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MANIFEST ANXIETY AND THE APPERCEPTIVE RESPONSES OF LEARNING DISABLED AND NORMAL ELEMENTARY STUDENTS TOWARD EDUCATIONAL SITUATIONS

A DISSERTATION
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MALCOLM WINSLOW COBY
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RESPONSES OF LEARNING DISABLED AND NORMAL
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APPROVED BY

Charlyce King

Mary Clare Lotty

Robert Rogland

DISSERTATION COMMITTEE

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CHAPTER I

INTRODUCTION

The educational arena provides a myriad of generally pleasing experiences for the majority of school-aged youngsters. The sources of this pleasure range from academic success to peer acceptance, and are interspersed with achievements in sports, art, music, etc. However, for the child with specific learning disabilities, the school arena can become a circle of fear, anxiety, and frustration.

When the child with learning disabilities takes his place in the academic arena, he soon discovers that his efforts to interpret the material presented are less successful than his peers. Short attention span, poor motor coordination, and other characteristics that parents hoped he would outgrow, now return to add to his discomfort. Subsequently he becomes convinced that "something" is wrong with him. He is different. Efforts to try harder result in more failures. As the gap between his performance and that of his peers widens, he soon loses interest and becomes engulfed in what Myklebust (1972) describes as a vicious cycle in the following manner:

> His disability makes it difficult for him to learn; his slow progress is frustrating and dampens his

> enthusiasm; his diminishing motivation lessens his openness to new material and gives rise to behaviors that impair learning, such as the lack of cooperation and reduced effort.

Kahn (1969), from a psychodynamic perspective, contends that besides a number of common psychological difficulties, such as lability in mood and reduced tolerance to frustration, the learning disabled child tends to suffer from extreme anxiety. This may be very poorly and diffusely patterned with body image and identification problems. However, the learning disabled child is usually less able to handle anxiety and his behavior often results in an unpleasant conflict situation. These conflict situations eventually result in rejection by peers and/or parents.

In order to prevent "conflict situations", and break the "vicious cycle", one must obtain the answers to two major questions. First, what are the specific elements of the child's school environment that contribute to his problem? Is it his relationship with his teacher, peers, or is it totally his frustration with himself and the learning process? Secondly, one should determine the magnitude of the child's feelings toward those elements. Where on the continuum from negative to positive does the learning disabled child exist? Exploration of the effects of these elements constitutes the emphasis of this investigation.

CHAPTER II

STATEMENT OF THE PROBLEM

The major problem of this investigation was to obtain descriptive data to determine if normal non-learning disabled (NLD) children perceive school and school-related situations differently than learning disabled (LD) children. A secondary problem was to study the relationships between those perceptions and levels of anxiety within both groups.

More specifically this investigation sought information on the following questions:

1. Do LD children have a more negative or a more positive attitude toward school-related situations than their NLD peers?

2. Among LD children, do boys respond more negatively to school-related situations than girls, or vice-versa?

3. Do children who respond negatively to school-related situations also manifest an overall higher level of general anxiety than those who do not?

4. Do LD children manifest an overall higher level of anxiety than NLD children?

5. In which of the following categories will LD children have more negative responses as compared to NLD children?
    a. Reaction to Authority
    b. Reaction toward Learning
    c. Peer Relations
    d. Home Attitudes toward Learning

CHAPTER III

REVIEW OF THE LITERATURE

Research by Murstein (1963) indicated that there have been a number of investigations using projective techniques. However, there have been very few studies specifically designed to study the child's perception of school and the educational process.

The study by Andrew, et. al. (1953), after developing the Michigan Picture Test, represented a thorough attempt to evaluate the emotional reactions of school-age children. However, the purposes of the investigation were to differentiate well-adjusted from poorly adjusted children and only included a few scenes related to children in school situations. With a population of 92 students, Malpass (1953) came closer to the problem of this study when he investigated some of the relationships between students' perceptions of various aspects of the school situation and selected criteria of school achievement. His instruments included an incomplete sentence test and a ten-card apperception test. However, this included only crude sketches which could present some difficulty for learning disabled children. Biber and Louise (1949) used pictures

of classroom situations. Unfortunately the pictures were never used after their study and are no longer available.

Estvan and Estvan's (1959) investigation sought to determine the nature of a child's social perception and certain factors associated with its development. The apperceptive stimuli used in their investigation were related to social experiences such as "The Church", "The Bedroom", "The Resort", and "The Schoolroom." However, the procedure was not used with any specific school-related problem, e.g., school phobia, aggressive students, learning disorders, etc.

Irving Solomon, et. al. (1966) developed the School Apperception Method (SAM) as an outgrowth of Murray's (1943) Thematic Apperception Test (TAT) to aid the school psychologist in analyzing the child's perception of school. The SAM, consisting of ten sketches of specific school situations, was presented as having content validity, but lacking in concurrent and construct validity. Solomon and Starr (1967) made further developments with the SAM, and finally developed SAM II depicting children and school personnel in a broader range of situations (Solomon and Starr, 1968).

The authors of the Education Apperception Test (EAT) (1975) lack normative data, but report some interesting case studies of children with diverse ethnic, educational, and behavioral backgrounds. Although several of the cases described included children with learning problems similar to those of learning disabled children, no attempts were made to evaluate or to compare the assessments nor relate the findings to any

other measures, e.g., general anxiety. Furthermore, the cases were individually interpreted according to a psychodynamic approach.

Several attempts have been made to analyze the relationship between levels of anxiety and certain factors involving children with known and suspected learning disorders. Pryer and Cassel (1962) and Cochran and Cleland (1963) found that the mentally retarded tend to have higher levels of general anxiety than normal children of the same achievement levels. Iscoe and Cochran (1960) reported that children with high anxiety levels tend to manifest more behavioral problems in the classroom. Cowen, et. al. (1965) had similar findings and added that high anxiety was positively related to the tendency to be nominated by peers for negative roles. Children so selected were observed to have poor peer relations in class and in play--also commonly found among LD children. Again, none of these investigations utilized children identified as having specific learning disabilities.

CHAPTER IV

HYPOTHESES

The hypotheses proposed by this investigator were as follows:

1. Children with specific learning disabilities will have a significantly higher negative rating on the Education Apperception Test (EAT) than their normal non-learning disabled (NLD) peers.

2. LD boys will have a higher negative rating on the EAT than LD girls.

3. When the Children's Manifest Anxiety Scale (CMAS) scores are compared to EAT results, there will be no statistically significant difference between NLD and LD subjects.

4. LD children will obtain higher scores on the CMAS than NLD children.

5. When compared to NLD children, LD children will have a more negatively directed distribution in the categories of Reaction to Learning and Peer Relations than Reaction to Authority and Home Attitudes toward Learning.

DEFINITION OF TERMS

Apperception--An organism's meaningful interpretation of a perception (Bellak, 1975). It is also the process by which new experience is assimilated to and transformed by the residuum of past experiences of any individual to form a new whole. The residuum of past experience is called apperceptive mass (Runes, 1955).

Learning Disabled (LD) Children--Refers to a retardation, disorder, or delayed development in one or more of the processes of speech, language, reading, writing, arithmetic, or other

school subjects resulting from a psychological handicap caused by a possible cerebral dysfunction and/or behavioral disturbances. It is not the result of mental retardation, sensory deprivation or cultural or instructional factors (Kirk and Bateman, 1962).

Non-Learning Disabled (NLD) Children--children of average or above intelligence (90-110+ on WISC or some other measure of intelligence) enrolled in regular (non-special education) classes.

CHAPTER V

METHOD OF STUDY

Subjects: The subjects in this investigation were selected from the Chickasha, Verden, and Anadarko Public Schools. This area is known as Grady and Caddo Counties in Oklahoma. A population of 40 children (10 LD boys, 10 LD girls, 10 NLD boys, 10 NLD girls) were selected on a stratified random sampling basis. Originally 47 children were submitted by the teachers, but seven were eliminated because they did not meet the criteria described below. In order to obtain optimum identification with the EAT pictures, the criteria for selection included such factors as white, 2nd, 3rd, 4th grade levels and children who had IQ's of 90 or above on standardized intelligence tests. Teachers were asked to submit a list of boys and girls according to the strata described. From these lists, every third child was selected until an equal number of each group was selected.

Instruments: The EAT is basically a projective technique designed to assess a child's perception of school and the educative process. It consists of 18 photographs (black and white) of children in school or school-related situations

(see Appendix A). The authors report that the order and use of the pictures are limited only to the various types of research investigators choose to explore. Pictures for the EAT were selected according to their relevance to significant areas of school-related activities. The children portrayed are of elementary school age; however, the authors have also found the pictures effective with preschool and adolescent students.

Validity and reliability have not been empirically established on the EAT, but the authors contend that it has content and construct validity based upon the rationale underlying the TAT, SAM and other apperceptive devices. A review of Buros (1970) revealed that such tests may appropriately be used as a qualitative descriptive instrument. In relation to this, Cronbach (1970) advises that such assessment techniques in their early stages of development do not need the careful attention to reliability and validity that "psychometric tests" require.

The CMAS evolved from Janet Taylor's (1953) Manifest Anxiety Scale (MAS) for adults. The authors, Castaneda, et. al. (1956) selected and modified 42 anxiety items from the MAS. The index of the level of anxiety is obtained by adding the number of items answered "yes." The CMAS also includes an 11 item lie scale. The index of one's ability to falsify responses is the sum of all items on the L scale answered "yes" except items 2 and 10.

Normative data on the CMAS revealed a mean of the distribution for girls to be 18.45 and 15.87 for the boys. Means for the L Scale were 1.9 for boys and 2.5 for girls. The authors also found that the effects of sex were significantly more "yes" responses that boys. The reliability coefficients on the CMAS were found to average .90 and about .70 for the L scale within a one week period.

Procedure: The subjects selected for this study were individually administered the Education Apperception Test (EAT) developed by Thompson and Sones (1975). Since the authors of the EAT did not propose any specific method of interpreting the test, this investigator recorded the responses of both groups of children and submitted them to a panel of three doctoral candidates to rate the responses of the children on a scale of 1-5. For this purpose a rating device was constructed by this writer on a format similar to that developed by Malpass (1953) (see Appendix B). A small sample (N10) of children's responses were collected at random to determine and check Rater reliability. Each rater used the same data for this task. After the percent of agreement among the raters was determined, the raters met with this investigator to discuss any differences in their judgments. An 80%+ agreement was selected as the criteria for acceptable reliability. Table 1 shows an analysis of agreement between the raters on the total scores of the subjects. Agreement between at least two of the three raters within a two point difference was reached in 90% of the cases. Agreement between

TABLE 1

Analysis of Rater Agreement on Total Scores

(EAT)

	Raters		
	1	2	3
Subjects	Total Scores		
A	25	25	30
B	29	26	32
C	33	35	34
D	32	35	35
E	33	33	33
F	31	27	32
G	30	30	32
H	29	27	34
I	30	32	32
J	30	33	32

Agreement of $\leq$ 2 point deviation between at least 2 raters = 90%.

Agreement of $\leq$ 1 point deviation between at least 2 raters = 80%.

at least two raters within a one point variance was achieved in 80% of the cases. In Table 2, an analysis is made of the agreement of the raters in assigning a specific rating for each picture. The results showed that on 32% of the items there was total agreement between all three raters. There was an 80% agreement between at least two raters with a difference of one point. In checking for agreement within two points difference between at least two of the raters, there was an 86% agreement. These findings supported the reliability of the raters to the satisfaction of the established criteria.

The Children's Manifest Anxiety Scale (CMAS) was also administered (see Appendix B). The only modification in the administration of this test was to insure that each child could read or understand the question he or she was answering. This was accomplished by administering the CMAS individually and by the examiner reading each question aloud while the students read them and circled the appropriate responses. This did not affect the validity of the results and controlled the variable imposed by the reading difficulties of the LD children.

Although teacher administration of the CMAS would have reduced the work of the examiner, this writer agreed with Sarason, et. al. (1960) who found that administration of anxiety scales by a person unknown to the subject facilitated objectivity in administration and the integrity of responses by the subjects.

TABLE 2

Item Analysis of Agreement of Raters

(EAT)

Rating / Picture	1	2	3	4	5
3	*0/0/0	2/2/2	7/4/6	1/5/2	0/0/0
7	0/0/0	1/2/1	6/3/6	3/4/3	0/1/0
9	0/0/0	1/1/0	4/2/5	5/6/5	0/1/0
1	0/0/0	1/1/2	9/8/8	0/1/0	0/0/0
2	0/0/0	0/1/0	0/0/0	10/6/9	0/3/1
10	0/1/0	4/7/1	5/1/8	1/1/1	0/0/0
4	0/0/0	0/2/1	3/1/3	6/4/3	0/1/3
8	0/0/0	8/9/2	3/0/7	0/0/1	0/0/0
5	0/0/0	0/2/2	7/3/5	3/3/2	0/1/1
6	0/3/0	7/4/1	2/2/7	1/0/2	0/0/0

*Note: Rater #1/Rater #2/Rater #3: This represents the number of times this rating was used on this picture by the corresponding Rater.

ANALYSIS AND TREATMENT OF DATA

The results of this investigation were subjected to the conditions of non-parametric statistical analysis. The raw scores from each instrument were totaled and ranked for each group (LD boys, LD girls, NLD boys, NLD girls) and the independent means determined. These data were utilized in the Wilcoxon-Mann-Whitney Rank Sum Test to determine the correlationships between the scores. This procedure was found to be most informative when small independent samples were selected from a non-normal population (Walpole and Myers, 1972). A one-way analysis of variance for comparative means was computed to determine the differences between and within groups and the resulting significance determined by an F test. In order to analyze the results of hypothesis five, a simple scatter-plot of the direction of the means was drawn.

CHAPTER VI

RESULTS AND CONCLUSIONS

The means for each group as shown on Table B reflected only a minimal amount of variance to support hypotheses one and two. LD girls had the highest mean (33.50), but contrary to prediction, LD boys obtained the lowest ($\bar{X}$=31.10). Furthermore, NLD girls were only slightly lower ($\bar{X}$=31.00) than either LD boys or girls. A further analysis of the data with the Wilcoxon-Mann-Whitney Test revealed that there were no significant differences between any of the groups at either the .01 or .05 level. This interpretation was based on the number of inversions less than or greater than the boundaries of a two-tail test as shown in Table B. The number of inversions between groups are shown in Table 3. An Analysis of Variance (see Table E) also failed to produce a significant difference within or between groups. However, since the F ratio is below the lower and upper limits for 3 and 36 degrees of freedom, it is apparent that the population is more homogeneous than hypothesized. Therefore, hypotheses 1 and 2 are rejected at both the .05 and .01 levels of significance.

The null hypothesis was rejected at both the .05 and .01 levels of significance for the third hypothesis. Subjects

TABLE 3

Number of Inversions Between Groups

on the CMAS and EAT

Group / Group	CMAS	EAT
NLD-B/NLD-G	18 n.s. at .01 s.d. at .05	58 n.s. at .01 n.s. at .05
NLD-B/LD-B	30 n.s. at .01 n.s. at .05	56 n.s. at .01 n.s. at .05
NLD-B/LD-G	28 n.s. at .01 n.s. at .05	38 n.s. at .01 n.s. at .05
NLD-G/LD-B	66 n.s. at .01 n.s. at .05	54 n.s. at .01 n.s. at .05
NLD-G/LD-G	62 n.s. at .01 n.s. at .05	30 n.s. at .01 n.s. at .05
LD-B/LD-G	48 n.s. at .01 n.s. at .05	35 n.s. at .01 n.s. at .05

Note: n.s. = not a significant difference.
s.d. = a significant difference exists.

who ranked high on negative responses to school situations did not similarly rank high in anxiety. The number of inversions between the various groups is shown in Table C.

Data also failed to support hypothesis four in a general manner. However, inspection of Table A revealed that NLD boys ($\bar{X}$ = 17.90) were lower in anxiety than either LD boys ($\bar{X}$ = 20.80) or LD girls ($\bar{X}$ = 22.40). This slight, but observable difference between NLD boys and LD boys and LD girls was not found to be statistically significant at either the .01 or .05 levels based on either the Wilcoxon-Mann-Whitney (see Table 3) or the One-Way ANOVA (see Table D). The mean for NLD girls ($\bar{X}$ = 24.60) was higher than any other group, LD or NLD. However, this difference was not found to be significant (see Table 3). An interesting, but unexplainable relationship also occurred between NLD boys and NLD girls. According to Table 3, the number of inversions between these two groups was significant at the .05 level, but not at the .01 level. Although this contradicts the writer's theory that homogeneity existed between the two NLD groups, the finding illustrated the value of the Wilcoxon-Mann-Whitney measurement.

An inspection of Figure 1 revealed that hypothesis number five was supported. LD boys and girls had higher (negatively directed) means than NLD boys and girls on the subtests of Reaction toward Learning and Peer Relations. On the subtest measures of Reaction to Authority and Home Attitudes toward Learning, the means were more congruent.

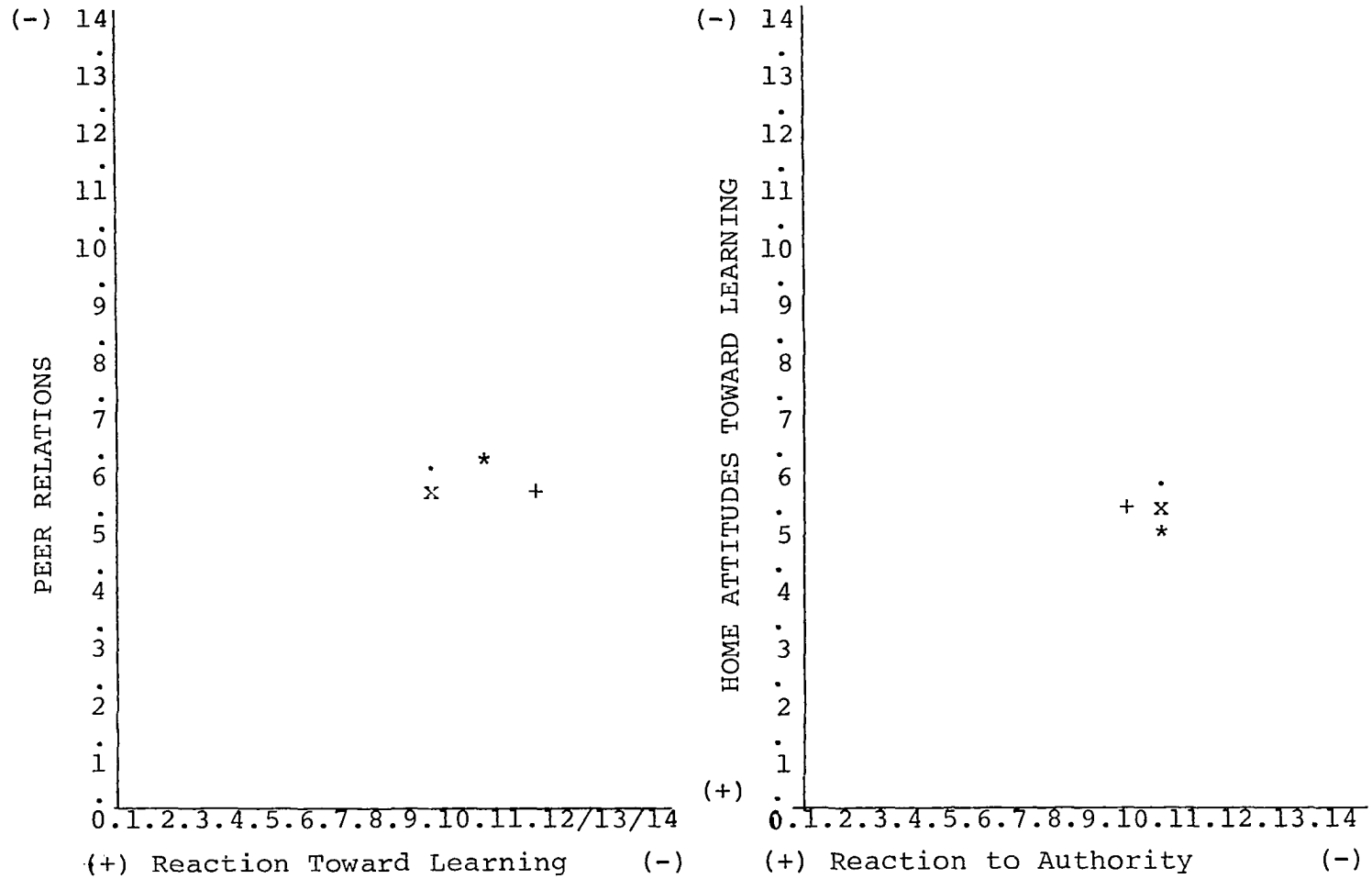

Figure 1. The plotted means of all groups on the subtests of the EAT to test hypothesis number five.

Note: . = NLD Boys; X = NLD Girls; * = LD Boys; + = LD Girls.

Discussion

It is immediately apparent to this investigator that four of the five hypotheses which were not supported by this research were directly attributable to both the age and the environment of the subjects. Young learning disabled children have not experienced enough of the trauma associated with the vicious cycle referred to earlier (Myklebust, 1972) to have developed neither strong negative attitudes toward school nor significantly high levels of anxiety. It is hoped, however, that such an experience can be prevented through proper identification and intervention.

Small rural communities, such as the ones from which the subjects in this study were obtained, tend to be very homogeneous in various ways. This writer speculates that in these communities persons are similar in their child rearing practices which may include respect for school authorities. Perhaps a more accurate assessment can be made from a more urban population.

Implications for Further Study

The EAT and CMAS, either singularly or combined, are potentially desirable instruments for research purposes. Implications for such research derived from this study may be as follows:

1. Investigate the problem of this study among older LD and NLD subjects. One may use an LD population

who have or one which has not received earlier remedial training.

2. Compare EAT and/or CMAS findings between groups of LD children who have and those who have not received earlier remedial training.
3. Conduct a longitudinal study among LD subjects who have received prior LD remediation and had this remediation discontinued.
4. Compare EAT and/or CMAS responses among mainstreamed versus non-mainstreamed LD subjects.
5. Compare EAT and/or CMAS responses between LD subjects of rural versus urban enrivonment.

Summary and Conclusions

Forty subjects, 20 learning disabled and 20 non-learning disabled, were administered the Education Apperception Test and the Children's Manifest Anxiety Scale to determine what relationships existed between the groups on both measures. It was hypothesized that LD children would be more negative toward school and manifest a higher level of anxiety. Four of the five hypotheses were not supported by the research. First, the LD subjects in this study did not have a significantly higher rating on the EAT than their NLD peers. This finding was also true when LD boys were compared to LD girls. LD and NLD subjects who rated high in anxiety on the CMAS did not similarly rate high in negativism toward school situations as predicted. Finally, LD and NLD subjects did not

differ significantly in their levels of anxiety as measured by the CMAS. Data for the fifth hypothesis, however, revealed that the LD subjects in this study had stronger negative attitudes toward learning and peer relations than reactions to authority and home attitudes toward learning when compared to NLD subjects. There were several implications for further study including longitudinal and cross-sectional research.

It may be concluded from this research that a great deal of homogeneity exists among most young children regardless of their learning disorders. Therefore, mainstreaming may be advantageous for exceptional children in the early years. If a child's positive attitudes toward school in the presence of a learning disorder can be reinforced, then that child may have an increased probability of a successful academic experience.

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APPENDIX A

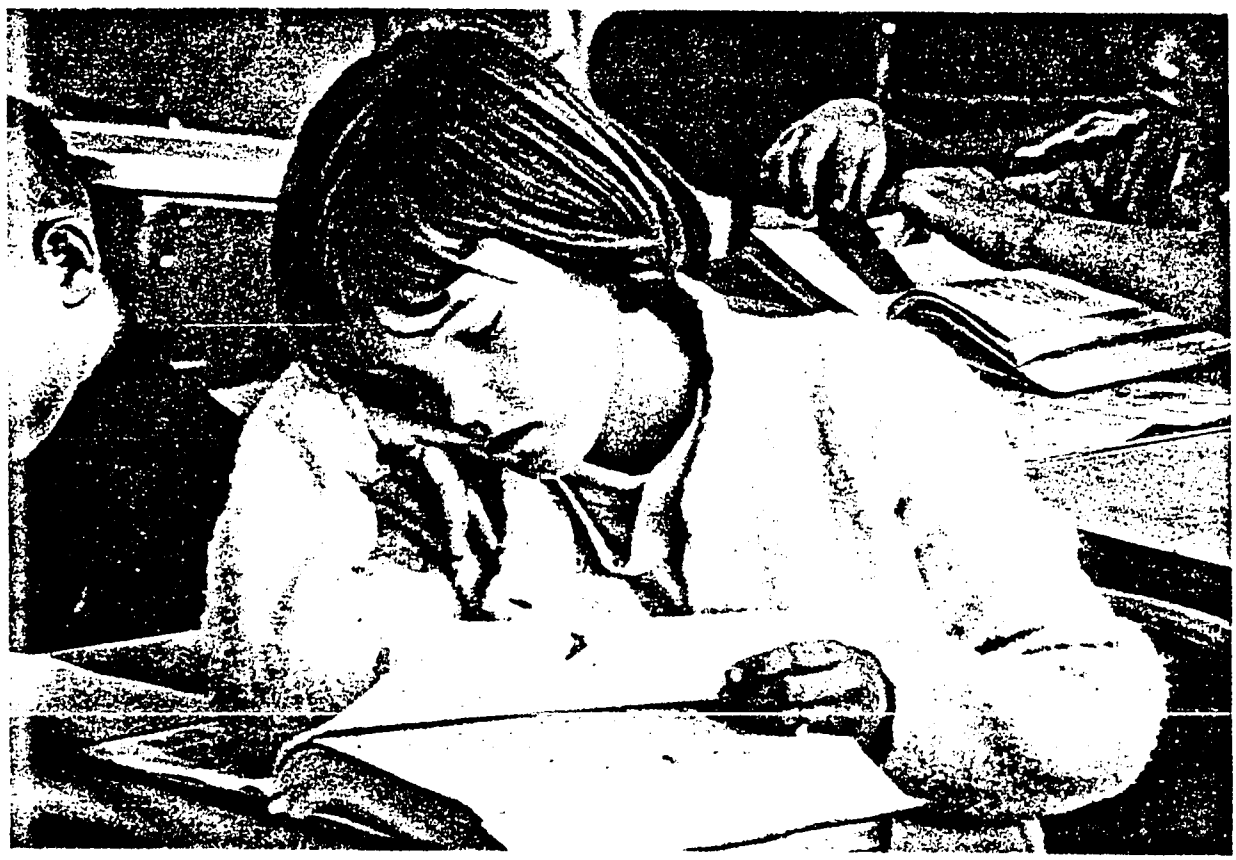
REACTION TO AUTHORITY
Picture 3G

REACTION TO AUTHORITY
Picture 3B

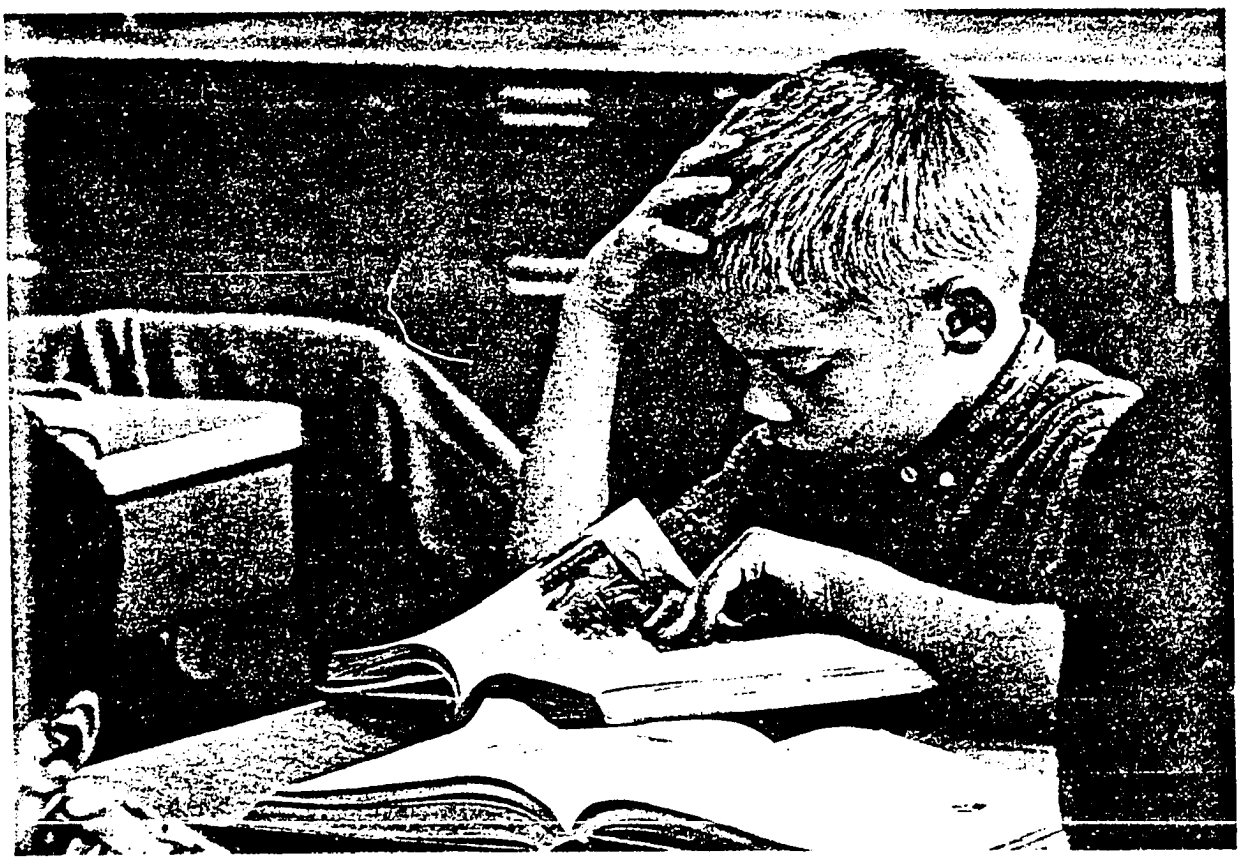
REACTION TO AUTHORITY
Picture 7G

REACTION TO AUTHORITY
Picture 7B

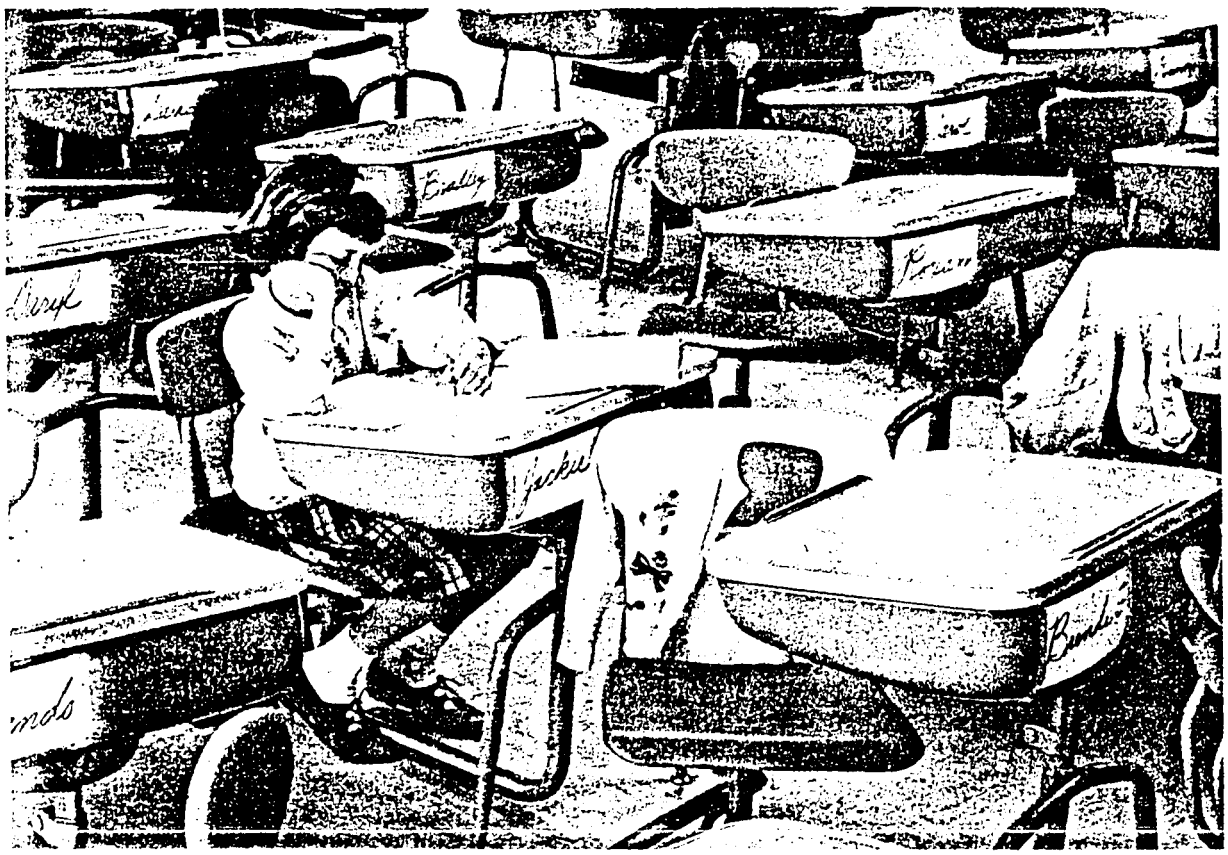
REACTION TO AUTHORITY
Picture 9BG



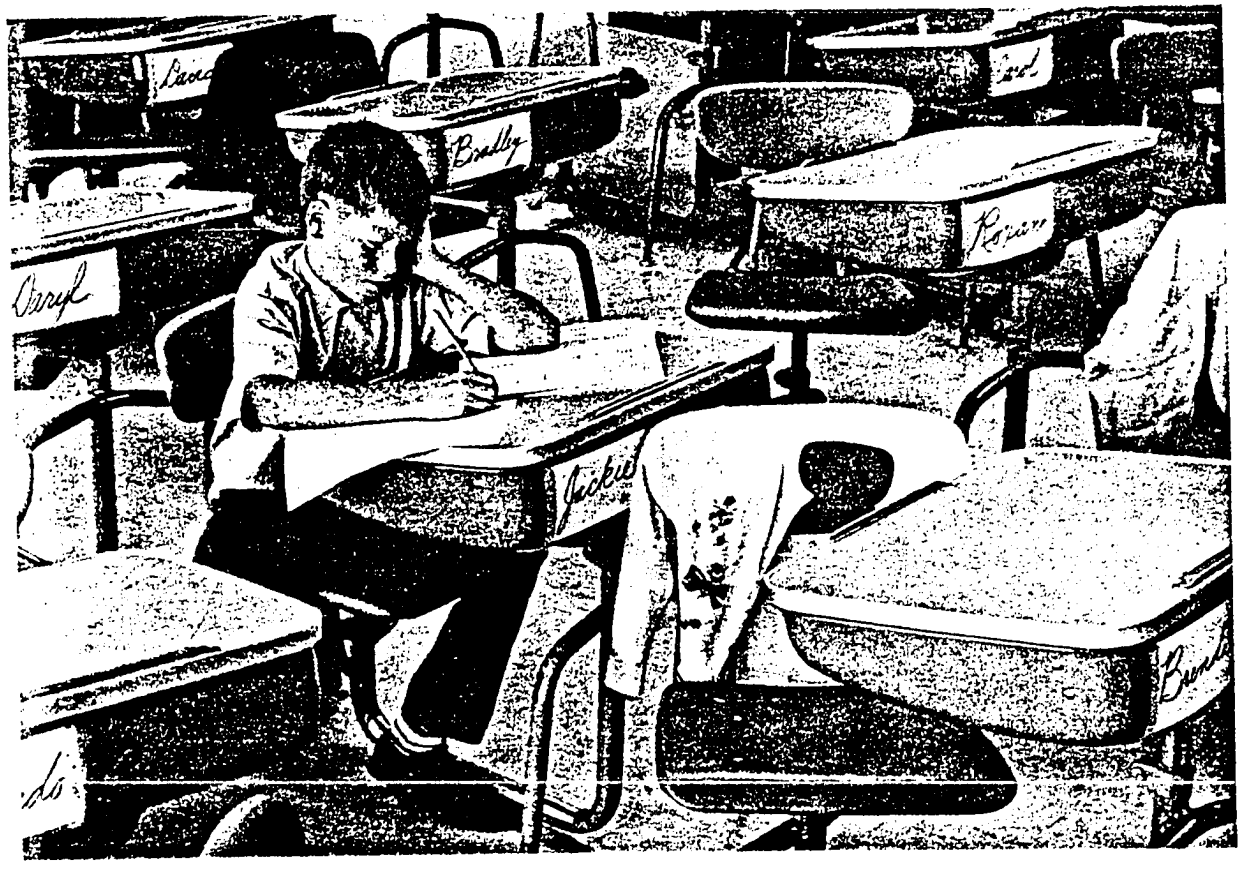
REACTION TOWARD LEARNING
Picture 1G



REACTION TOWARD LEARNING
Picture 1B



REACTION TOWARD LEARNING
Picture 2G



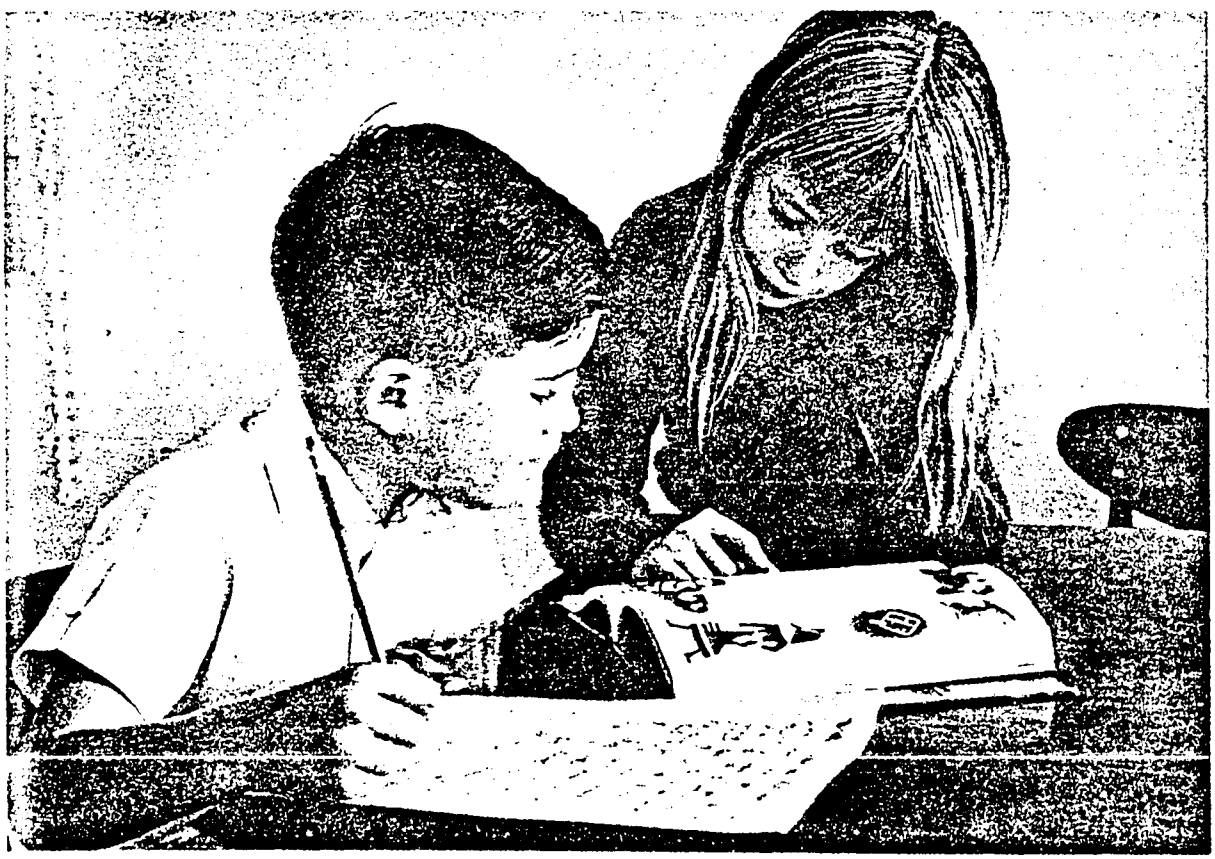
REACTION TOWARD LEARNING
Picture 2B

REACTION TOWARD LEARNING
Picture 10G

REACTION TOWARD LEARNING
Picture 10B

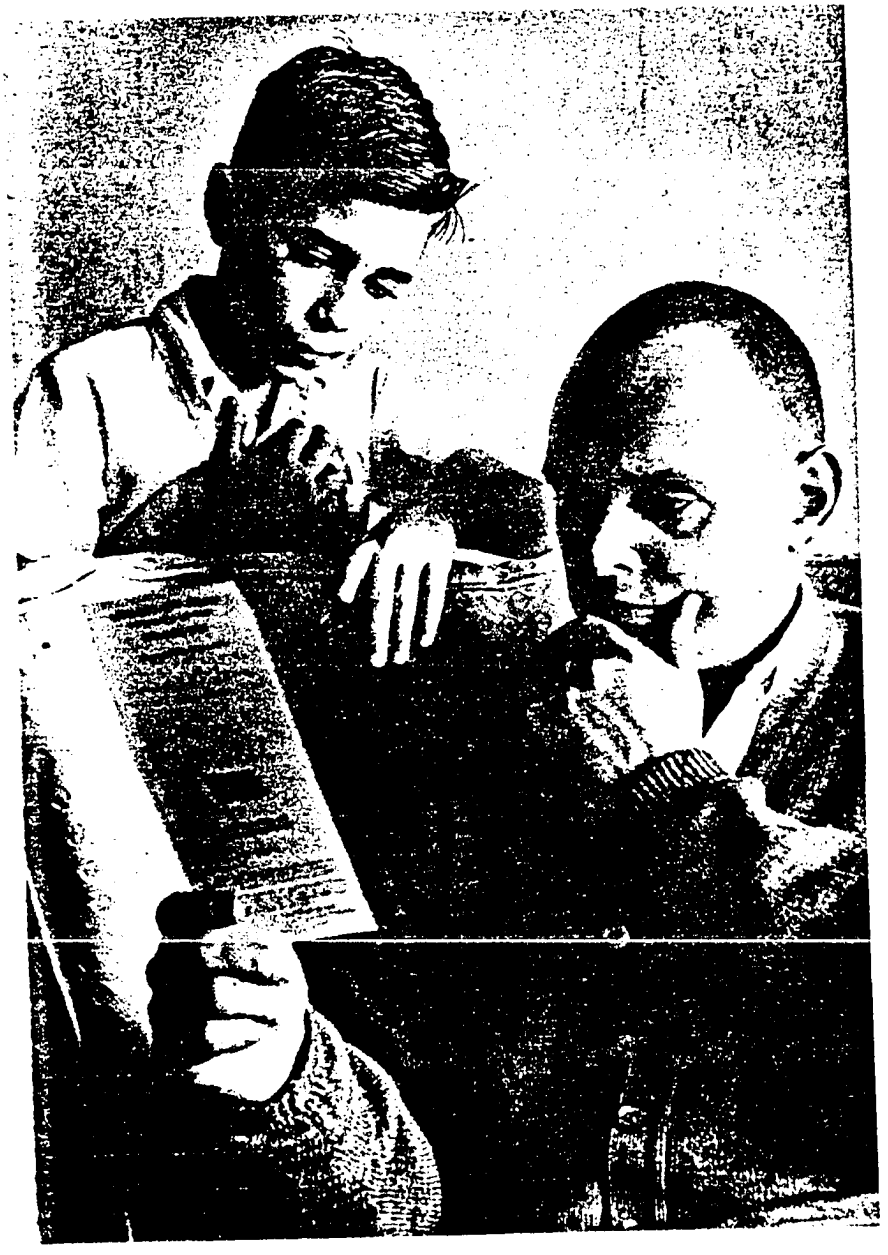
PEER RELATIONS
Picture 4G

PEER RELATIONS
Picture 4B



PEER RELATIONS
Picture 8BG

HOME ATTITUDE TOWARD LEARNING
Picture 5G



HOME ATTITUDE TOWARD LEARNING
Picture 5B

HOME ATTITUDE TOWARD LEARNING
Picture 6G

HOME ATTITUDE TOWARD LEARNING
Picture 6B

APPENDIX B

Rater No. Sex of Child M__ F__

Rating Sheet
Responses to E.A.T. Pictures

Direction: Please rate the responses to the E.A.T. Pictures according to the following criteria:

(1) Response Definitely Positive--Contains statements of pleasure about, liking for; acceptance of in a positive manner, or hopeful about the situation.
(2) Response contains probable positive feelings--reflecting pleasure about or liking for; reserved acceptance of in a positive manner.
(3) Response Neutral--Purely descriptive; no feelings expressed; insufficient material to rate any other way.
(4) Response contains probable negative feelings--Statements reflecting weak or slight displeasure about dislike of anger or hostility toward...
(5) Response Definitely Negative--Statements reflecting strong displeasure about dislike or anger.

Picture No.		A. REACTION TO AUTHORITY			
3		Walking Into Principal's Office			
	1)	2)	3)	4)	5)
7		Teacher Talking To A Child			
	1)	2)	3)	4)	5)
9		Parent-Teacher Conference			
	1)	2)	3)	4)	5)
		B. REACTION TOWARD LEARNING			
1		Child Thinking Over Lesson			
	1)	2)	3)	4)	5)
2		Child Working at Lesson			
	1)	2)	3)	4)	5)
10		Class Working at Lesson			
	1)	2)	3)	4)	5)

Picture No.

C. PEER RELATIONS

4 Child Apart from Group

1) 2) 3) 4) 5)

8 Children (Siblings) Doing School Work

1) 2) 3) 4) 5)

D. HOME ATTITUDE TOWARD LEARNING

5 Report Card and Parent

1) 2) 3) 4) 5)

6 Parents Working With Child

1) 2) 3) 4) 5)

The Children's Manifest Anxiety Scale

Directions: Say, "Read each question silently as I read them aloud. Put a circle around the word YES if you think it is true about you. Put a circle around the word NO if you think it is not true about you." The same rules apply for the L scale. Do not allow the subjects to answer aloud or talk about their responses. (Make certain each student can read the words.)

1.	It is hard for me to keep my mind on anything.	YES	NO
2.	I get nervous when someone watches me work.	YES	NO
3.	I feel I have to be best in everything.	YES	NO
4.	I blush easily.	YES	NO
5.	I notice my heart beats very fast sometimes.	YES	NO
6.	At times I feel like shouting.	YES	NO
7.	I wish I could be very far from here.	YES	NO
8.	Others seem to do things easier than I can.	YES	NO
9.	I am secretly afraid of a lot of things.	YES	NO
10.	I feel that others do not like the way I do things.	YES	NO
11.	I feel alone even when there are people around me.	YES	NO
12.	I have trouble making up my mind.	YES	NO
13.	I get nervous when things do not go the right way for me.	YES	NO
14.	I worry most of the time.	YES	NO
15.	I worry about what my parents will say to me.	YES	NO
16.	Often I have trouble getting my breath.	YES	NO
17.	I get angry easily.	YES	NO
18.	My hands feel sweaty.	YES	NO

19.	I have to go to the toilet more than most people.	YES	NO
20.	Other children are happier than I.	YES	NO
21.	I worry about what people think about me.	YES	NO
22.	I have trouble swallowing.	YES	NO
23.	I have worried about things that did not really make any difference later.	YES	NO
24.	My feelings get hurt easily.	YES	NO
25.	I worry about doing the right things.	YES	NO
26.	I worry about what is going to happen.	YES	NO
27.	It is hard for me to go to sleep at night.	YES	NO
28.	I worry about how well I am doing in school.	YES	NO
29.	My feelings get hurt easily when I am scolded.	YES	NO
30.	I often get lonesome when I am with people.	YES	NO
31.	I feel someone will tell me I do things the wrong way.	YES	NO
32.	I am afraid of the dark.	YES	NO
33.	It is hard for me to keep my mind on my school work.	YES	NO
34.	Often I feel sick in my stomach.	YES	NO
35.	I worry when I go to bed at night.	YES	NO
36.	I often do things I wish I had never done.	YES	NO
37.	I get headaches.	YES	NO
38.	I often worry about what could happen to my parents.	YES	NO
39.	I get tired easily.	YES	NO.
40.	I have bad dreams.	YES	NO
41.	I am nervous.	YES	NO
42.	I often worry about something bad happening to me.	YES	NO

THE L SCALE

1.	I like everyone I know.	YES	NO
2.	I would rather win than lose in a game.	YES	NO
3.	I am always kind.	YES	NO
4.	I always have good manners.	YES	NO
5.	I am always good.	YES	NO
6.	I am always nice to everyone.	YES	NO
7.	I tell the truth every single time.	YES	NO
8.	I never get angry.	YES	NO
9.	I never say things I shouldn't.	YES	NO
10.	It is good to get high grades in school.	YES	NO
11.	I never lie.		

The Education Apperception Test

Directions: For actual administration of the EAT, it is suggested that the child sit next to the examiner and not across the table. The EAT pictures should be laid face down by the examiner in the order of use. Recording of the child's responses can be made on plain or lined paper. It is important to record asmuch of the actual verbal responses of the child as possible. Through practice, most psychologist develop their own irregular shorthand method.

The following instructions are appropriate, although the format may need to be altered for certain children.

> "I am going to show you some pictures. I want you to tell me a story about each picture. Tell me what is going on in the picture, what the children are thinking and feeling and what is going to happen."

With younger children, it will probably be necessary to encourage them and to repeat certain parts of the instructions so that the children will respond to the four major parts of the story:

1. What took place before?
2. What is going on now?
3. What feelings are involved?
4. What is the outcome?

The usual behavioral reactions of the child in addition to his specific stories should be noted.

Order of Administration: For the purpose of this study boys and girls will be administered the appropriate pictures for their sex in the following manner:

A. Reaction to Authority--3, 7, and 9

B. Reaction Toward Learning--1, 2, and 10

C. Peer Relations--4 and 8

D. Home Attitude Toward Learning--5 and 6

APPENDIX C

TABLE A

WILCOXON-MANN-WHITNEY RANK SUM FOR CHILDREN"S MANIFEST ANXIETY

NLD-B			NLD-G			LB-B			LD-G		
SUBJECT	SCORE	RANK	SUBJECT	SCORE	RANK	SUBJECT	SCORE	RANK	SUBJECT	SCORE	RANK
1	27	1.0	36	32	1.5	24	30	1.0	47	34	1.0
34	21	2.0	6	32	1.5	11	26	2.5	41	30	2.0
35	20	4.0	5	29	3.0	28	26	2.5	18	29	3.0
40	20	4.0	37	28	4.0	20	25	4.0	44	24	4.0
3	20	4.0	39	26	5.0	12	24	5.0	21	23	5.0
4	16	6.0	7	24	6.5	13	21	6.5	14	21	6.0
10	15	7.0	8	24	6.5	16	21	6.5	19	18	7.0
33	14	8.5	9	23	8.0	22	17	8.0	17	15	9.0
2	14	8.5	43	20	9.0	23	14	9.0	42	15	9.0
45	12	10.0	38	8	10.0	15	4	10.0	46	15	9.0
AVERAGE = 17.90			AVERAGE = 24.60			AVERAGE = 20.80			AVERAGE = 22.40		
STD. DEVIATION = 4.27			STD. DEVIATION = 6.65			STD. DEVIATION = 7.13			STD. DEVIATION = 6.51		

TWO-TAIL TEST AT 1 PERCENT LEVEL
PROBABILITY - INVERSERIONS ARE LESS THAN 16 OR GREATER THAN 84 = 0.90 PER CENT.

TWO-TAIL TEST AT 5 PERCENT LEVEL
PROBABILITY - INVERSERIONS ARE LESS THAN 23 OR GREATER THAN 77 = 4.40 PER CENT.

TABLE B

WILCOXON-MANN-WHITNEY RANK SUM FOR EDUCATION APPERCEPTION TEST

NLD-B SUBJECT	SCORE	RANK	NLD-G SUBJECT	SCORE	RANK	LD-B SUBJECT	SCORE	RANK	LD-G SUBJECT	SCORE	RANK
1	24	10.0	36	33	3.0	24	36	3.0	47	34	5.0
34	32	4.5	6	31	5.0	11	28	7.0	41	36	3.0
35	35	2.0	5	33	3.0	28	32	4.5	18	32	6.5
40	37	1.0	37	37	1.0	20	38	2.0	44	29	10.0
3	33	3.5	39	28	9.0	12	26	8.5	21	32	6.5
4	32	4.5	7	30	6.5	13	26	8.5	14	35	4.0
10	30	8.0	8	29	8.0	16	25	10.0	19	39	1.0
33	33	3.5	9	30	6.5	22	29	6.0	17	31	8.0
2	29	9.0	43	33	3.0	23	39	1.0	42	37	2.0
45	31	7.0	38	26	10.0	15	32	4.5	46	30	9.0
AVERAGE = 31.70			AVERAGE = 31.00			AVERAGE = 31.10			AVERAGE = 33.50		
STD. DEVIATION = 3.13			STD. DEVIATION = 2.96			STD. DEVIATION = 4.88			STD. DEVIATION = 3.07		

TWO-TAIL TEST AT 1 PERCENT LEVEL
PROBABILITY--INVERSIONS ARE LESS THAN 16 OR GREATER THAN 84 = 0.90 PERCENT.

TWO-TAIL TEST AT 5 PERCENT LEVEL
PROBABILITY--INVERSIONS ARE LESS THAN 23 OR GREATER THAN 77 = 4.40 PERCENT.

TABLE C

WILCONON-MANN-WHITNEY RANK SUM FOR CHILDREN'S MANIFEST ANXIETY

NLD-B			NLD-G			LD-B			LD-G		
NN											
1	27	1.0	36	32	1.5	24	30	1.0	47	34	1.0
34	21	2.0	6	32	1.5	11	26	2.5	41	30	2.0
35	20	4.0	5	29	3.0	28	26	2.5	18	29	3.0
40	20	4.0	37	28	4.0	20	25	4.0	44	24	4.0
3	20	4.0	39	26	5.0	12	24	5.0	21	23	5.0
4	16	6.0	7	24	6.5	13	21	6.5	14	21	6.0
10	15	7.0	8	24	6.5	16	21	6.5	19	18	7.0
33	14	8.5	9	23	8.0	22	17	8.0	17	15	9.0
2	14	8.5	43	20	9.0	23	14	9.0	42	15	9.0
45	12	10.0	38	8	10.0	15	4	10.0	46	15	9.0

WILCOXON-MANN-WHITNEY RANK SUM FOR EDUCATION APPERCEPTION TEST

NN											
1	25	10.0	36	33	3.0	24	36	3.0	47	34	5.0
34	32	4.5	6	31	5.0	11	28	7.0	41	36	3.0
35	35	2.0	5	33	3.0	28	32	4.5	18	32	6.5
40	37	1.0	37	37	1.0	20	38	2.0	44	29	10.0
3	33	3.5	39	28	9.0	12	26	8.5	21	32	6.5
4	32	4.5	7	30	6.5	13	26	8.5	14	35	4.0
10	30	8.0	8	29	8.0	16	25	10.0	19	39	1.0
33	33	3.5	9	30	6.5	22	29	6.0	17	31	8.0
2	29	9.0	43	33	3.0	23	39	1.0	42	37	2.0
45	31	7.0	38	26	10.0	15	32	4.5	46	30	9.0

(CONTINUED ON PAGE 57)

(TABLE C, CONTINUED)

TWO-TAIL TEST AT 1 PERCENT LEVEL
PROBABILITY--INVERSIONS ARE LESS THAN 16 OR GREATER THAN 84 = 0.90 PERCENT.

TWO-TAIL TEST AT 5 PERCENT LEVEL
PROBABILITY--INVERSIONS ARE LESS THAN 23 OR GREATER THAN 77 = 4.40 PERCENT.

GROUP 1
BETWEEN TEST 1 AND TEST 2 THERE IS 1 INVERSION.
THERE IS A SIGNIFICANT DIFFERENCE AT 1 PERCENT LEVEL.

GROUP 2
BETWEEN TEST 1 AND TEST 2 THERE ARE 0 INVERSIONS.
THERE IS A SIGNIFICANT DIFFERENT AT 1 PERCENT LEVEL.

GROUP 3
BETWEEN TEST 1 AND TEST 2 THERE ARE 0 INVERSIONS.
THERE IS A SIGNIFICANT DIFFERENCE AT 1 PERCENT LEVEL.

GROUP 4
BETWEEN TEST 1 AND TEST 2 THERE IS 1 INVERSION.
THERE IS A SIGNIFICANT DIFFERENCE AT 1 PERCENT LEVEL.

TABLE D

ANOVA FOR CHILDREN'S MANIFEST ANXIETY SCALE SCORES

Source	df	s.s.	m.s.	F
Between Groups	K-1-3	411.8	137.2	.265(n.s.)
Within Groups	N-K=36	18,599.7	516.6	
Total	N-1=39	19,011.5		

*Note: NLD-Boys
NLD-Girls
LD-Boys
LD-Girls
n.s.=not significant

Statistical Definitions

$\leqslant Xt=214.25$

$(\leqslant Xt)^2=185,997.0$

$\leqslant X^2t=20,159$

$Mt=21.4$

$C=1,147.4$

$N=40$

$n=10$

$K=4$

TABLE E

ANOVA FOR EDUCATION APPERCEPTION TEST SCORES

Source	df	s.s.	m.s.	F
Between Groups*	K-1=3	40.3	13.4	.93(n.s.)
Within Groups	N-K=36	519.5	14.4	
Total	N-1=39	559.8		

*Note: NLD-Boys
NLD-Girls
LD-Boys
LD-Girls
n.s.=not significant

Statistical Definitions

$\leq Xt=1,273$

$(\leq Xt)^2=405,535$

$\leq X^2t=41,073$

$Mt=31.8$

$C=40,513.2$

$N=40$

$n=10$

$K=4$

TABLE F

EAT SUBTEXT MEANS ACCORDING TO SEX

	Subtests			
Subjects	**Reaction Toward Learning	*Peer Relations	**Reaction to Authority	*Home Attitudes Toward Learning
NLD-Boys	9.7	6.6	10.0	5.8
NLD-Girls	9.7	6.0	10.2	5.1
LD-Boyds	10.4	6.4	10.2	4.9
LD-Girls	11.3	6.7	9.5	5.4

Note: *Maximum Score = 15,Mean of Sub-Test=5

**Maximum Score = 10,Mean of Sub-Test=5

TABLE G

EAT SUBTEST SCORES: NLD BOYS AND GIRLS

Subject No.	Reaction Toward Learning	Peer Relations	Reactions to Authority	Home Attitudes Toward Learning
Boys				
1	8	7	8	6
34	8	5	12	7
35	11	6	11	7
40	12	8	10	4
3	10	7	11	6
4	9	6	10	6
10	10	9	10	5
33	10	6	7	4
2	10	7	9	6
45	9	5	13	7
Girls				
36	10	7	10	6
6	10	6	10	5
5	11	5	10	7
37	12	8	13	4
39	11	4	10	3
7	10	5	9	5
8	9	6	9	5
9	9	5	11	5
43	9	8	10	6
38	6	6	10	4
	$\Sigma X^2=38.20$	$\Sigma X^2=32.20$	$\Sigma X^2=40.56$	$\Sigma X^2=26.90$
	$\Sigma X=194$, Mean=9.7	$\Sigma X=126$, Mean=6.3	$\Sigma X=203$, Mean=10.15	$\Sigma X=109$, Mean = 5.4
	SD=1.38	SD=1.27	SD=1.42	SD=1.16

TABLE H

EAT SUBTEST SCORES: LD BOYS AND GIRLS

Subjects No.	Reaction Toward Learning	Peer Relations	Reaction to Authority	Home Attitudes Toward Learning
Boys				
24	12	7	13	5
11	10	6	5	7
28	11	6	12	3
20	12	9	15	6
12	9	6	8	3
13	9	6	8	3
16	9	4	10	4
22	8	7	9	7
23	12	7	14	6
15	12	6	9	5
Girls				
47	12	6	10	6
41	10	7	8	9
18	11	8	10	4
44	10	6	8	4
21	9	6	10	5
14	9	7	10	8
19	9	8	10	9
17	8	6	8	6
42	12	7	11	6
46	12	6	10	3
	$\Sigma X=217$, Mean=10.8 $\Sigma X^2=34.50$ SD=1.31	$\Sigma X=131$, Mean=6.5 $\Sigma X^2=21.00$ SD=1.02	$\Sigma X=197$, Mean=14.9 $\Sigma X^2=606.60$ SD=5.50	$\Sigma X=109$, Mean=5.4 $\Sigma X^2=68.90$ SD=1.86