	2	0
34	3	3	0	2	3	1	2	3	1	3	3	0
35	4	4	0	3	2	-1	3	3	0	3	3	0
36	2	2	0	3	3	0	3	2	-1	3	3	0
37	3	3	0	3	3	0	3	2	-1	3	3	0
38	2	2	0	2	2	0	1	1	0	3	3	0

PRS

Boys (N=40)	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
20	5	3	-2	3	1	-2	2	2	0	5	3	-2	26	18	-8
21	3	3	0	2	3	-1	2	2	0	4	4	0	20	23	-3
22	4	4	0	3	2	-1	2	1	-1	3	3	0	24	22	-2
23	2	1	-1	1	1	0	1	1	0	2	1	-1	12	8	-4
24	3	4	-1	2	4	-2	3	4	1	4	4	0	25	29	-4
25	4	4	0	4	4	0	3	3	0	3	3	0	24	29	-5
26	3	3	0	2	2	0	2	2	0	2	3	1	18	18	0
27	2	2	0	2	2	0	2	2	0	3	3	1	17	17	0
28	1	1	0	3	2	-1	2	1	-1	5	5	0	26	24	-2
29	2	3	-1	2	2	0	2	2	0	1	3	2	14	18	4
30	4	4	0	3	3	0	3	3	0	3	3	0	22	25	3
31	3	3	0	2	3	1	3	3	0	4	3	-1	23	23	0
32	3	3	0	2	2	0	2	3	1	2	2	0	17	19	2
33	3	3	0	2	3	1	3	3	0	2	3	1	20	22	2
34	3	3	0	2	3	11	2	3	1	3	4	1	20	25	5
35	3	3	0	2	2	0	3	3	0	4	3	-1	25	23	-2
36	2	2	0	3	3	0	3	3	0	2	3	1	21	21	0
37	2	2	0	3	3	0	3	2	-1	3	3	0	23	21	-2
38	3	3	0	2	1	-1	2	1	-1	3	3	0	18	16	-2

PRS

Boys (N=40)	Cooperation			Attention			Organization			New Situations		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
39	2	2	0	2	2	0	2	2	0	2	2	0
40	1	2	-1	2	2	0	1	1	0	2	2	0

PRS

BOYS (N=40)	Soc. Acc.			Resp.			Comp. of Assign.			Tactful			Total		
Control Group	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
39	2	3	1	2	1	-1	2	1	-1	2	3	1	16	16	0
40	2	1	1	1	1	0	2	2	0	2	2	0	12	14	2

APPENDIX D

DESCRIPTION OF COMPUTER PROGRAM

DESCRIPTION OF COMPUTER PROGRAM

PDP 11/45 interacting computer terminals attached to an IBM 360 computer were programmed through BASIC PLUS to form SYKPAK; an interacting on line statistics package. For these data the programs (labeled T-Test Options 2 and 2) for t-tests for dependent and independent data were extracted. Each program called for the individual score points to be individually typed into the terminal and when completed would print out the mean and standard deviation for each set of scores as well as the empirical t value.

Test-retest reliability coefficients were algebraically solved for utilizing an HP 45 mini-calculator from data available from the t-tests for dependent measures. Specifically, the following formula:

$$t = \frac{M_1 - M_2}{S^2_{M_1} + S^2_{M_2} - 2r_{12}S_{M_1}S_{M_2}}$$

was solved for r_{12}.