

**INSTITUTE
FOR
RESEARCH
IN
LEARNING
DISABILITIES** 
The University of Kansas
Lawrence, Kansas, 66045
Emphasis on Adolescents and Young Adults

RESEARCH APPROACHES TO STUDYING THE
LINK BETWEEN LEARNING DISABILITIES
AND JUVENILE DELINQUENCY

J. Stephen Hazel, Jean B. Schumaker
and Donald D. Deshler

Monograph #9

January, 1980

The University of Kansas Institute for Research in Learning Disabilities is supported by a contract (#300-77-0494) with the Bureau of Education for the Handicapped, Department of Health, Education, and Welfare, U. S. Office of Education, through Title VI-G of Public Law 91-230. The University of Kansas Institute, a joint research effort involving the Department of Special Education and the Bureau of Child Research, has specified the learning disabled adolescent and young adult as the target population. The major responsibility of the Institute is to develop effective means of identifying learning disabled populations at the secondary level and to construct interventions that will have an effect upon school performance and life adjustment. Many areas of research have been designed to study the problems of LD adolescents and young adults in both school and non-school settings (e.g., employment, juvenile justice, military, etc.)

Co-Directors: Edward L. Meyen
Richard L. Schiefelbusch

Research Coordinator: Donald D. Deshler

Associate Coordinator: Jean B. Schumaker

Institute for Research in Learning Disabilities
The University of Kansas
313 Carruth-O'Leary Hall
Lawrence, Kansas 66045

```
*****  
*  
*  
*  
* The preparation of this document was supported by a government  
* contract. The views expressed here are those of the Institute,  
* and do not necessarily reflect official positions of the Bureau  
* of Education for the Handicapped, DHEW, USOE.  
*  
*  
*  
*****
```

Cooperating Agencies

Were it not for the cooperation of many agencies in the public and private sector, the research efforts of The University of Kansas Institute for Research in Learning Disabilities could not be conducted. The Institute has maintained an on-going dialogue with participating school districts and agencies to give focus to the research questions and issues that we address as an Institute. We see this dialogue as a means of reducing the gap between research and practice. This communication also allows us to design procedures that: (a) protect the LD adolescent or young adult, (b) disrupt the on-going program as little as possible, and (c) provide appropriate research data.

The majority of our research to this time has been conducted in public school settings in both Kansas and Missouri. School districts in Kansas which are participating in various studies include: United School District (USD) 384, Blue Valley; USD 500, Kansas City; USD 469, Lansing; USD 497, Lawrence; USD 453, Leavenworth; USD 233, Olathe; USD 305, Salina; USD 450, Shawnee Heights; USD 512, Shawnee Mission, USD 464, Tonganoxie; USD 202, Turner; and USD 501, Topeka. Studies are also being conducted in Center School District and the New School for Human Education, Kansas City, Missouri; the School District of St. Joseph, St. Joseph, Missouri; Delta County, Colorado School District; Montrose County, Colorado School District; Elkhart Community Schools, Elkhart, Indiana; and Beaverton School District, Beaverton, Oregon. Many Child Service Demonstration Centers throughout the country have also contributed to our efforts.

Agencies currently participating in research in the juvenile justice system are the Overland Park, Kansas Youth Diversion Project and the Douglas, Johnson, and Leavenworth County, Kansas Juvenile Courts. Other agencies have participated in out-of-school studies-- Achievement Place and Penn House of Lawrence, Kansas, Kansas State Industrial Reformatory, Hutchinson, Kansas; the U.S. Military; and the Job Corps. Numerous employers in the public and private sector have also aided us with studies in employment.

While the agencies mentioned above allowed us to contact individuals and supported our efforts, the cooperation of those individuals--LD adolescents and young adults; parents; professionals in education, the criminal justice system, the business community, and the military--have provided the valuable data for our research. This information will assist us in our research endeavors that have the potential of yielding greatest payoff for interventions with the LD adolescent and young adult.

ABSTRACT

A relationship between learning disabilities and juvenile delinquency has been hypothesized for a period of time. Research on this relationship has been clouded with methodological difficulties. These problems include the definitions of learning disabilities and juvenile delinquency, the use of appropriate experimental designs, and the difficulty of obtaining informed consent in the court system.

Recent research has sought to overcome these difficulties and provide an estimate of the prevalence of learning disabilities among both adjudicated and non-adjudicated youth. This research has shown twice the incidence of learning disabilities among court-adjudicated, institutionalized youths. In addition, research, using self-report delinquency measures, has shown no differences between learning disabled and non-learning disabled youths on the number of delinquent acts committed. Several hypotheses which have been proposed to explain these situations are discussed. Current research which is examining these hypotheses is presented.

Intervention approaches are surveyed which include remedial education, parent training, and youth skill development. A current study through The University of Kansas Institute for Research in Learning Disabilities which is intervening with learning disabled youth in the juvenile court is described. Finally, key questions in the field are proposed with suggestion for future research.

Learning disabilities can have an effect not only on the formal education of the child, but may also have effects which extend beyond this education to other areas of a child's life. For example, a number of practitioners in the field of juvenile delinquency have argued that a large percentage of juvenile delinquents suffer from learning disabilities (e.g., Berman, 1974; Poremba, 1974, 1975; Jacobson, 1974, 1976). Further, some have felt that learning disabilities are a primary causative factor in juvenile delinquency (Jacobsen, 1976). If learning disabilities are a causative factor in delinquency, then treating adjudicated youths for learning problems will benefit not only the youths' education, but also their entire life situation.

The possibility of a link between LD and JD has only recently been subjected to experimental verification. The study of the relationship between LD and JD must proceed in a logical fashion. The first necessary step is to establish if there are differences in the incidence of learning disabilities between adjudicated and non-adjudicated youths. If there is a high rate of learning disabilities among juvenile offenders, the next step is to identify the reasons for this higher rate and establish if there is a causal relationship between LD and JD.

However, this is easier said than done because a number of methodological problems must be addressed before research on the relationship between learning disabilities and juvenile delinquency can be profitable. One of the first problems encountered by a researcher

is the lack of a uniform definition of learning disabilities. Learning disabilities have been defined in a number of different ways from quite restrictive definitions which include only specific academic or information processing disabilities to very broad definitions which encompass any learning deficit which hurts the child's development (see Murray, 1976, for a discussion of the different definitions). This state of confusion regarding the definition of LD potentially undermines all research in the field of LD and generally reflects the state of the field. According to Cruickshank (1977), the field of learning disabilities "possesses an inadequate research base" (p. 58). As a result, some researchers (e.g., Deshler, Schumaker, Warner, and Alley, 1978) have targeted the empirical determination of explicit criteria for the definition of learning disabilities as a primary research objective. At The University of Kansas Institute for Research in Learning Disabilities, these researchers have made strides in identifying such criteria. Once such criteria have been specified, it is critical that any study which attempts to address the incidence of learning disabilities among adjudicated and non-adjudicated youths clearly specify the definitional criteria of learning disabilities as a priori to the study and consistently and rigidly apply this definition to research samples. It is not sufficient to test youths on a number of given tasks and note differences between adjudicated and non-adjudicated youths; this simply shows that different groups of youths vary on different tasks. Only if an objective set of criteria of learning disabilities is applied to all youths in a study can the level of incidence of learning disabilities be meaningfully assessed.

The definition of juvenile delinquency is also problematic because a researcher must deal with samples exhibiting ranges of seriousness of offense as well as frequency of offenses. One must also consider

the degree of penetration of youths into the court system. For example, some youth's cases are handled informally while others involve formal intake and hearings and placement in an institution. Some studies which have evaluated the incidence of learning disabilities among institutionalized offenders may have exaggerated the incidence of learning problems, since institutionalized youth may be a select population within the juvenile delinquent population at large. The juvenile delinquent population is quite varied and the role that learning disabilities play may vary within the different subgroups of juvenile delinquents. One profitable approach might be to identify different levels of encapsulation into the juvenile justice system and measure the incidence of learning disabilities at each of these levels.

Another problem in studying the relationship between learning disabilities and juvenile delinquency is the use of the appropriate experimental designs. A number of studies have measured the incidence of learning disabilities in delinquent populations using their own tests of learning disabilities and then compared these results to levels of learning disabilities reported in other studies of non-adjudicated youths (for example, Podboy & Mallory, 1977) This type of analysis does not provide a test of the different levels of incidence of learning disabilities in the two populations because of the number of possible differences in the definitions and criteria of learning disabilities. A method of choice is to test matched populations of delinquent and non-delinquent youths on the same tests and objectively determine the incidence of learning disabilities in each population. This type of design assesses, for the particular definition of learning disability, the levels of incidence in the populations.

A final problem in studying learning disabilities within the juvenile court system concerns informed consent and confidentiality. Confidentiality is a hallmark of juvenile court philosophy and means that court records are not open for public inspection. The juvenile court may open the records for research particularly when the parents and youths have agreed to allow the researcher access to these records. However, obtaining this agreement or informed consent is not always easy. Parents are often concerned about harmful information being circulated about their child. The problem becomes particularly difficult when the research requires contact with the youth's school. In this case, school personnel may be informed of the youth's juvenile court contact and consequently discriminate against the youth. We are presently conducting such research and find that only 37% of the sampled parents have agreed to allow us to contact their son or daughter's school and identify ourselves as juvenile court personnel. This problem creates difficulties in both obtaining sufficiently large samples and representative samples.

Research on the Relationship of LD to JD

A number of people in the field of juvenile delinquency have, using professional experience and observation, made estimates of the proportion of learning disabled individuals in the delinquent population. They have estimated that as many as 90% of the juvenile delinquent population suffer from learning disabilities (Compton, 1974). However, very few of these estimates have resulted from controlled studies which allow for an interpretation of the validity of the data. All of the reports through 1975 were reviewed by Murray (1976) who concluded that only two studies adequately examined the

incidence of learning disabilities among adjudicated and non-adjudicated youths. Berman and Siegal (1974) compared institutionalized delinquents to adolescents at a local public school on a number of tests for learning disabilities. Results showed that the delinquent youths performed worse on the Wechsler IQ Test and all components of the Halstead Neuropsychological Battery except the Tactual Performance Test (Time). The adjudicated youths also performed significantly poorer on the Halstead-Reitan Speech Test and the Reitan Trailmaking Test (A and B). There were no differences on the Seashore Rhythm Test, the Finger Oscillation Test, or Reitan's Test for Sensory Imperception.

The second study, conducted by Hurwitz, Bibace, Wolff, and Rowbothan (1972) examined the performance of three groups of boys on the Lincoln-Oseretsky Test of Motor Development. Each group was composed of 15 boys. One group was from a residential treatment center for learning disabilities, the second group was from a detention center for adjudicated youths, and the third group was from a local junior high school. The results showed that both the learning disabled and juvenile delinquent youths performed significantly worse on the rhythmical portions of the test. In a part of the study, Hurwitz et al. (1972) compared 13 juvenile delinquents at a state training school to 13 youths at a local public school and found that the delinquent youths performed worse on the motor-tapping tests, naming of repeated objects, and the three administered subtests of the Stroop Color-Work Interference Test.

The results of the Berman and Siegal (1974) and the Hurwitz et al. (1972) studies show that adjudicated youths perform more poorly than non-adjudicated youths on a number of different perceptual-motor tasks.

In addition, the adjudicated youths did not perform significantly better than the control youths on any of the tests in either of the studies. Unfortunately, these results do not demonstrate that juvenile delinquents have a higher incidence of learning disabilities because neither of these studies proposed a definition of learning disabilities and categorized the youths according to the definition. It is not clear what meaning to attach to differences on different perceptual-motor tasks without an objective set of criteria for learning disabilities.

Murray (1976) concluded from his review of these and other studies that "the existence of a causal relationship between learning disabilities and delinquency has not been established; the evidence for a causal link is feeble" (p. 65). He continues, "... even though most of the quantitative studies can be criticized for not grappling with learning disabilities as such, they persistently suggest a pattern of learning handicaps" (p. 67). Murray concludes that although a number of professionals in the field of juvenile delinquency report high levels of learning disabilities among adjudicated youths, the research studies up to 1975 do not strongly support such observations. He recommended that future studies measure the incidence of learning disabilities among different groups of youths such as chronic offenders, first time offenders, and non-adjudicated youths. Murray also recommended an evaluation of the effectiveness of the diagnosis and treatment of learning disabilities in the remediation of juvenile delinquency.

Some of Murray's recommendations have been implemented in a joint project between National Center for State Courts (formerly with the Creighton University's Institute for Business, Law, and

Social Research) and the National Association for Children with Learning Disabilities. Part of the results of the study were reported by Campbell (1978) and the procedural details were outlined by Barrows, Campbell, Slaughter, and Trainor (1977). This study compared the incidence of learning disabilities in 12 to 15 year-old institutionalized boys with and without a record of adjudicated behavior. Complete data were available for 984 non-delinquent boys and 397 delinquent boys. The researchers formulated an objective definition of learning disabilities based on differences in performance criteria. A reviewer initially screened all youths in both delinquent and non-delinquent groups for learning disabilities and placed all youths with any possibility of a learning disability in a category for diagnostic work and placed the remaining youths in the non-learning disabled category. A learning disability diagnostic battery was given to each youth placed in the diagnosis category which included the WISC-R, the Woodcock Reading Mastery, the Key Math, and the Bender-Gestalt (Koppitz scoring). A decision rule, based on a two year discrepancy between actual grade level and achievement scores, was applied to the results. This allowed for objective decisions concerning the incidence of learning disabilities. However, caution must be exercised in placing confidence in the results because the two year discrepancy criterion may have resulted in categorization of low-achieving students as learning disabled, especially since the youths were secondary students. The youths who were diagnosed as learning disabled were placed in one category and the youths who were diagnosed as not learning disabled were placed in the non-learning disabled category with the youths initially screened. The results showed that of the 984 non-adjudicated youths,

161 or 16% were diagnosed as learning disabled and of the 397 adjudicated youths, 127 or 32% were diagnosed as learning disabled. This shows twice the incidence of learning disabilities among juvenile delinquents as among non-adjudicated youths. The large sample size coupled with the quality control procedures and objective decision rules give strong support to the accuracy of this data.

Broder, Peters, and Zimmerman (1978) in another report of the research from the National Center for State Courts examined 1643 youths age 12 to 16 years old of both sexes for the incidence of learning disabilities. The learning disability diagnosis was the same as reported by Campbell (1978) and showed that of those youths diagnosed as learning disabled, 58% were from the adjudicated population. This is significantly higher than would be expected if the incidence of learning disabilities was equal between adjudicated youths, because the adjudicated youths comprised only 39% of the sample. This data confirms the findings of Campbell (1978) that there may be a higher incidence of learning disabilities among adjudicated youths.

Given that a link between learning disabilities and juvenile delinquency may exist, it becomes important to determine the nature of this relationship. There are a number of possible relationships between learning disabilities and juvenile delinquency. For example, Murray (1976) has outlined two possible causal links between learning disabilities and juvenile delinquency. One of these he names the "school-failure rationale," and he proposes that, because of failure in school, the child is labelled as a problem student which leads to his dropout from school and subsequent delinquent behavior. Murray names the second causal sequence the "susceptibility rationale"

and argues that learning disabled children may have psychological problems which make them susceptible to delinquent influences. Both of these proposed relationships lead to the notion that learning disabled adolescents commit more delinquent acts than non-learning disabled youths, and this results in the higher percentage of learning disabilities among adjudicated youths. This possibility was examined by Broder, Peters, and Zimmerman (1978) in the second part of their study. They administered a self-report delinquency scale to the adjudicated and non-adjudicated youths (for procedural details on the reliability and validity of the scale, see Zimmerman and Broder, 1978). Responses to the questionnaire showed no significant differences between the frequency of self-reported delinquent acts between the learning disabled and the non-learning disabled youths; there were significant differences between the adjudicated and non-adjudicated youths. Zimmerman, Rich, Keilitz, and Broder (1979) report a further analysis on this data. Their results confirm the first analysis that there are no consistent differences in either the frequency or seriousness of self-reported delinquent offenses between the learning disabled and the non-learning disabled youths. They also showed that among the adjudicated youths, learning disabled and non-learning disabled commit the same type of offenses. Zimmerman, Rich, Keilitz, and Broder (1979) argue that these results do not support a hypothesis that learning disabilities cause juvenile delinquency through an increase in delinquent acts. However, they propose two possible hypotheses which are compatible with the data. One possibility is that although learning disabled youths do not commit more

offenses than non-learning disabled youths, they are more likely to get caught than non-learning disabled youths. Another possibility is that learning disabled and non-learning disabled youths commit the same number of offenses and are apprehended at the same rate, but that learning disabled youths are more likely to be adjudicated.

Descriptive Approaches to Study the Link Between LD and JD

The first possibility proposed by Zimmerman et al. (1979) was that learning disabled youths are more likely to be apprehended by the police even though the youths commit the same number and type of offenses. This hypothesis has not been subjected to direct experimental verification. There are a number of possible indirect methods of examining this hypothesis. One approach would be to examine the situations and details surrounding the commission of delinquent offenses by LD and non-LD youths. Zimmerman et al. (1979) used a self-report delinquency scale to examine the types and frequencies of delinquent behavior. They showed higher rates of self-reported delinquent activities among adjudicated delinquent regardless of LD and non-LD classification. This analysis could provide information concerning the commission of offenses which might vary across the LD and non-LD population. If LD youths commit the same frequency of offenses as non-LD, but commit those offenses in situations with a greater probability of apprehension, this might account for the high level of LD among adjudicated youths. A second possible approach to this question would be an examination of records and interviews of LD and non-LD adjudicated youths concerning the number of previous juvenile offenses, the number of apprehensions, and the circumstances surrounding the offenses. A third way to indirectly assess the

differential apprehension hypothesis is through a determination of the relative rates of LD and non-LD at intake into the juvenile court. If the discrepancy which Campbell (1978) showed is evident at intake into the court system, then the differential process must occur between commission of the offense and court intake.

There are a number of indirect lines of evidence which suggest that LD youths, regardless of relative rates of juvenile offenses, may be more likely to be apprehended. LD youths by definition have difficulties in learning. These learning deficits may extend to areas beyond academic subjects. For example, LD youths may be unable to distinguish safe from dangerous situations and consequently commit delinquent acts for which they are likely to be apprehended. Another possibility is that LD youths are deficient in social-interactive skills. Appropriate social interactive skills can be an important determinant of police decisions (Piliavin & Briar, 1964). LD youths may never have learned these skills and consequently, may be more likely to reach intake into the juvenile court. The decision to divert a youth may be based on the youth's ability to interact with others. For example, at the beginning of the system, a teacher may decide not to report a favorite student to the principal for a delinquent act and thereby divert the youth from entering the juvenile justice system. A policeman has the option to take a well-behaved youth home rather than to the court intake officer.

A second hypothesis to account for the differential incidence of LD and non-LD youths among the adjudicated population is the possibility of differential treatment by juvenile justice system. The juvenile justice system is often conceptualized as a diversionary

system (Katkin, Hymen, and Kramer, 1976). This means that a youth may be diverted from the specified path through the juvenile justice system at a number of different contact points. The hierarchy at which diversion may occur within the system progresses from the intake department of the juvenile court, to the probation officer, and the juvenile court judge. At any one of these contact points, the juvenile may be diverted out of the system in favor of less formal handling of his case. The reasons for diverting a youth from the system are quite varied, but include the past history of the youth (e.g., the school history, whether the youth has been in trouble before) the type of offense the youth has committed, and the different types of dispositions available through formal adjudication. Barton (1976) reviewed the research on discretionary decision making within the juvenile court system. He concluded that the research showed that as a youth progresses through the juvenile court system, other variables besides type of offense assume increasing importance. These variables included prior record, age, race, school background and family. Since learning disabled youths are more likely to have a poor school history, they may be more likely to be adjudicated than youths with good school records.

This diversionary process is beneficial to the youth to the extent that the treatment of the youth can be individualized for each youth. However, if the decision is biased against a particular group of youths, for example the learning disabled, then this discretionary power is harmful. For example, if learning disabled youths exhibit common behavior deficits, unrelated to the illegal offense, which tend to lead to less favorable dispositions by juvenile court judges, then the discretionary power is harmful.

The possibilities of differential apprehension and differential treatment within the juvenile justice system are being examined by Hazel, Schumaker, Sherman and Sheldon-Wildgen (1979) at The University of Kansas Institute for Research in Learning Disabilities. This study will involve the collection of epidemiological data on youths within the juvenile court system. The study will be divided into three parts. The first part will assess the incidence of learning disabilities for youths at intake. This would show the relative levels of learning disabled youths entering the court process. If the incidence of learning disabilities at intake is higher than might be expected in the population at large, further research into the differential apprehension and handling at intake of juveniles would appear warranted. The second part of the study will attempt to measure how the incidence of learning disabilities is related to contact with each successive component of the juvenile justice system, to adjudication, and to dispositional decisions by following youths through the court process to determine if different treatment is given to learning disabled and non-learning disabled youths. The third part of the study will involve a determination of the factors which form the basis for making diversional and dispositional decisions. This will show whether learning disabilities are an important factor in court decisions.

In summary, the relationship between LD and JD is complex. Original conceptions included a direct link between LD and JD with LD being a primary causative factor in JD. These conceptions took the form of two hypotheses, the school-failure and the susceptibility hypothesis. The data of Zimmerman et al. (1979) did not support

these hypotheses, because they showed the same rate of delinquent behavior among LD and non-LD samples using self-report measures which are subject to questions of reliability and validity. However, the findings do extend the range of the possible relationships between LD and JD to the areas of police apprehension and juvenile court discretionary procedures. Zimmerman et al. (1979) proposed two hypotheses to account for their data. One proposal was that LD youths are more likely to be apprehended than non-LD youths. A second proposal was that LD youths receive differential treatment within the juvenile court setting. These hypotheses are presently being examined and tested.

Intervention Approaches to Study the LD/JD Link

A different approach to examining the LD/JD link is to study the effectiveness of intervention programs with juvenile delinquents who are diagnosed as learning disabled. A number of researchers have developed programs for LD/JD youths. These studies can be divided into three main approaches: remedial education for the youth, parent training, or youth skill development. Examples of studies which stressed educational gains with juvenile delinquents are those of Gormby and Nitto (1970), Bednar, Zelhart, Greathouse and Weinberg (1970), and Bachara and Zaba (1978). These studies showed significant gains in academic levels following training. Hetrick (1979) trained parents of LD youths with only limited success although this type of approach has been strongly advocated (e.g., Friedman, 1978; McLoughlin, Edge and Strenecky, 1978). A number of research efforts have been directed at enhancing LD youths' social-interaction skills. This type of approach has been advocated by Foster and Berstein (1979). A number of programs have attempted

to teach these types of skills (e.g., Minuchin, Chamberlin and Graubard, 1967; Rice, 1970; Douglas, Parry, Marton, and Garson, 1976; West, Carlin, Baserman and Milstein, 1978). Some programs have attempted to combine these three aspects into one program (Kozloff, 1979). However, none of these programs has used appropriate experimental designs or behavioral assessment measures to enable firm conclusions regarding their effectiveness.

A number of programs are currently working with learning disabled, delinquent youths. Two Child Service Demonstration Centers are presently providing treatments to this population. Operation DIVERT in Pensacola, Florida provides remedial education, career training and counseling to learning disabled, delinquent youths and their families. Project LEARN in Clayton, Missouri provides assessment therapy for parents and adolescents, liaison services, and training for correctional officers. A third project, NEW PRIDE, in Denver, Colorado, is currently providing a range of services to serious juvenile offenders with learning disabilities. These services include academic remediation, counseling, employment, and cultural education.

A proposed study by Hazel, Schumaker, Sherman, and Sheldon-Wildgen (1979) will attempt to develop behavioral outcome measures and combine them with appropriate experimental designs to adequately assess the effectiveness of an intervention program with LD adolescents on probation. The approach to be employed for this intervention program will involve probation officer training, parent training, and youth skill development. Remedial education will not be involved in this intervention for two reasons. First, it appears

unlikely that the juvenile court will become involved with remedial education which is a time-consuming process. Court personnel do not have the training nor the time to be involved in remedial education. They are notoriously over-worked with heavy caseloads. It appears more practical to educate probation officers about the remedial services available to LD adolescents through other agencies (e.g., schools). As a result, they may be in a position to insure that the youths receive these services. Second, other investigators are working to develop educational programs for LD youths in school settings, and it is hoped that this program can be combined with their efforts at a later date.

Thus, for the first component of the program, the probation officers will be trained in procedures which will lead to the identification of LD youths. A procedure will be developed for use by probation officers which contains three steps. The first step will be a check of informants and school records for academic problems. The second step will be the mailing of the Bayesian checklist (Alley, Deshler, and Warner, 1979) to the teachers of youths with academic problems. The third step will be referral to testing for those youths who receive a probability score of .86 on the checklist.

The program will also involve a parent training component which will be aimed at giving the parents information about their son/daughter's problems and about the law and programs available. It will also be aimed at teaching the parents advocacy skills to help their son/daughter receive needed services. The parents will also be taught behavioral management skills and how to set up home-school communication systems to help motivate their son/daughter to

go to school and do his/her best. The final component will be teaching the parents teaching and supervisory skills such that they can appropriately help their child complete homework assignments.

The skill development component for youths will involve behavioral skill training in the social skills necessary for interactions with teachers, parents, peers, and probation officers. This training has the potential for benefiting the youths in a variety of ways. Youths who have the social skills necessary for interacting with teachers will be in a better position to receive additional educational help. This will, in turn, increase the probability for academic success. Secondly, youths who have adequate social skills will have a better relationship with their parents. This relationship may be important in motivating the parents to advocate for their child, and the evidence of a good parent-child relationship may be considered as a positive factor in court decisions. The ability to interact assertively with one's peers may help the youths to resist peer pressure to engage in illegal acts. This will help the youth avoid future court contacts. Finally, youths with appropriate social skills may receive more favorable dispositions from court staff should future contacts occur. All of these are potential areas in which social skill training may benefit learning disabled, court-adjudicated youths.

If these three components of the program are successful, the investigators will be interested in developing further components and packages to train probation officers to lead the group training sessions with parents and youths.

Summary and Future Directions

A great deal of speculation has centered on the link between learning disabilities and juvenile delinquency. Research concerning the link has been clouded by definitional issues of learning disabilities and juvenile delinquency. These problems were manifested by inadequate testing procedures, poor experimental design, and non-representative samples of juvenile delinquents. Recent work by researchers from the National Center for State Courts has utilized appropriate experimental design with a large sample of delinquents to arrive at prevalence estimates. However, these findings are subject to question because of their definition of learning disabilities and the restriction of their sample to an institutionalized population. Some self-report data from the same research does not support the two common hypotheses about the LD/JD link: the "school-failure" and the "susceptibility" hypotheses. A number of other possible links between learning disabilities and juvenile delinquency have been proposed including the possibility of differential apprehension of learning disabled youths and differential treatment of learning disabled youths in the court system. If there are links between learning disabilities and juvenile delinquency, then intervention approaches should be effective in reducing the incidence of delinquent activity among learning disabled youths.

A number of key questions remain to be answered. There still exist definitional problems with learning disabilities which must be addressed. Another important question concerns the relationships of learning disabilities to different types of delinquent behaviors.

For example, are truant youths more likely to be learning disabled than youths who commit burglaries? The answer to this question could help guide service delivery efforts to the most needy populations. Another important question concerns the effectiveness of intervention efforts. Are intervention efforts effective? If so, are they effective with all types of delinquent youths or with selected subgroups? A final question concerns the juvenile court's role. Is the court itself an important factor in the increased prevalence of learning disabled youths within the court system. If so, which changes can be made to help learning disabled, court-adjudicated youth? What should the court's role be in these changes?

These are some of the questions that confront us when studying the link between learning disabilities and juvenile delinquency. The research is improving in this area and with appropriate work, we may gain a better understanding of the relationship between learning disabilities and juvenile delinquency.

REFERENCES

- Alley, G. R., Deshler, D. D., & Warner, M. M. Identification of learning disabled adolescents: A Bayesian approach. Learning Disability Quarterly, 1979, 2 (2), 76-83.
- Bachara, G. H. & Zaba, J. N. Learning disabilities and juvenile delinquency. Journal of Learning Disabilities, 1978, 11, 242-246.
- Barrows, T. S., Campbell, P. B., Slaughter, B. A., and Trainor, M. L. Psychoeducational diagnostic services for learning disabled youths: Research procedures. Princeton, N. J.: Educational Testing Service, 1977.
- Barton, W. H. Discretionary decision-making in juvenile justice. Crime and Delinquency, 1976, 22, 470-480.
- Bednar, R. L., Belhart, P. F., Greathouse, L., & Weinberg, S. Operant conditioning principles in the treatment of learning and behavior problems with delinquent boys. Journal of Counseling Psychology, 1979, 17, 492-497.
- Berman, A. Delinquents are disabled. In B. L. Kratoville (Ed.), Youth in Trouble. San Rafael, Calif.: Academic Therapy Publications, 1974.
- Berman, A. & Siegal, A. Delinquents are disabled: An innovative approach to the prevention and treatment of juvenile delinquency. Final report of the Neuropsychology Diagnostic Laboratory at the Rhode Island Training Schools. December, 1974.
- Broder, P. K., Peters, G. W., & Zimmerman, J. The relationship between self-reported juvenile delinquency and learning disabilities: A preliminary look at the data. Paper prepared for presentation to the NCJFCJ-NDAA, Fifth National Conference on Juvenile Justice, 1978.
- Campbell, Paul B. The definition and prevalence of learning disabilities. Paper presented at 1978 ACLD Annual Conference. Kansas City, Missouri, 1978.
- Compton, R. C. Diagnostic evaluation of committed delinquents. In B. A. Kratoville (Ed.), Youth in Trouble. San Rafael, Calif.: Academic Therapy Publications, 1974.
- Cruickshank, W. Myths and realities in learning disabilities. Journal of Learning Disabilities, 1977, 10, 51-58.

- Deshler, D. D., Schumaker, J. B., Warner, M. W., & Alley, G. R. Research and development plan for the University of Kansas Institute for Research in Learning Disabilities, Submitted to BEH, June, 1978.
- Operation DIVERT (Joseph A. Cox, Director) Technical report in "Directory of Model Programs for Handicapped Children" 1978-79, The Network, Andover, MS, 1979.
- Douglas, V. I., Parry, P., Marton, P., & Carson, C. Assessment of a cognitive training program for hyperactive children. Journal of Abnormal Child Psychology, 1976, 4, 389-410.
- Foster, E. H. & Bernstein, S. Social skills training: A model for the rehabilitation of juvenile offenders with special learning disabilities. Juvenile and Family Court Journal, 1977, 30, 25-28.
- Friedman, R. Using the family school in the treatment of learning disabilities. Journal of Learning Disabilities, 1978, 11, 51-55.
- Gormby, J. & Nittoli, M. J. Rapid improvement of reading skills in juvenile delinquents. Journal of Experimental Education, 1970, 40, 45-48.
- Hazel, J. S., Schumaker, J. B., Sherman, J. A., & Sheldon-Wildgen, J. Toward the Development of a Model for the Treatment of Learning Disabled Youths on Probation with the Juvenile Court System. Research funded by the University of Kansas Institute for Research in Learning Disabilities, 1979.
- Hetrick, E. W. Training parents of leaning disabled children in facilitative communitive skills. Journal of Learning Disabilities, 1979, 12, 70-72.
- Hurwitz, I., Bibace, R. M. A., Wolf, P. H. & Rowbotham. B. M. Neuro-psychological function of normal boys, delinquent boys, and boys with learning problems. Perceptual and Motor Skills, 1972, 35, 387-394.
- Jacobson, F. A. Learning disabilities and juvenile delinquency: A demonstrated relationship. In R. E. Weber (Ed.), Handbooks of learning disabilities: A prognosis for the child, the adolescent, the adult. Englewood Cliffs, N.J.: Prentice-Hall, 1974.
- Jacobson, F. A. The Juvenile Court Judge and Learning Disabilities. Reno, Nevada: National Council of Juvenile Court Judges, 1976.
- Katkin, D., Hyman, D., & Kramer, J. Juvenile delinquency and the juvenile justice system. North Scituate, MA: Duxbury Press, 1976.

- Kozloff, M. A. A program for families of children with learning and behavior problems. New York: John Wiley and Sons, 1979.
- Project LEARN (Donna Sawicki, Director). Technical report in "Directory of Model Programs for Handicapped Children" 1978-79. The Newwork, Andover, MS., 1979.
- McLoughlin, J. A., Edge, D., & Strenecky, B., Perspective on parental involvement in the diagnosis and treatment of learning disabled children. Journal of Learning Disabilities, 1978, 11, 32-37.
- Minuchin, S., Chamberlin, P., & Graubard, P. A project to teach learning skills to disturbed, delinquent children. American Journal of Orthopsychiatry, 1976, 37, 588-567.
- Murray, C. A. The link between learning disabilities and juvenile delinquency. Current theory and knowledge. Prepared for the National Institute for Juvenile and Delinquency Prevention, Office of Juvenile Justice and Delinquency Prevention, Law Enforcement Assistance Administration, Washington, D. C. 1976.
- Project NEW PRIDE. An Exemplary Project. Office of Technology Transfer, National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, Washington, D. C. 1977.
- Piliavin, I. & Briar, S. Police encounters with juveniles. American Journal of Sociology, 1964, 70, 206-214.
- Podboy, J. W. & Mallory, W. A. The diagnosis of specific learning disabilities among a juvenile delinquent population. Prepared under the auspices of the Sonoma County Probation Department, 1977.
- Poremba, C. What are we about? Come let's counsel together. In B. L. Kratoville (Ed.), Youth in Trouble. San Rafael, CA: Academic Therapy Publications, 1974.
- Poremba, C. D. Learning disabilities, youth and delinquency: Programs for intervention. In H. R. Myklebust, (Ed.) Progress in Learning Disabilities. New York: Grune and Stratton, 1975.
- Rice, R. Educo-Therapy: A new approach to delinquent behavior. Journal of Learning Disabilities, 1970, 3, 16-23.
- West, M., Carlin, M., Baserman, B., & Milstein, M. An intensive therapeutic program for learning disabled prepubertal children. Journal of Learning Disabilities, 1978, 11, 56-59.

Zimmerman, J. & Broder, P. K. Deriving measures of delinquency from self-report data. Report from the National Center for State Courts, 1978.

Zimmerman, J., Rich, W. D., Keilitz, I., & Broder, P. K. Some observations on the link between learning disabilities and juvenile delinquency. Report available from the National Center for State Courts, 1979.