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LEARNING DISABILITIES AND PREDELINQUENT BEHAVIOR OF JUVENILES

A Treatment/Study Project Sponsored by the

Oklahoma Association for Children with Learning Disabilities

OACLD

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OKLAHOMA CRIME COMMISSION
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PREFACE

Parents and professionals involved in the Oklahoma Association for Children with Learning Disabilities have long been concerned about learning disabled youth and their problems with the laws of society.

Early diagnosis and appropriate educational programs for remediation would seemingly merit top priority as a most obvious method of prevention for the problem of delinquency among learning disabled youth. However, convincing appropriate authorities that the area of learning disabilities exists has proved to be the critical issue.

Anyone concerned with the area of learning disabilities will tell you the path we travel is a long, rough, and rocky one in the attempt to meet the needs of our children and youth. In response to the many times we have heard the comment "Prove to me, the existence of the, validity of the area"....this Research Grant is one of the many steps we have taken down that rocky path.

The Project represents many long hours of effort on the part of many individuals. We are extremely grateful to all of those persons for their sincere participation.

We have no illusions that some will accept the project with enthusiasm, and others will reject the effort with scorn; that there will be criticism--and applause. It has been our experience as an organization that there will be many steps along that rocky path before we reach the end. Be assured we will travel that road to its end, in the intent interest and concern for our children and youth with learning disabilities everywhere.

Oklahoma Association for Children with Learning Disabilities, Incorporated

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Meeting rooms and counseling space were provided by the Cleveland County Youth Bureau under the direction of Mr. Dan Broughton.

Volunteer counselor/tutors were recruited through the cooperation of instructors and professors at the University of Oklahoma. Credit toward the baccalaureate degree was earned by university student volunteers who participated as counselor/tutors in this project.

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INTRODUCTION

On July 20, 1969, Neil Armstrong stepped onto the moon. On July 21 the Flat Earth Society of London declared it all a hoax. In 1974, long after the fact of space travel, the Flat Earth Society still insists that it's all an illusion, that men cannot and have not traveled through space. This sort of ignorance is merely eccentric with no harm done to anyone. While educators chuckle about the Flat Earth Society in the 21st Century, no one gets hurt through disbelief in the established facts of space exploration.

A similar controversy exists in the recognition and treatment of learning disability. For several decades parents and professionals have struggled to help thousands of children who do not learn on schedule in the regular academic curriculum. A mountain of evidence has accumulated defining various attributes and characteristics of this student population. The existence of learning disability is as real as Neil Armstrong's footprint on the moon, yet many intelligent adults insist there is no such problem. This disbelief cannot be shrugged away as harmless. Evidence reveals that 70% to 90% of the convicted felons in our penal systems are learning disabled. Hundreds of studies have documented the need for early intervention if disabled learners are to become productive adults. Those who seek solutions for learning disabilities sometimes must work against the opposition of disbelievers. But the problem is real. Learning disability exists, and thousands of our youth are in serious trouble because their needs have not been recognized or met.

In the spring of 1973 concerned members of OACLD agreed to sponsor a definitive study of juveniles in Cleveland County, Oklahoma. The project was considered first a treatment/intervention program to help these students avoid further social and academic failure. Second, the project was designed to answer certain questions about Oklahoma youth who come to the attention of juvenile authorities through unacceptable behavior:

1. To what extent are these youngsters learning disabled?
2. What family patterns do they have in common?
3. How much do poor eyesight and impaired hearing contribute to the problem?

4. To what extent are these youngsters involved in drug and/or alcohol usage?
5. What kinds of predelinquent acts do these young people commit?
6. Is it feasible for communities to organize volunteers to serve as counselor/tutors for juveniles who need help?
7. Are the tests generally used by schools adequate to identify learning disabled youngsters?
8. What soft neurological signs do these juveniles exhibit in common?
9. Can undesirable juvenile behaviors be changed through part-time attention from sympathetic adults?

During the fall of 1973, more than 100 adolescents were screened during in-take interviews by officials of the Cleveland County Youth Bureau. 81% of these students exhibited learning disability symptoms on the screening test. Within the civil rights framework expressed by court decisions, a "control group" of 40 students was identified as probably learning disabled. These youngsters received the usual counseling services offered by the Youth Bureau. Forty other students were asked to participate as the Study Group in extensive psychological, educational, perceptual, and neurological evaluation. Members of the Study Group were assigned to volunteer counselor/tutors recruited from undergraduate classes at the University of Oklahoma. The counselor/tutors received training in basic literacy instruction for the juveniles who were especially weak in reading and spelling skills. Their role was to give personal attention to these youngsters, several of whom seemed headed for delinquency unless certain behaviors and attitudes were changed. The Study Group remained involved with assigned counselor/tutors for six months following their in-depth evaluation.

This project could never have succeeded without a great deal of time and effort by interested adults. More than 600 hours of professional diagnostic and counseling time were invested by Dr. Nancy Bess Farley, Dr. Ellidee Thomas and her staff, and Dr. Dale Jordan and his associates. 3000 hours were spent by the volunteer counselor/tutors during their six-month involvement with the 40 students. It would be impossible to acknowledge all of the contributions and help received from many other interested people. This project has been an extensive team effort, requiring cooperation and good will from everyone concerned.

The nine basic questions have been answered, while others have been raised. An indisputable conclusion has been drawn: Learning Disabilities are alive and active in our youth, especially in adolescents who have trouble with school and the community. Those who doubt this statement should get involved with the population described in this report. In the case of the learning disabled child, witnessing his struggle is to believe that his learning problems are real and that they contribute heavily to his social misbehavior.

DESCRIPTION OF THE PROJECT

Definition of Learning Disability

A controversy that will never be fully resolved revolves about the term "learning disability." One study has reported 83 synonyms of learning disability used during a five-year period by writers in professional journals. Numerous national conferences have been held to resolve differences of opinion so that a standard definition can be obtained. Such meetings invariably end in frustration because professionals cannot agree on standard usage. At the outset of this project, it was recognized that no definition was established. "Learning Disability" was regarded as impairment in normal abilities to succeed in academic studies. Along with academic trouble, there is often an attending pattern of social behaviors which Oklahoma authorities deem unacceptable or "predelinquent." The most direct measures of academic learning are reading skill (decoding), spelling skill (encoding), and expressing ideas in oral and/or written form for classroom assignments. An indirect measure of classroom learning ability is the score pattern on such tests as the WISC or WAIS, the Bender, the Rorschach, and certain projective tests.

For the purposes of this project, learning disability was defined as significant impairment in visual memory, auditory memory, auditory-to-motor, visual-to-motor, or auditory-to-visual skills. The project staff is aware that these are ambiguous, non-specific terms until they are defined and qualified. However, these perceptual areas do constitute the danger zones for children called "learning disabled." A subject was included in this project if he demonstrated difficulties with recall of information in sequence (visual memory), difficulty with familiar spelling patterns (auditory memory), and/or difficulty with graphic control (handwriting). This non-theoretical approach to learning disability is on the practical level of everyday classroom performance. Our primary concerns were with helping these young people succeed in school and in society. Therefore, our concept of learning disability was school oriented.

Screening Procedure for Identifying Subjects for Control and Study Groups

A pressing problem which juvenile authorities face is how laymen can identify learning disability symptoms when the services of highly trained diagnosticians are not available. In 1968 steps were begun to construct a simple instrument that would reliably reveal learning disability patterns for classroom teachers or lay persons who are not trained as diagnosticians. Through the cooperation of several penal institutions and Adult Basic Education (ABE) agencies, the JORDAN WRITTEN SCREENING TEST FOR SPECIFIC READING DISABILITIES was devised and refined. The JWST is purposely non-standardized. While there are advantages in standardized instruments, the validity of standardized scores depends upon close adherence to time limitations, prescribed testing procedures, and skilled administration. These circumstances usually are not possible for most authorities who deal with learning disabled youth. The JWST was designed for use by lay persons after minimal in-service training. Interpretation of the JWST is best done by experienced examiners, but the administration is satisfactorily achieved by adults who are well enough educated to follow certain basic procedures.

As illustrated in Appendix A, the JWST asks the subject to do certain simple tasks. Visual memory is screened by having him write the alphabet, his birthdate, the days of the week, and the months of the year from memory. No visual clues are allowed, nor is the work timed. How the subject proceeds with these tasks is more important for diagnostic and remedial purposes than how quickly he performs. Auditory memory is screened partly through analysis of spellings of the days and months and partly by dictation of 39 simple words. Graphic skills are further evaluated by having the subject copy certain geometric shapes. This series of tasks has proved effective in screening for probable learning disability. Its chief value is that lay persons can administer the test in rather primitive circumstances, either in groups or one-to-one.

During the fall of 1973 more than 100 juveniles were screened by the JWST during in-take interviews at the Youth Bureau offices in Norman and Moore, Oklahoma. 81% manifested learning disability symptoms. From these screening tests Dr. Jordan and his staff selected 80 subjects who were then divided into the Control Group and the Study Group. Figure 1 lists the findings from the JORDAN WRITTEN SCREENING TEST.

Figure 1: Symptoms of Perceptual Deficits from the JORDAN WRITTEN SCREENING TEST FOR SPECIFIC READING DISABILITY

Control Group: M = 27 F = 13 N = 40 Study Group: M = 32 F = 8 N = 40

	Control Group	Study Group
Severe Visual Memory Deficits	M = 4 15% F = 0	M = 8 25% F = 0
	N = 4 10%	N = 8 20%
Pronounced Visual Memory Deficits	M = 11 41% F = 7 54%	M = 18 56% F = 1 12.5%
	N = 18 45%	N = 19 47.5%
Moderate Visual Memory Deficits	M = 10 37% F = 6 46%	M = 5 16% F = 3 37.5%
	N = 16 40%	N = 8 20%
Adequate Visual Memory	M = 2 7% F = 0	M = 1 3% F = 4 50%
	N = 2 5%	N = 5 12.5%
Severe Auditory Memory Deficits	M = 9 33% F = 0	M = 18 56% F = 0
	N = 9 22.5%	N = 18 45%
Pronounced Auditory Memory Deficits	M = 8 30% F = 10 77%	M = 13 41% F = 2 25%
	N = 18 45%	N = 15 37.5%
Moderate Auditory Memory Deficits	M = 10 37% F = 2 15%	M = 1 3% F = 6 75%
	N = 12 30%	N = 7 17.5%
Adequate Auditory Memory	M = 0 F = 1 8%	M = 0 F = 0
	N = 1 2.5%	N = 0
Severe Dysgraphia	M = 1 4% F = 0	M = 2 6% F = 0
	N = 1 2.5%	N = 2 5%
Pronounced Dysgraphia	M = 14 52% F = 2 15%	M = 25 78% F = 3 37.5%
	N = 16 40%	N = 28 70%
Moderate Dysgraphia	M = 12 44% F = 9 69%	M = 5 16% F = 5 62.5%
	N = 21 52.5%	N = 10 25%
No Dysgraphia	M = 0 F = 2 15%	M = 0 F = 0
	N = 2 5%	N = 0

In Depth Psychological Evaluation

Dr. Nancy Bess Farley used an exhaustive battery of tests for her psychological evaluations of the Study Group. For every subject she used the WISC or WAIS, the Bender Drawing Test, the House-Tree-Persons test, and the Rorschach. For further verification of certain tendencies with many of the subjects she also administered the Minnesota Perceptual Diagnostic Test and the Benton Visual Retention Test. Figure 2 presents a summary of her findings.

Evaluation of Classroom Performance Capabilities

Several aspects of classroom performance were evaluated as part of this project. Emphasis was placed upon five areas: Decoding (ability to use phonetic analysis in independent reading); Encoding (ability to write correctly from dictation or memory); Perception (ability to hold visual or auditory memory patterns without scrambling, cluttering, reversing, rotating, or perseverating); Vision (ability to hold sustained clear focus for near tasks); and Hearing (ability to receive speech at acceptable levels.)

Decoding was evaluated by the JORDAN ORAL SCREENING TEST (see Appendix B). This phonetic analysis test presents vocabulary items in the same sequence in which principles of phonics are introduced in most school reading programs. The JOST score correlates closely with the comprehension scores obtained from the Metropolitan Achievement Test reading sections. Figure 3 summarizes the results of the JORDAN ORAL SCREENING TEST.

Encoding was evaluated by dictated spelling lists from the Metropolitan Achievement Test battery, depending upon the subject's ability to spell from memory. Grade level lists were impossible for several of the subjects to attempt. See Figure 4.

Perceptual patterns in classroom performance were evaluated by the MALCOMESIUS SPECIFIC LANGUAGE DISABILITY TEST or the SLINGERLAND SCREENING TESTS FOR IDENTIFYING CHILDREN WITH SPECIFIC LANGUAGE DISABILITY. Figure 5 shows the perceptual patterns of the Study Group.

Figure 2: Learning Disability Symptoms according to WISC/WAIS Subscores when all test data was taken into account.

M = 30 F = 8 N = 38

INFORMATION:	poor remote memory for facts and events; impaired alertness to environment	M	22	73%
		F	5	62.5%
		N	27	71%
COMPREHENSION:	poor judgment; poor common sense reasoning; faulty moral sense; social immaturity	M	10	33%
		F	2	25%
		N	12	31.5%
ARITHMETIC:	poor ability to pay attention to/ concentrate upon numerical material; low basic arithmetic skills	M	17	57%
		F	3	37.5%
		N	20	53%
SIMILARITIES:	poor verbal concept ability	M	16	53%
		F	2	25%
		N	18	47%
VOCABULARY:	poor word knowledge	M	14	47%
		F	3	37.5%
		N	17	45%
DIGIT SPAN:	poor immediate auditory memory	M	21	70%
		F	3	37.5%
		N	24	63%
PICTURE COMPLETION:	poor visual attention, concentration, and discrimination	M	17	57%
		F	5	62.5%
		N	22	58%
PICTURE ARRANGEMENT:	poor visual sequencing, anticipating, and planning; inadequate social alertness	M	13	43%
		F	3	37.5%
		N	16	42%
BLOCK DESIGN:	poor ability to abstract, synthesize, do analytical reasoning	M	8	27%
		F	1	12.5%
		N	9	24%
OBJECT ASSEMBLY:	poor visual-motor perceptual organizing ability; low ability to perceive part/whole relationships	M	9	30%
		F	3	37.5%
		N	12	31.5%
CODING/DIGIT SYMBOL:	poor ability to copy; low visual-motor speed; faulty immitative learning	M	8	27%
		F	2	25%
		N	10	26%

Figure 3: Decoding (phonics application) - JORDAN ORAL SCREENING TEST

Male = 32			Female = 8		
2½ to 3½ years above grade level	= 1	3%	½ to 1½ years above grade level	= 1	12.5%
1½ to 2½ years above grade level	= 2	6%	At grade level	= 1	12.5%
½ to 1½ years above grade level	= 3	9.4%	½ to 1½ years below grade level	= 3	37.5%
At grade level	= 6	19%	1½ to 2½ years below grade level	= 2	25%
½ to 1½ years below grade level	= 5	16%	2½ to 3½ years below grade level	= 2	12.5%
1½ to 2½ years below grade level	= 4	12.5%			
2½ to 3½ years below grade level	= 3	9.5%	Average Decoding Level of Female Subjects was -1.2 (below grade level)		
3½ to 4½ years below grade level	= 3	9.5%			
4½ to 5½ years below grade level	= 3	9.5%	12.5% functioned above grade level		
6½ to 7½ years below grade level	= 1	3%	12.5% functioned at grade level		
7½ to 8½ years below grade level	= 1	3%	37.5% functioned 1½ years or more below grade level		

Average Decoding Level of Male Subjects was -1.4 (below grade level)

9% functioned 1½ years or more above grade level

19% functioned at grade level

47% functioned 1½ years or more below grade level

25% functioned 3½ years or more below grade level

6% functioned 6½ years or more below grade level

Figure 4: Spelling (encoding) from Memory Using the Metropolitan Achievement Dictated Spelling Tests

Male = 29		
At grade level	= 4	14%
½ to 1½ years below grade level	= 6	21%
1½ to 2½ years below grade level	= 3	10%
2½ to 3½ years below grade level	= 4	14%
3½ to 4½ years below grade level	= 1	3.5%
4½ to 5½ years below grade level	= 1	3.5%
5½ to 6½ years below grade level	= 2	7%
6½ to 7½ years below grade level	= 3	10%
7½ to 8½ years below grade level	= 2	7%
8½ to 9½ years below grade level	= 3	10%

Average Encoding Level of Male Subjects was -3.6

66% functioned 1½ years or more below grade level

41% functioned 3½ years or more below grade level

35% functioned 5½ years or more below grade level

17% functioned 7½ years or more below grade level

Female = 8		
No female subject functioned at or above grade level		
½ to 1½ years below grade level	= 3	37.5%
1½ to 2½ years below grade level	= 2	25%
2½ to 3½ years below grade level	= 3	37.5%

Average Encoding Level of Female Subjects was -1.9

Figure 5: Symptoms of Perceptual Deficits from MALCOMESIUS SPECIFIC LANGUAGE DISABILITY TEST or SLINGERLAND SCREENING TESTS FOR IDENTIFYING CHILDREN WITH SPECIFIC LANGUAGE DISABILITY

M = 25 F = 6 N = 31

Severe Visual-to-Motor Deficits	M =	13	52%
	F =	2	33%
	N =	15	48%
Moderate Visual-to-Motor Deficits	M =	7	28%
	F =	3	50%
	N =	10	32%
Severe Visual Memory Deficits	M =	10	40%
	F =	2	33%
	N =	12	39%
Moderate Visual Memory Deficits	M =	11	44%
	F =	1	17%
	N =	12	39%
Severe Auditory-to-Motor Deficits	M =	22	88%
	F =	4	67%
	N =	26	84%
Moderate Auditory-to-Motor Deficits	M =	2	8%
	F =	0	
	N =	2	6.5%
Moderate Auditory Memory Deficits	M =	1	4%
	F =	0	
	N =	1	3%
Severe Auditory-to-Visual Deficits	M =	15	60%
	F =	0	
	N =	15	48%
Moderate Auditory-to-Visual Deficits	M =	4	16%
	F =	3	50%
	N =	7	23%
Unable to Do Tests	M =	1	4%
	F =	0	
	N =	1	3%

Virtually no studies of learning disabilities have dealt with binocularity, the ability of the eye muscle systems to function properly for the prolonged periods of time demanded by classroom performance. Acuity (20/20 vision) has been the visual standard generally used, as measured by the Snellen Chart of equivalent acuity tests. Usually 20/20 vision is estimated while the subject uses only one eye at a time (monocularity). Strangely enough, educators and clinicians have rarely noticed how remote this kind of measure is from daily classroom performance. Students do not read or write using only one eye at a time. Classroom performance requires simultaneous (binocular) vision. Unless the visual system functions with adequate binocularity (both eyes functioning simultaneously), a student cannot cope with sustained desk work.

In this study the KEYSTONE VISUAL SURVEY TESTS, using No. 46 telebinocular, were used along with the SPACHE BINOCULAR READING TEST. Figure 6 and Figure 7 reveal the extensive visual deficiencies we found in the Study Group.

The hearing of each member of the Study Group was evaluated at length by Dr. Robert Russell, who used a variety of audiological tests. His results are summarized in Figure 8. Only a small minority of the subjects exhibited interfering hearing problems.

Figure 8: Audiological Evaluation M = 31 F = 8 N = 39

Significant Loss in Right Ear	M = 2	7%
	F = 0	
	N = 2	5%
Slight Loss in Right Ear	M = 1	3%
	F = 0	
	N = 1	3%
Normal Hearing Pattern	M = 28	90%
	F = 8	100%
	N = 36	92%

Figure 6: Vision Defects that Interfere with Sustained Classroom Performance as Indicated by the KEYSTONE VISUAL SURVEY TEST, using No. 46 telebinocular

Male = 31
Female = 7
N = 38

Suppression (Far)	M = 26	84%	Overconvergence (Near)	M = 6	19%
	F = 4	57%		F = 1	14%
	N = 30	79%		N = 7	18%
Suppression (Near)	M = 26	84%	Poor Figure/Ground Discrimination	M = 3	10%
	F = 5	71%		F = 0	
	N = 31	82%		N = 3	8%
Underconvergence (Far)	M = 8	26%	Excessive Strain with watering and burning	M = 10	32%
	F = 1	14%		F = 1	14%
	N = 9	24%		N = 11	29%
Underconvergence (Near)	M = 17	55%	Diplopia (double image)	M = 1	3%
	F = 4	57%		F = 1	14%
	N = 21	55%		N = 2	5%
Hyperphoria	M = 5	16%	Poor Stereopsis	M = 3	10%
	F = 1	14%		F = 1	14%
	N = 6	16%		N = 4	11%
Hypophoria	M = 9	29%	Referred to Specialist for Treatment	M = 9	29%
	F = 3	34%		F = 3	43%
	N = 12	32%		N = 12	32%
Poor Acuity (Far)	M = 16	52%	Bilateral Amblyopia confirmed by Specialist	M = 1	11%
	F = 4	57%		F = 1	33%
	N = 20	53%		N = 2	17%
Poor Acuity (Near)	M = 26	68%	Astigmatism confirmed by Specialist	M = 6	67%
	F = 5	71%		F = 2	100%
	N = 26	68%		N = 8	67%
Overconvergence (Far)	M = 2	7%			
	F = 1	14%			
	N = 3	8%			

Figure 7: Visual Deficits indicated by the SPACHE BINOCULAR READING TEST

Male = 30
Female = 7
N = 37

Suppression Left Eye	M = 9	30%
	F = 3	43%
	N = 12	32%
Suppression Right Eye	M = 16	53%
	F = 1	14%
	N - 17	46%
Poor Acuity (could not hold focus or clear up blurred focus)	M = 15	50%
	F = 7	100%
	N = 22	60%
Overshooting (skipping)	M = 9	30%
	F = 0	
	N = 9	24%
Poor Saccadics (rough uneven eye movements)	M = 3	10%
	F = 0	
	N = 3	8%
Double Image	M = 2	7%
	F = 1	14%
	N = 3	8%
Excessive Strain	M = 2	7%
	F = 0	
	N = 2	5%
Could Not Decode	M = 1	3%
	F = 0	
	N = 1	3%
No Problems Indicated	M = 1	3%
	F = 0	
	N = 1	3%

Neurological Evaluation

Dr. Ellidee Thomas and her staff conducted extensive neurological and EEG tests with members of the Study Group. Figures 9, 10 and 11 summarize their findings. Approximately two-thirds of the subjects manifested soft neurological patterns which the medical team regarded as significant.

Figure 9: Neurological Deficits M = 30 F = 6 N = 36

Significantly Abnormal Neurological Patterns	M = 17	57%
	F = 5	83%
	N = 22	61%
Equivocally Normal Neurological Patterns	M = 2	6.5%
	F = 0	
	N = 2	6%
Normal Neurological	M = 11	36.5%
	F = 1	17%
	N = 12	33%
Mixed Laterality	M = 9	30%
	F = 1	17%
	N = 10	28%

Figure 10: Results of EEG Evaluations M = 26 F = 7 N = 33

Abnormal	M = 2	8%	Normal	M = 24 92%
	F = 1	14%		F = 6 86%
	N = 3	9%		N = 30 91%

Figure 11: Specific Neurological Deficits

I. Motor (hopping, gripping, walking, reflexing)

M = 30 F = 6 N = 36

Normal Motor Patterns	M =	21	70%
	F =	5	83%
	N =	26	72%
Abnormal Motor Patterns	M =	9	30%
	F =	1	17%
	N =	10	28%

II. Coordination (thrusting tongue; flexing fingers; walking rail; touching finger to nose and thumb; alternating movements)

M = 30 F = 6 N = 36

Normal Coordination	M =	11	37%
	F =	0	
	N =	11	31%
Abnormal Coordination	M =	19	63%
	F =	6	100%
	N =	25	69%

III. Sequencing

M = 30 F = 6 N = 36

Normal Sequencing	M =	20	67%
	F =	5	83%
	N =	25	69%
Abnormal Sequencing	M =	10	33%
	F =	1	17%
	N =	11	31%

Family Background

The project staff devised an extensive questionnaire asking 355 specific questions about each subject's prenatal history, childhood development, medical history, family patterns, etc. Fully analyzing this amount of data was impossible for our limited project. The purpose of this lengthy questionnaire was to determine whether future studies could feasibly incorporate such surveys to illuminate each subject's life style and developmental patterns. The long questionnaire proved simple to administer in the hands of a skilled interviewer.

From this survey we learned certain facts which families of learning disabled children often have in common. Figures 12, 13, 14, 15, and 16 present information which could be useful for counselors and volunteers in helping adults better understand these youngsters. For example, 72% of the Study Group were from broken homes. 41% of the subjects lived with single mothers, indicating little or no male influence in the home.

Figure 12. Birth History of Subjects M = 29 F = 8 N = 37

Forceps Delivery	M =	1	3.5%	Incubation Required	M =	7	24%
	F =	1	12.5%		F =	0	
	N =	2	5%		N =	7	19%
Caesarean Section	M =	1	3.5%	Low Birth Weight	M =	4	14%
	F =	0			F =	0	
	N =	1	3%		N =	4	11%
Breach Presentation	M =	5	17%	Trauma at Birth	M =	22	76%
	F =	0			F =	2	25%
	N =	5	13.5%		N =	24	65%
Premature Birth	M =	4	14%				
	F =	1	12.5%				
	N =	5	13.5%				

Figure 13. History of Learning Difficulties in Blood Relatives

M = 30 F = 8 N = 38

Relatives with Learning Difficulty	M =	14	47%
	F =	8	100%
	N =	22	58%

Figure 14. History of Excessive Alcohol Usage by Blood Relatives

M = 30 F = 8 N = 38

Relatives Using Alcohol Excessively	M =	22	73%
	F =	7	87.5%
	N =	29	76%

Figure 15. Married Status of Parents M = 32 F = 8 N = 40

Divorced	M =	18	56%
	F =	6	65%
	N =	24	60%
Separated	M =	1	3%
	F =	0	
	N =	1	2.5%
Widowed (deceased)	M =	2	6%
	F =	0	
	N =	2	5%
Parents Unknown	M =	2	6%
	F =	0	
	N =	2	5%
Unbroken Home	M =	9	28%
	F =	2	25%
	N =	11	27.5%

Subject Living With:

Single Father	M =	3	9%
	F =	1	12.5%
	N =	4	10%
Single Mother	M =	13	41%
	F =	3	37.5%
	N =	16	40%
Remarried Parent:	M =	3	9%
	F =	2	25%
	N =	5	12.5%
Natural Parents Together	M =	9	28%
	F =	2	25%
	N =	11	27.5%
Other Relatives	M =	2	6%
	N =	0	
	N =	2	5%

Figure 16: Religious Preference of Subjects

M = 32 F = 8 N = 40

Catholic	M =	4	12.5%
	F =	1	12.5%
	N =	5	12.5%
Baptist	M =	8	25%
	F =	3	37.5%
	N =	11	27.5%
Presbyterian	M =	2	6%
	F =	0	
	N =	2	5%
Methodist	M =	3	9%
	F =	0	
	N =	3	7.5%
Nazarene	M =	3	9%
	F =	0	
	N =	3	7.5%
Mennonite	M =	1	3%
	F =	0	
	N =	1	2.5%
Disciples of Christ	M =	1	3%
	F =	0	
	N =	1	2.5%
Holiness	M =	0	
	F =	1	12.5%
	N =	1	2.5%
Protestant	M =	6	19%
	F =	3	37.5%
	N =	9	22.5%
No Preference	M =	4	12.5%
	F =	0	
	N =	4	10%

NATURE OF THE SUBJECTS

Racial Structure of the Study Group

Only one member of the Study Group was other than white. One black male subject was involved. All of the Control Group were white. Most of the juveniles screened for the project resided in all-white residential centers of Cleveland County. Very few black families live in these communities.

Reasons for Referral to Juvenile Authorities

Most of the young people screened for the project came to the attention of the Youth Bureau because of unacceptable social behavior. Figure 17 presents the sixteen categories of behavior for which the subjects were referred. The most active age groups were the 13- and 14-year-olds with several subjects involved in more than one offense. The most frequent complaints were local curfew violations and runaway.

Broken Homes

As Figure 15 illustrates, 72% of the subjects came from broken homes, 60% of which were due to divorce. 41% of the boys lived with single mothers without daily influence of a male parent. This pattern of family structure undoubtedly has contributed to social misconduct and academic instability.

Use of Marijuana, Drugs, Alcohol, and Tobacco

During the evaluation the subjects talked freely of participating in illicit drug experiences. All but one subject habitually smoked cigarettes. 85% openly discussed using marijuana "frequently," meaning one or more times a week. 40% admitted to having taken "acid" at least one time. 65% often drank beer, along with wine and liquor as available. Four of the subjects, including one 12-year-old, had been hospitalized for drug overdose. Several subjects began cigarette smoking, using "pot," and "popping pills" as early as 3d grade.

Figure 17: Reasons for Referral to Juvenile Authorities

Male = 32 Female = 8 N = 40

	Curfew Violation	Truancy	Runaway	Petty Larceny	Grand Larceny	Drug Possession	Drug Usage	Shoplifting	Vandalism	Malicious Mischief	Burglary	Fighting	Family Problems	Drunkenness	Joy Riding	Firearms	Incidents Before Study	Incidents During/After Study	Increase/ Decrease in Incidents
Age 11																			
M = 1	6							3				2					4	7	+ 75%
F = 0																			
N = 1																			
Age 12																			
M = 5		1	1				1	1			2	1	2			1	6	4	- 33%
F = 0																			
N = 5																			
Age 13																			
M = 9	2		2	1	3					4		2	1			1	13	3	- 77%
F = 2			1										1			2	3	0	-100%
N = 11																			
Age 14																			
M = 9	2	1	1		2	5	1	1	3		3	1		1	1		17	5	- 71%
F = 4	1	2	5			1		1				1	3				11	3	- 73%
N = 13																			
Age 15																			
M = 6	2			1	4	1			1			1					9	1	- 89%
F = 0																			
N = 6																			
Age 16																			
M = 2				1	1									1			3	0	-100%
F = 2			3			1				1		1					6	0	-100%
N = 4																			
Total																			
N = 40	12	4	13	3	10	8	2	9	4	5	5	9	7	2	1	4	72	23	- 68%
%	30	10	33	8	25	20	5	23	10	13	13	23	18	5	3	10			

Psychological Adjustment

The psychological evaluations revealed an overall picture of intense anxiety, very poor self-image, lack of self-confidence, and negative self-fulfilling prophecy. Most of the subjects believed that there was little use to try because failure was inevitable. Only a few of the Study Group exhibited well enough balanced ego structure for overcoming the problems identified by our staff. This overall picture supports other studies which have shown that the later intervention is made in life, the less likely the subject is to succeed. Most of the social acting out of the Study Group could be attributable to the extremely low self-image of these students. A majority of the subjects could be characterized as losers, individuals who have never known the uplifting affects of winning. Unconventional social conduct has become their chief compensating outlet. More than half of the Study Group manifested significantly hostile, potentially destructive tendencies. Their usual treatment from teachers, school officials, and community leaders has been negative. Few adults try any longer to cope with the needs of these youngsters. Labels have been affixed so firmly that positive changes are difficult to bring about. With approximately half of the subjects, a new school environment would be necessary before they could receive a truly favorable chance for a new beginning. Within this context of failure and rejection, conflict is inevitable. Being unable to cope with school, home, and community has left inerradicable scars.

RESULTS OF THE STUDY

The original proposal for this study stated:

> "At the end of the project two factors will be determined by comparing the group involved in the tutorial/counseling program with a similar group whose learning disabilities were not treated. Academic achievement will be measured by the number of behavior problems bringing the juveniles into further contact with the Youth Bureau . . . "

Academic Success

Figure 18 presents a summary of the school achievement patterns during the term of the project. 52.5% of the Study Group made Average Achievement during the first three months, as compared with 2.5% of the Control Group who received no extra attention or help. During the second semester of the project, 45% of the below-average achievers increased their school work to Average Achievement levels, while none of the Control Group did so. In the second semester twelve of the Control Group subjects dropped out of school or were suspended, compared with eight of the Study Group. Three of those from the Study Group improved failing grades to passing by enrolling in correspondence courses. Overall, the project clearly helped a majority of the Study Group stay in school and improve their academic standings, in spite of the negative factors identified by the psychological evaluation.

Rate of Recidivism

Figure 17 summarizes the referral history of the Study Group. The last two columns, "Incidents During/After Study" and "Increase/Decrease in Incidents," show dramatic reduction in unacceptable social behavior. The younger subjects (Ages 11 and 12) were more prone to recidivism than the older subjects. There was 100% reduction in incidents in Age 16 group, 89% reduction for Age 15, 70% reduction for Age 14, and 77% to 100% reduction for Age 13. These figures represent much time invested by the volunteer counselor/tutors, many of whom were in touch night and day with their subjects. According to our stated objectives, the project was highly successful in reducing the incidence of unacceptable social conduct among the Study Group.

Figure 18: School Achievement Patterns During Term of Project

	Below Average Achievement	Average Achievement	Improved to Average Achievement	Improved to Above Average Achievement	Dropped Out	Suspended	Failed	Improved to Passing through Correspondence Courses	No Record Available
Previous Year	C30 = 75% S28 = 70%	C2 = 5% S12=30%							C8 = 20%
First Semester of Study	C26 = 65% S 8 = 20%	C1 = 2.5% S21=52.5%	C 0 S9 = 22.5%		C3 = 7.5 S2 = 5%	C2 = 5% S1 = 2.5%			C8 = 20%
Second Semester Study	C24 = 60% S 2 = 5%	C 0 S5 =12.5%	C 0 S18 = 45%	C 0 S7 = 17.5%	C6 = 15% S 0	C6 = 15% S5 = 12.5%	C 0 S1=2.5	C 0 S3 = 7.5%	C8 = 20%

Key: Control Group listed first in each column. Study Group listed second in each column.
N = 40 N = 40

CONCLUSIONS FROM THE STUDY

Dependability of Diagnostic Instruments to Identify Learning Disability

One outcome of the project was not anticipated by the staff. Our interpretation of this finding is tentative, yet it bears comment in this report. Of themselves, the WISC and WAIS did not prove adequate in identifying learning disability in the Study Group. The diagnostic staff did not depend solely upon the Wechsler tests, as many psychometrists and school officials do in determining placement of children in special classes. Figure 19 shows the percentage of cases in which the WISC or WAIS Verbal, Performance, and Full Scale IQ scores did not deviate from the norm to warrant a diagnosis of Learning Disability. It is the wide-spread practice of many professionals to judge learning disability according to the spread of Wechsler scores. In fact, officials often rely entirely upon such scores for student classification and placement. Had we followed this practice, 37% of the subjects would not have been included in the Study Group. These students proved seriously learning disabled when we went beyond the Wechsler scores in our investigation.

Figure 19. Normal and Abnormal Spread on WISC/WAIS Scores

M = 30 F = 8 N = 38

WISC/WAIS Scores with Less than 10-point difference			WISC/WAIS Scores with More than 10-point difference		
Male	= 11	37%	Male	= 19	63%
Female	= 3	37.5%	Female	= 5	62.5%
Number	= 14	37%	Number	= 21	63%

A detailed summary of the WISC/WAIS score patterns along with each student's Decoding Level and Encoding Level is presented in Figure 20. The project staff is concerned that professionals who work with learning disabled youth take into account more than a single score pattern. For example, one male subject, Age 12-6, manifested only four points difference between the WISC Verbal and Performance scores. In most school situations, he would have been regarded as not learning disabled because of this score. However, the boy was found to be seriously disabled in Visual Memory and Auditory Memory (see Figure 21). His peak Decoding Level was two years below his grade placement, and his Encoding Level was approximately five

Figure 20: Summary of WISC/WAIS Scores, Decoding/Encoding Levels, and Degree of Achievement in Academic Areas Requiring Reading and Spelling

Sex	Age	WISC/WAIS Scores	Discrepancy between V/P	Grade in School	Decoding Level	Encoding Level	Degree of Achievement in Reading/ Spelling
F	16-9	V 89 P 89 FS 88	0	(11.2) dropped out	9.7	8.2	- 1.5 Dec. - 3.0 Enc.
M	16-8	V 115 P 112 FS 115	- 3	11.1	10.4	6.8	- .7 Dec. - 4.3 Enc.
M	15-0	V 89 P 93 FS 90	- 4	9.3	6.9	6.7	- 2.4 Dec. - 2.6 Enc.
M	12-6	V 98 P 102 FS 99	- 4	6.3	4.3	1.5	- 2.0 Dec. - 4.8 Enc.
M	13-1	V 106 P 110 FS 109	- 4	8.3	7.6	6.7	- .7 Dec. - 1.6 Enc.
F	16-1	V 101 P 96 FS 99	- 5	10.3	9.4	8.6	- .9 Dec. - 1.7 Enc.
M	11-7	V 94 P 99 FS 96	- 5	6.3	8.1	6.1	+ 1.5 Dec. At grade level Enc.
M	13-1	V 89 P 94 FS 91	- 5	7.2	5.2	6.4	- 2.0 Dec. - .8 Enc.
M	13-6	V 91 P 86 FS 88	- 5	8.3	4.9	1.5	- 3.4 Dec. - 6.8 Enc.
M	12-8	V 95 P 101 FS 98	- 6	7.2	8.6	7.5	+ .6 Dec. .7 Enc.
F	14-6	V 90 P 97 FS 93	- 7	9.2	9.3	8.5	At grade level Dec. - .7 Enc.
M	14-2	V 97 P 90 FS 93	- 7	8.2	5.3	1.5	- 2.9 Dec. - 6.7 Enc.
M	13-1	V 91 P 83 FS 86	- 8	7.2	6.4	not given	- .8 Dec.

Sex	Age	WISC/WAIS Scores	Discrepancy between V/P	Grade in School	Decoding Level	Encoding Level	Degree of Achievement in Reading/ Spelling
M	14-7	V 91 P 100 FS 95	- 9	9.2	1.9	1.5	- 7.3 Dec. - 7.7 Enc.
M	14-11	V 90 P 80 FS 84	- 10	9.2	7.6	6.4	- 1.6 Dec. - 2.8 Enc.
F	13-2	V 90 P 100 FS 94	- 10	8.2	8.9	6.9	+ .7 Dec. - 1.3 Enc.
F	13-7	V 89 P 78 FS 84	- 11	8.2	7.3	7.1	- .9 Dec. - 1.1 Enc.
		NOTE: This subject was discovered to be legally blind. WISC score in Performance Areas considered invalid.					
M	15-9	V 110 P 99 FS 105	- 11	9.3	10.6	9.4	+ 1.3 Dec. At grade level Enc.
M	13-3	V 101 P 90 FS 96	- 11	7.4	7.8	6.1	+ .4 Dec. - 1.3 Enc.
M	13-2	V 92 P 104 FS 98	- 12	8.2	8.0	6.9	At grade level Dec. - 1.3 Enc.
M	11-11	V 105 P 117 FS 112	- 12	6.4	6.1	5.5	At grade level Dec. - .9 Enc.
M	14-5	V 108 P 120 FS 115	- 12	8.2	7.8	1.5	- .4 Dec. - 6.7 Enc.
F	13-11	V 96 P 108 FS 107	- 12	8.2	6.8	6.5	- 1.4 Dec. - 1.7 Enc.
M	15-1	V 87 P 103 FS Not reported by examiner	- 16	8.4	7.7	6.9	- .7 Dec. - 1.5 Enc.
M	14-8	V 85 P 97 FS 97	- 12	9.3	4.4	1.5	- 4.9 Dec. - 7.8 Enc.
F	14-1	V 76 P 90 FS 81	- 14	9.2	5.8	6.0	- 2.4 Dec. - 3.2 Enc.

Sex	Age	WISC/WAIS Scores	Discrepancy between V/P	Grade in School	Decoding Level	Encoding Level	Degree of Achievement in Reading/ Spelling
M	14-10	V 100 P 115 FS 108	- 15	10.2	2.5	1.5	- 7.7 Dec. - 8.7 Enc.
M	17-0	V 82 P 98 FS 88	- 16	(10.4) dropped out	5.4	1.5	- 5.0 Dec. - 8.9 Enc.
M	14-9	V 104 P 86 FS 95	- 18	9.1	9.5	not given	At grade level Dec.
M	12-6	V 82 P 100 FS 90	- 18	7.3	2.9	1.7	- 4.4 Dec. - 5.6 Enc.
M	15-11	V 86 P 104 FS 94	- 18	10.2	7.4	6.8	- 2.8 Dec. - 3.4 Enc.
F	14-4	V 92 P 110 FS 101	- 18	9.3	6.9	6.8	- 2.4 Dec. - 2.5 Enc.
M	14-2	V 85 P 104 FS 93	- 19	8.3	7.4	6.5	- .9 Dec. - 1.8 Enc.
M	14-10	V 99 P 120 FS 109	- 21	9.4	11.2	9.1	+ 1.8 Dec. At grade level Enc.
M	15-5	V 120 P 96 FS 109	- 24	9.3	12.5	not given	+ 3.2 Dec.
M	15-5	V 72 P 100 FS 84	- 28	10.3	5.7	1.5	- 4.6 Dec. - 8.5 Enc.
M	13-10	V 86 P 117 FS 101	- 31	8.4	8.5	7.6	At grade level Dec. - .8 Enc.
M	15-0	V 130 P 94 FS 115	- 40	10.3	11.1	9.4	+ .8 Dec. - .9 Enc.
M	15-1	V 70 P 115 FS Not reported by examiner	- 41	9.2	6.9	6.7	- 2.3 Dec. - 2.5 Enc.
M	12-7	V 81 P 131 FS 107	- 54	7.2	3.5	1.5	- 3.7 Dec. - 5.7 Enc.

years retarded because of disability in auditory perception. This student desperately needed placement in a Learning Disability environment, but such placement would have been overlooked in most school districts because of professional reliance on the Wechsler score patterns. Figure 21 illustrates his disability through the dictated spelling words from the Metropolitan Achievement Test.

Figure 21: Male Subject, Age 12-6 WISC: Verbal 98, Performance 102, Full Scale 99

1 want	want	15 ch	colored
2 wood	would	16 hevy	heavy
3 moth	mouth	17 bigges	biggest
4 cbost	coast	18 me	measure
5 making	making	19 maneger	manager
6 unkel	uncle	20	breakfast
7 brum	drew	21 Thorh.	toward
8 fear	fair	22	advertise
9 lesen	lesson	23 happen	happened
10 ras	raise	24 remeder	remember
11 lane	lamb	25 advis d	advised
12 bett	beet	26 hader	neighbor
13 weden	wedding		
14 lurning	learning		

In contrast, a male subject, Age 14-10, manifested a twenty-one point spread between Verbal and Performance scores on the WISC (V = 99, P = 120). With no extra help at all he was achieving two years above grade level in Decoding and at grade level in Encoding. He did not need placement in special learning classes in spite of his Wechsler pattern. These findings within the Study Group ring a warning bell that all professionals involved with learning disability must be careful in determination of learning disability and in student placement. No single test is of itself sufficient for making such an important decision regarding a youngster's academic future.

Community Use of Volunteer Counselor/Tutors

This project has demonstrated that lay persons can be effectively recruited and utilized by local communities to influence predelinquent youngsters toward acceptable behavior. The concept of stroking was the key to success in this project. Not all of the young adults succeeded in helping their subjects reach academic success or stay out of trouble, but a majority of the counselor/tutors did establish rewarding interpersonal relationships with their subjects. Most of the subjects were so seriously retarded in Decoding and Encoding skills that full academic success was impossible. The counselor/tutors stroked these disabled learners, filling certain needs for personal attention while reducing the need to act out as a means of gaining attention. Several subjects did make academic gains because of specific tutoring in Decoding/Encoding skills which they had not learned in school. Subsequently they were able to perform capably in class. The major success of this project lay in the ability of the counselor/tutors to change attitudes, to reduce hostile feelings, and to improve self-image within the subjects. Receiving the undivided attention of an interested adult changed the perspective of the older subjects in particular. It is feasible for communities to organize such low-key counselor/tutor programs with little expense. If consistent program leadership is maintained, volunteers can carry out effective counseling/tutoring relationships with disabled learners.

Visual Needs of Learning Disabled Students

The most dramatic discovery we made was in the area of vision. Figure 6 shows that twelve of the forty subjects (30%) needed referral to a vision specialist because of their extremely cluttered Keystone and Spache test patterns. Eight of the twelve referrals were found to have astigmatism with poor acuity which was easily corrected with glasses. There was instant, dramatic improvement in vision for these eight young people. In studying their tests with poor vision in mind, the diagnostic staff realized what a critical factor vision is in being successful on tests and in daily class work. After getting new glasses, three of the subjects discussed their astonishment at seeing leaves on trees and birds in the sky for the first time in their lives. One 16-year-old boy who could not see a chart across the room during his educational evaluation, burst into Dr. Jordan's office to show off his new glasses. "Doc, I just saw some birds!" he exclaimed. "What are you going to do now?" Dr. Jordan asked. "I'm going to take a good look at that girl I've been dating!" he replied.

With newly corrected vision, ten of the twelve subjects began to read books for the first time in their lives. With encouragement from parents and their counselor/tutors, these subjects made significant improvement in school achievement the second semester. The project staff was left with the tantalizing question: How many more underachievers in Oklahoma have seriously defective vision that has not been identified by the Snellen screening standard? All twelve of the visual referrals had passed school vision tests with no recommendation for further visual care.

RECOMMENDATIONS

Experience and information gained through this project warrant the following recommendations:

1. It is feasible for local community groups to organize and carry out effective volunteer programs to help youngsters in trouble. Our project was imperfect, and we did not solve all the problems we identified. However, a majority of the Study Group subjects responded positively. Academic performance increased while social behavior improved significantly. These changes were not accomplished by skilled professionals. They were brought about by interested lay persons who expressed personal concern for the students involved. Positive stroking, being unselfishly available, and going an extra mile in offering friendship accomplished the changes we noted. This kind of help costs nothing. Most Oklahoma communities are capable of such outreach and intervention.

2. It is essential that juvenile authorities, school counselors, and whoever else is involved with predelinquency determine whether students are doing poorly because of learning disability. This study has demonstrated the feasibility of lay persons administering a simple instrument such as the JORDAN WRITTEN SCREENING TEST. This test is available without charge to any agency wishing to use it. Also available at some expense are the MALCOMESIUS SPECIFIC LANGUAGE DISABILITY TEST and the SLINGERLAND SCREENING TESTS FOR SPECIFIC LANGUAGE DISABILITY. Definite diagnosis must be made by skilled clinicians, of course, but juvenile authorities can easily add simple screening procedures to established interview/in-take routines. The high incidence of learning disability among juvenile and adult offendors calls for the inclusion of this information in counseling situations.

3. No single test score should ever be relied upon to determine learning disability or placement of problem students. As our staff discovered, approximately one third of the learning disabled subjects would not have been regarded as needing special help by the spread of their Wechsler scores alone. No agency should permit placement without additional screening

for Visual Memory and Auditory Memory deficits which frequently are not manifested by the standardized tests now in use. The critical factor is not a standardized score but the pragmatic ability of the student to Decode and Encode in daily classroom assignments. This capability can be assessed by lay persons who would then make referrals on the basis of screening test results.

4. It is imperative that more thorough visual screening be done with the population regarded as learning disabled. The monocular Snellen test is apparently inadequate for this population. No one has yet determined whether unsatisfactory vision is separate from or a part of the learning disability syndrome, but our study has illustrated the high incidence of faulty vision among poorly performing students. Lay persons can be trained to administer such screening tests as the KEYSTONE VISUAL SURVEY TESTS and the SPACHE BINOCULAR READING TESTS. Simply estimating whether a student has "20/20 vision" is not enough. Remedial effort is wasted when students cannot sustain adequate near vision for school tasks. Community programs must include visual screening as an integral part of service projects to help predelinquent youngsters.

Appendix A

JWST—Jordan Written Screening Test

1. Write the Alphabet

a B c D e E g h i T K l m m o P q r s T u u w v y z

2. Write Your Birthday (month, day, year)

october 31 89

3. Write the Days of the Week

monDay TuEday WensDay
ThersDay FriDay

4. Write the Months of the Year

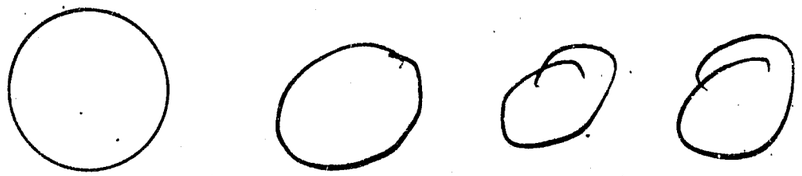
Janyewery FeBuwery a l i may
Jun Jali Mach oToBer noveBer
DesemBer

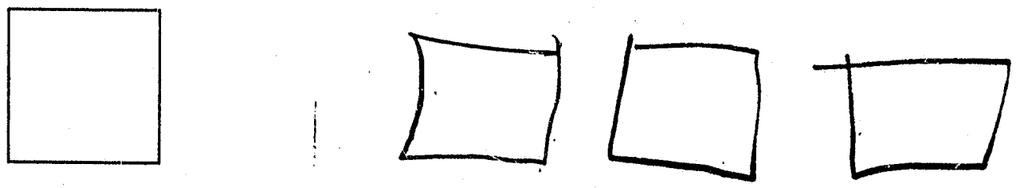
6. Write the Words I Say for You

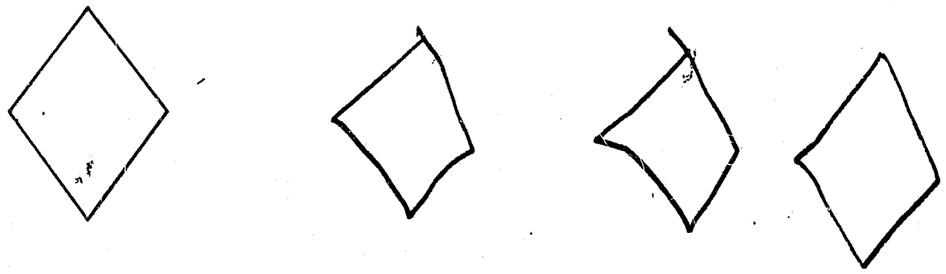
1.	Dig	14.	Pig	27.	Big
2.	aTe	15.	[illegible]	28.	Goos
3.	lay	16.	les	29.	Tos
4.	D[illegible]	17.	Buck	30.	[illegible]ck
5.	parTy	18.	PiTy	31.	Trig
6.	Brown	19.	[illegible]	32.	For
7.	Barn	20.	Brand	33.	From
8.	Gail	21.	Bed	34.	[illegible]
9.	saw	22.	was	35.	[illegible]
10.	cinDe	23.	King	36.	SlaT
11.	ciTy	24.	cinT	37.	[illegible]
12.	his	25.	Thing	38.	how
13.	on	26.	now	39.	how

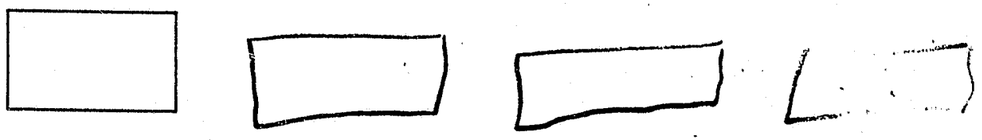
1. dig	14. pig	27. big
2. ate	15. rode	28. goes
3. play	16. please	29. toes
4. duck	17. buck	30. track
5. party	18. pretty	31. try
6. brown	19. born	32. for
7. barn	20. brand	33. from
8. girl	21. bird	34. stop
9. saw	22. was	35. post
10. kind	23. king	36. slat
11. city	24. cent	37. salt
12. this	25. think	38. how
13. on	26. no	39. who

7. Copy Each Drawing Three Times









Scoresheet - JOST (Jordan Oral Screening Test)

Name_____ Date_____ (yr mo day)

Reading Level_____ Birthdate_____ (yr mo day)

Age_____ (years months)

DIRECTIONS: Read the words aloud. If you come to a word you don't know, say "Skip."

Level One	Level Two	Level Three	Level Four	Level Five
1. and	1. we	1. same	1. can't	1. answers
2. up	2. can	2. gave	2. circus	2. silver
3. but	3. jump	3. suddenly	3. herself	3. careless
4. so	4. foot	4. rope	4. smart	4. grave
5. it	5. help	5. heaven	5. platform	5. speaking
6. he	6. baby	6. happened	6. exclaim	6. already
7. something	7. mother	7. start	7. understand	7. delicious
8. run	8. play	8. farmer	8. wouldn't	8. dumpling
9. me	9. come	9. along	9. street	9. legion
__10. see	__10. bark	__10. around	__10. learn	__10. nation

Level Six	Level Seven	Level Eight
1. examples	1. radiation	1. redundancy
2. criticize	2. medicine	2. forfeit
3. graciously	3. customarily	3. commercially
4. snuggle	4. yearling	4. standardized
5. natural	5. future	5. impressionable
6. punishment	6. knowledge	6. extraordinary
7. exercise	7. stallion	7. physiology
8. obey	8. abundance	8. zephyr
9. musical	9. accidental	9. environmental
__10. religion	__10. preoccupy	__10. intoxicating

NOTE: A perfect score on this page yields a reading level of 8.0, which is considered the lower limit of functional literacy. A total score of less than 8.0 indicates functional illiteracy; the lower the score, the less literate the individual.

Level Nine	Level Ten	Level Eleven	Level Twelve
1. destitution	1. felonious	1. reprehensibly	1. vermifuge
2. burlesque	2. disproportionate	2. excruciating	2. avuncular
3. projectile	3. antigravity	3. xerography	3. auspiciously
4. brogue	4. irrepressible	4. ionospheric	4. antisecessionism
5. humiliation	5. instantaneously	5. coalition	5. verisimilitude
6. supplemental	6. fiance	6. idiosyncrasy	6. disassociation
7. irrelevance	7. naive	7. eccentricity	7. extracurricular
8. ingeniously	8. requisition	8. envisage	8. iconoclasticism
9. depreciation	9. noninflammable	9. affability	9. prestidigitation
10. intangibly	10. countermanded	10. irrationality	10. psychosomatic

Level Thirteen

1. unameliorative
2. omnipotence
3. hyperkinesis
4. pseudosophisticate
5. lasciviously
6. hypothyroidism
7. automatism
8. interlocutor
9. irrefragable
10. semiconsciousness

NOTE: The Reading Level score is the individual's peak performance level, or the very best he can do. This is called the frustration level. The instructional level must begin at least two years below this point, and leisure reading will be three or more years below the Reading Level score.

1. Record the number of correct responses on each line.
2. Add to find TOTAL CORRECT.
3. Insert decimal in tens place in TOTAL CORRECT.
4. This is the Reading Level

Example: Reading Level 8.3 would mean 8th year, 3rd month grade equivalency.

Correct Responses

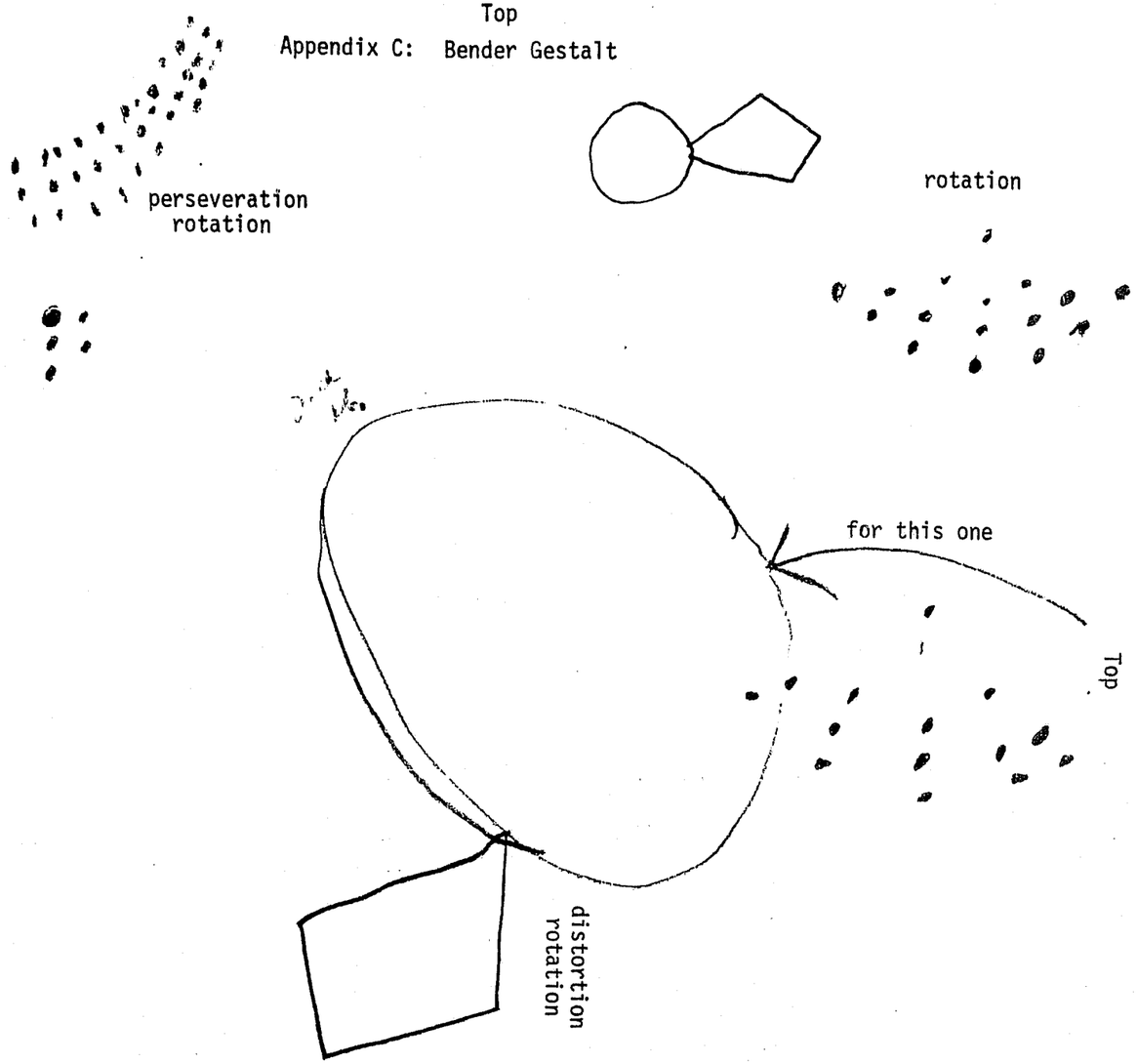
One_____
Two_____
Three_____
Four_____
Five_____
Six_____
Seven_____
Eight_____
Nine_____
Ten_____
Eleven_____
Twelve_____
Thirteen_____

TOTAL CORRECT_____

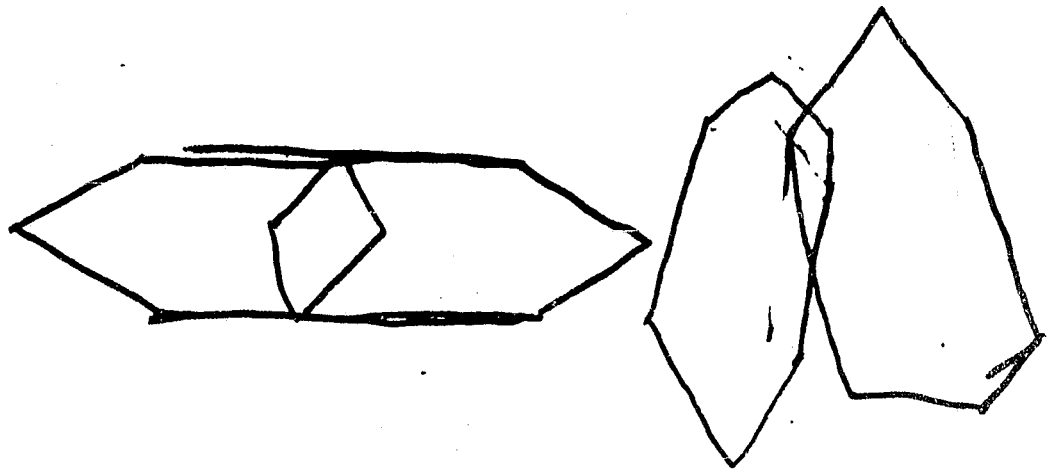
Reading Level_____

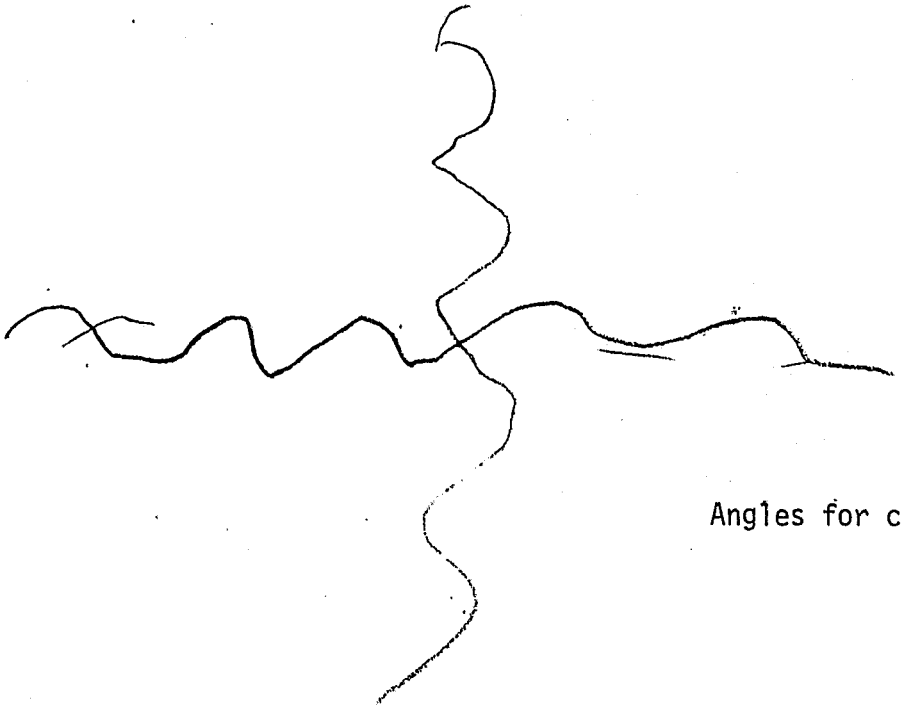
Top

Appendix C: Bender Gestalt



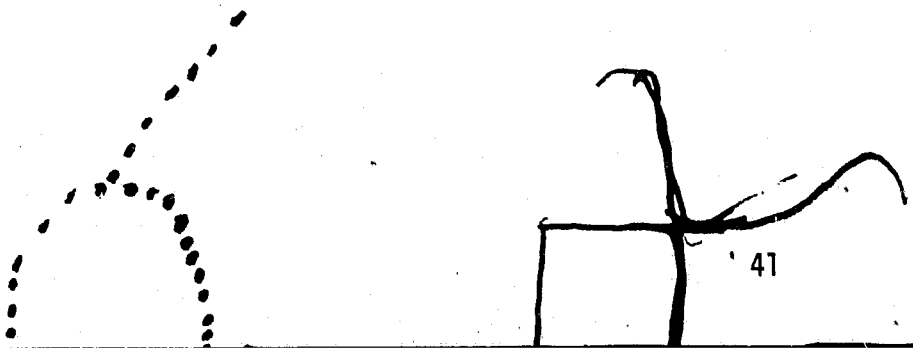
Top



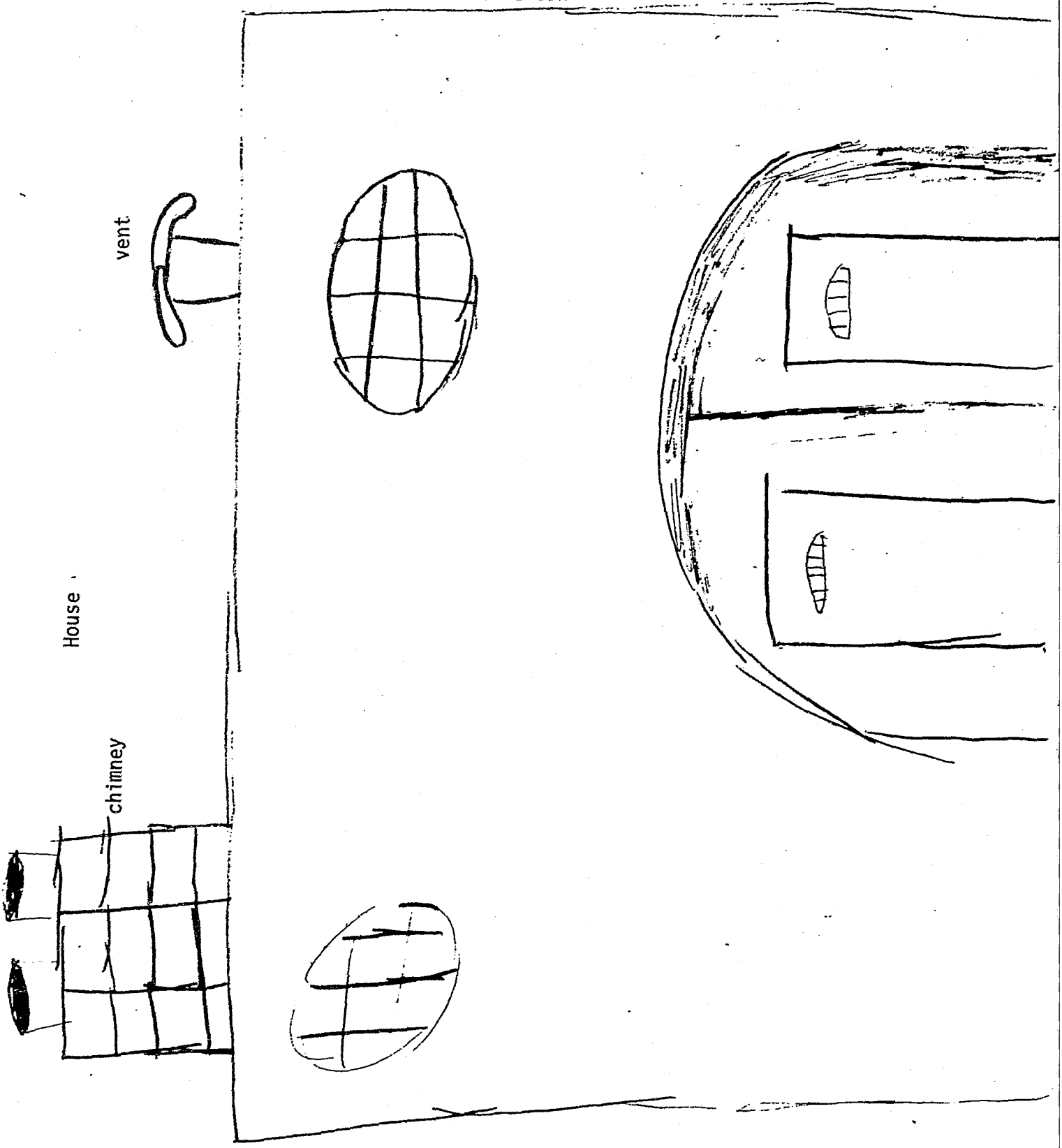


Angles for curves

rotation



House-Tree-Person



Virility strings

Basic strength
of personality

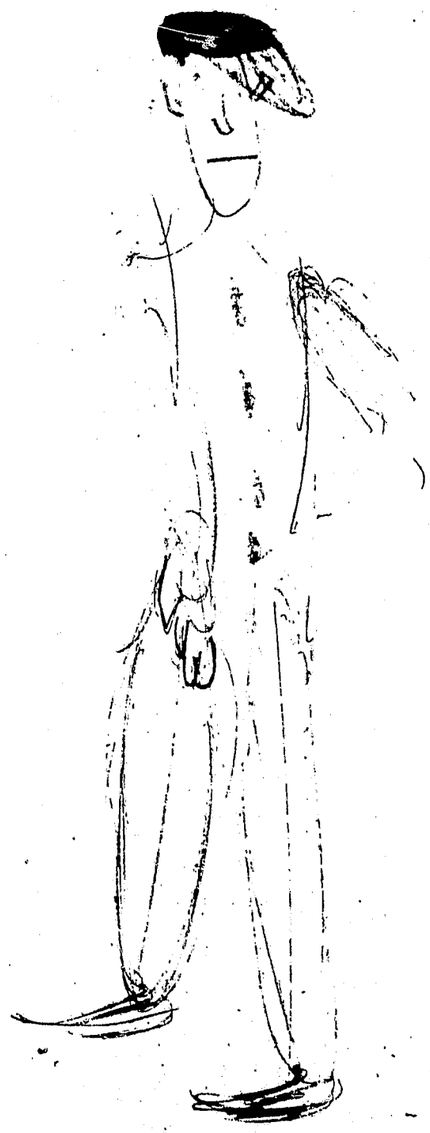
Limbs

*insecure--
feelings of
inadequacy

--mole hole

rotted away

limb



Feels very stupid
and inadequate

introvert

END