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ABSTRACT

The study was designed to provide policymakers, administrators, and practitioners with reliable prevalence estimates of mental retardation, learning disabilities, and other handicapping conditions exhibited by juvenile offenders in order to guide fiscal and programmatic decision making. The research included five steps: (1) a literature search resulting in a bibliography of 310 entries; (2) the selection, review, and description of 58 empirical studies; (3) the rating of the studies in terms of sample size, sample methods, gender and ethnicity, data source, instruments, definitions, assessment methods, and evaluators; (4) estimation of the prevalence of handicapping conditions in various categories; and (5) identification of possible relationships that explain the wide range of prevalence estimates cited in the literature. Prevalence of handicapping conditions among younger offenders was found to be 35.6% for learning disabilities and 12.6% for mental retardation. Much of the document consists of comprehensive descriptions of the articles included in the meta analysis. (Author/DB)

# THE PREVALENCE OF MENTAL DISABILITIES AND HANDICAPPING CONDITIONS AMONG JUVENILE OFFENDERS

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FINAL REPORT

June 30, 1987

Research in Education of the Handicapped
Field Initiated Research Projects (84.023R)
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# THE PREVALENCE OF MENTAL DISABILITIES AND HANDICAPPING CONDITIONS AMONG JUVENILE OFFENDERS


## Summary

This study was designed to provide policymakers, administrators, and practitioners with reliable estimates of mental retardation, learning disabilities, and other handicapping conditions exhibited by juvenile offenders in order to guide fiscal and programmatic decision making. Employing a data summarization technique, prevalence estimates of handicapping conditions among juvenile offenders were developed by analyzing the findings of existing published and unpublished research studies that fulfilled certain methodological criteria. The research included five steps: (1) a literature search resulting in a bibliography on the topic of mentally disabled and handicapped offenders including 310 entries; (2) the selection, review, and description of 58 empirical studies; (3) the rating of the studies in terms of sample size, sample methods, gender and ethnicity, data source, instruments, definitions, assessment methods, and evaluators; (4) estimating the prevalence of handicapping conditions in various categories; and (5) identifying possible relationships that explain the wide range of prevalence estimates cited in the literature. Prevalence of handicapping conditions among younger offenders was found to be 35.6% for learning disabilities and 12.6% for mental retardation. Except for demonstrating the data summarization methodology, the prevalence estimates established for other handicapping conditions were not meaningful due to the low number of empirical studies of those conditions. The prevalence estimates resulting from this study, as well as the research methodology employed, promise to provide guidance to researchers, policymakers, and practitioners in courts, criminal justice agencies, and human service agencies in determining sensible steps in the handling of handicapped young offenders.

# THE PREVALENCE OF MENTAL DISABILITIES AND HANDICAPPING CONDITIONS AMONG JUVENILE OFFENDERS

## A. INTRODUCTION

Despite widespread recognition that mentally disabled and handicapped persons are disproportionately represented in the criminal justice system, precise dimensions of the problem are not well known. There is no consensus among public officials, practitioners, and researchers. For example, state departments of corrections and education, surveyed by Rutherford and his colleagues,[1] reported prevalence estimates of handicapping conditions among young offenders ranging from 4% to nearly 100% in juvenile correctional facilities with a mean of 28%; reported prevalence rates in adult facilities ranged from 1% to 77% with a mean of 10%. Administrators of state juvenile correctional facilities surveyed by Morgan[2] reported a range of estimates of handicaps among juvenile offenders from 0% to 100% and a mean of 42%. Research of prevalence rates based upon direct observation or examination of the records of selected samples of offenders has produced a broad range of estimates matching the wide variability of official estimates.[3]

Notwithstanding legal entitlements to special education and appropriate mental health treatment and care,[4] it is unlikely that sound public policy and appropriate social programs for mentally disabled and handicapped persons in the criminal justice system will be developed until the dimensions of the problem are well known and clearly articulated. Indeed, it is plausible that those disinclined to support the development of such policy in programs will use the variability of reported prevalence rates and the lack of consensus among public officials and researchers as an excuse for inaction.

Determining the prevalence of mental disabilities and handicapping conditions among criminal defendants and offenders is problematic. As noted by a number of researchers,[5] the problems are definitional (studies employ varying definitions of mental disabilities and handicapping conditions); diagnostic (studies use testing instruments that are inappropriate); procedural (subjective diagnoses are conducted by the same individuals who ascertain the extent of the disabilities or handicapping conditions); analytical (inappropriate study design or use of statistical tests); and presentational (failure to provide sufficient information for interpretation of the results). In addition, official estimates of prevalence rates may be confounded by political considerations.[6] On the one hand, some officials may be overly inclusive in their definitions of mental disabilities and handicapping conditions, thereby assuring an adequate number to impress funding authorities. On the other hand, some administrators may deliberately deflate prevalence estimates to ward off charges that their programs are inadequate to meet the needs of identified mentally disabled and handicapped defendants and offenders. A comparison of two surveys of state officials, revealing prevalence estimates ranging from 0% to 100% among states, as well as differences as great as 75% among official reports from the same state, suggest that political considerations may be controlling official estimates.[7]

Despite these problems, improvement in our capacity to estimate the prevalence of mental disabilities and handicapping conditions among criminal defendants and offenders and communicate the dimensions of the problem seem critical to the development of public policy and to the

building of programs. The needs of disadvantaged groups must compete equally with the needs for energy, ecology, defense, and a host of other items.[8] It is hardly surprising that policymakers may be skeptical about authorizing monies and programs responsive to the needs of mentally disabled and handicapped defendants and offenders when the prevalence estimates they are given range from a few percent to percentages representing almost the entire juvenile criminal population.

In response to the need for reliable estimates of the prevalence of mental disabilities and handicapping conditions among juvenile offenders, the Office of Special Education and Rehabilitative Services (OSERS) of the United States Department of Education awarded the Institute on Mental Disability and the Law of the National Center for State Courts a grant to develop reliable estimates from existing research. This chapter describes the methods and results of this effort which began in January 1986 and concluded in April 1987.

## B. AVERAGING RESULTS ACROSS STUDIES: META-ANALYSIS

Our study of the prevalence of mental disabilities and handicapping conditions among juvenile offenders utilized a "meta-analytic" approach. In its broadest sense, meta-analysis refers to the integration of research findings across studies. It was first introduced by Glass and his colleagues and characterized as an "analysis of analyses".[9] It refers generally to all of the procedures that "numerically combine the results of independent studies for the purpose of integrating findings."[10] Some researchers restrict the term "meta-analysis" to refer to the specific statistical techniques developed for synthesizing findings across studies.[11] Different uses of the term have left the precise definition of meta-analysis vague.[12]

We used meta-analysis in its general sense. We approached the problem of estimating the prevalence of handicapping conditions among juvenile offenders in a rigorous and systematic manner, using both qualitative and quantitative information in combining the findings from a number of studies of prevalence.

The use of existing data, instead of collecting and analyzing primary data, is premised on an important practical consideration. We assumed that the collection and analysis of primary data to answer the question of prevalence of handicapping conditions among juvenile offenders on a national level are not currently feasible. The difficulties of collecting primary data to derive prevalence estimates of handicapping conditions among adjudicated youth are well documented. Based upon our own experiences in conducting large-scale, controlled prevalence studies of learning disabilities among adjudicated delinquent boys,[3] we concluded that a major policy and fiscal commitment would be required to conduct a national study of all major handicaps among youthful offenders using primary data collection. To address and resolve the methodological and practical problems of sampling, control, data collection, analyses, and differing definitions across states, agencies, and facilities would require extraordinary resources and make a comprehensive study prohibitively costly. Instead, our effort focused on finding and using the knowledge currently embedded in existing research.

The research consisted of five steps: (a) a literature search and compilation of a bibliography on the topic of mentally disabled and handicapped offenders; (b) the selection, review, and description of empirical prevalence studies; (c) the rating of the studies; (d)

estimating the prevalences of handicapping conditions in various categories; and (e) identifying possible relationships that explain the wide range of prevalence estimates cited in the literature. Each of these steps is described below.

1. Literature Search and Compilation of Bibliography

The first step was the identification of all pertinent literature on the topic of mentally disabled and handicapped young offenders. Only articles that noted both handicapping conditions (or their remediation) and the criminal justice system in their titles were included. Articles published before 1975, the effective date of the Education for All Handicapped Children Act (Public Law 94-142),[14] were considered too dated and not included in the bibliography.

Articles were obtained from several electronic and manual indexing services, e.g., Education Resources Information Center (ERIC), Psychology Information (PSYCINFO), Legal Resource Index, State Publications Index, and the Criminal Justice Periodical Index. In total, sixteen services were searched for relevant articles. A number of terms qualified an article for inclusion in the bibliography. These included, but were not limited to, the following: handicaps, learning disabilities, disability, emotional disturbance, mental retardation, behavior disorders, brain damage, neurological deficits, special education, rehabilitation, courts, corrections, delinquency, juvenile delinquent, and juvenile courts. Generally speaking, the searches excluded literature that focused on physical diseases in delinquent groups except when these diseases were identified by these general descriptors.[15]

Letters were written to state special education and corrections departments in an effort to obtain unpublished studies relevant to the topic of mentally disabled and handicapped young offenders. A few of the studies received from these state agencies or from the cross-reference of other articles did not mention both handicapping conditions and the criminal justice system in their titles, but were, nonetheless, considered relevant and included.

The various searches resulted in a bibliography of 310 articles. The bibliography, including key descriptors and indexing services used, is contained in Appendix A.

2. Selection, Review, and Description of Prevalence Studies

The second step involved the selection, review, and description of quantitative studies of the prevalence of handicapping conditions among juvenile offenders. Each study selected from the bibliography in Appendix A met the following four criteria:

(1) juveniles observed, tested, or studied made official "contact" with one or more components of the justice system (e.g., police or other law enforcement agencies, the courts, or correctional agencies);

(2) the study has to include at least some individuals between the ages of 2 and 22 at the time of the study;

(3) the mental disabilities and handicapping conditions assessed in these studies approximate those outlined in Section 504 of the Rehabilitation Act of 1973[16] and the Education for All Handicapped Children Act (Public Law 94-142) of 1975;[17] and

(4) reported prevalence estimates were based on direct observation or assessment of the juveniles.

Reports of surveys of administrators and state officials,[18] narrative reviews of quantitative studies,[19] and studies reporting anecdotal evidence[20] were eliminated during this second step. A few of the studies met all four criteria noted above but failed either to report prevalence estimates or to provide sufficient information to allow the computation of such estimates.[21] These articles also were excluded from further consideration. A total of thirty-one articles met all four criteria and formed the database for the study.

Each of the thirty-one articles was described in terms of the following categories of information:

(1) the type of mental disabilities or handicapping conditions studied and the reported prevalence rates;

(2) the conceptual and/or operational definition of the disabilities or handicapping conditions investigated;

(3) the definition of delinquency or the extent of the juvenile's contact with the justice system;

(4) the sample (e.g., size, geographic location, demographics) upon which the prevalence estimates were based and the sampling procedures;

(5) the characteristics of any comparison or control groups also included in the study;

(6) the nature of the instruments or other assessment devices that were used for identifying, classifying, or diagnosing the mental disabilities or handicapping conditions;

(7) the training, experience, and credentials of the individuals who conducted the assessments;

(8) the testing procedures and the testing environment; and

(9) any additional findings related specifically to the prevalence of mental disabilities or handicapping conditions among juvenile offenders (e.g., prevalence estimates for specific demographic groups).

Each of the thirty-one articles was reviewed at least twice. The descriptions of the articles, including full citations, upon which the subsequent meta-analysis was based is contained in Appendix B.

Some of the descriptions of the articles contained in Appendix B constitute a critical analysis of the methods employed in the study. In fairness to the researchers and authors of the articles, it should be noted that the establishment of prevalence rates may not have been the major intent of the article. Therefore, a critical description of the article with regard to reported prevalence rates should not be considered an indictment of the quality of the study per se.

3. Rating the Studies

Many of the thirty-one articles described in Appendix B reported prevalence rates for more than one handicapping condition (e.g., learning disabilities and mental retardation) and a few articles reported prevalence rates of handicapping conditions for more than one sample (e.g., juveniles on probation and juveniles in institutions). Studies establishing prevalence rates were thus distinguished from the articles in which the studies were reported. That is, each article contributed one or more studies to the analysis. The number of studies, which formed the database for the meta-analysis, corresponds to the number of prevalence rates reported for all handicapping conditions across the thirty-one articles described in Appendix B.[22]

Table 1 describes the overall data base for the meta-analysis, grouping fifty-eight studies according to handicapping conditions. Of the fifty-eight studies, roughly three-quarters reported prevalence rates for either learning disabilities or mental retardation. Only 26% investigated other handicapping conditions. Except where noted, these eight categories are referred to as "other handicapping conditions" throughout the remaining parts of this Chapter.

Table 1

Studies Estimating the Prevalence of Handicapping Conditions Among Juvenile Offenders

| Handicapping Condition | Number of Studies |
|---|---|
| Learning Disability | 22 |
| Mental Retardation | 21 |
| Emotional Disturbance | 3 |
| Speech Impairment | 1 |
| Neurological Impairment | 3 |
| Behavioral Disorders | 2 |
| Learning Disability/Emotional Disturbance | 2 |
| Mental Retardation/Emotional Disturbance | 1 |
| Psychiatric Disorder | 2 |
| Unspecified Handicaps | 1 |
| Total | 58 |

Each of the fifty-eight studies was rated on twenty-seven variables including handicapping condition, sample size, definition of handicapping condition, juveniles' contact with legal system, offense type, sample

bias, assessment devices, evaluators, and evaluation methods. The coding form describing the variables is contained in Appendix C.

Some of the variables required the classification of objective information such as prevalence rates, size of sample, various demographics and so forth. Other variables required more subjective determinations. For example, the appropriateness of the assessment devices (Variable 23, Appendix C) required a subjective rating of the study along a dimension defined by the following values:

(1) the handicapping condition was identified by standard instruments (diagnostic tests, classifications, and so forth), perhaps appropriately modified, that are widely recognized and used with individuals suspected of having the handicapping condition (i.e., the instruments are "good tests"--reliable and valid);

(2) only limited evidence that the instruments are standard tests that are widely recognized and used with individuals suspected of having the handicapping condition;

(3) either no evidence that the instruments used to identify the presence of the handicapping condition are standard tests, or the instruments are clearly unorthodox;

(4) information about the instruments is insufficient for coding or rating.

Generally speaking, studies that used standard tests such as the Wechsler Intelligence Scale for Children--Revised or the Wide Range Achievement Test were coded "1", studies which used group intelligence tests were coded "2"; and studies in which the authors developed their own scales for assessing handicapping conditions were coded "3." Some studies employed several different tests and, therefore, conceivably could

be represented by more than one code. For example, a study could be coded "1" because it used the Wechsler and "2" because it used, in part, a group intelligence test. Such studies were discussed on a case-by-case basis to determine which code best fitted the study.

Tables 2, 3, and 4 present the range of reported prevalence rates for learning disabilities, mental retardation, and other handicapping conditions, respectively, from the fifty-eight studies that form the database for the meta-analysis. Reported prevalence rates for learning disabilities range from 1.7% to 77% (Table 2); for mental retardation the range is from 2% to 30% (Table 3); and for other handicapping conditions the range is from 0% to 84% (Table 4). The difficulty of translating such a broad range of estimates into meaningful policy and program development is self-evident. An obvious approach to overcoming this difficulty is the use of a measure of central tendency such as a median or a mean weighted by sample size. Such an approach fails to take into account important qualitative differences among studies. Except for differences in sample size, each study is treated equally in such an approach. For example, a study that adhered to standard definitions of handicapping conditions and used appropriate assessment tools for diagnosing those conditions is given the same weight as a study that is unclear in its definitions and used whatever information was available in the juveniles' school files for identifying the presence of handicapping conditions. Such qualitative differences were considered important in the rating of the studies.

Each of the fifty-eight studies was rated in eight categories--sample size, sample methods, gender and ethnicity, data source, instruments, definitions, assessment methods, and evaluators--derived from the

Table 2

Studies Estimating the Prevalence of Learning Disabilities Among Juvenile Offenders

| Authors (Date) | Reported Prevalence Estimate | Size of Sample | LD Youth in Sample |
|---|---|---|---|
| Mauser & Cannella (1986) | 1.7 | 60 | 1 |
| Lenz et al. (1980) | 6.0 | 117 | 7 |
| Bullock & Reilly (1979) | 9.0 | 188 | 17 |
| Pasternack & Lyon (1982) | 12.5 | 40 | 5 |
| Prout (1981) | 13.0 | 166 | 22 |
| Cheek (1984) | 13.5 | 52 | 7 |
| Kardash & Rutherford (1983) | 20.0 | 355 | 70 |
| U.S. GAO (1977) | 26.0 | 129 | 33 |
| Whitaker (1981) | 27.0 | 30 | 8 |
| Broder et al. (1981) | 36.5 | 628 | 229 |
| Zinkus & Gottlieb (1979) | 36.7 | 60 | 22 |
| Smykla & Willis (1981a) | 37.0 | 30 | 11 |
| WESCENMO Inc. (1979) | 37.0 | 158 | 59 |
| Robbins et al. (1983a) | 40.0 | 25 | 10 |
| Smykla & Willis (1981b) | 40.0 | 30 | 12 |
| Robbins et al. (1983b) | 48.0 | 25 | 12 |
| Smykla & Willis (1981c) | 53.0 | 30 | 16 |
| Goulas (1982) | 56.0 | 25 | 14 |
| Love & Bachara (1975) | 57.0 | 100[a] | -- |
| Swanstrom et al. (1978) | 59.7 | 144 | 86 |
| Wilgosh & Paitich (1982) | 62.0 | 99 | 61 |
| Sawicki & Schaeffer (1979) | 77.0 | 125 | 96 |

[a]The authors reported an approximate sample size; therefore, the exact number of LD in the sample was not determined.

Table 3

Studies Estimating the Prevalence of Mental Retardation Among Juvenile Offenders

| Authors (Date) | Reported Prevalence Estimate | Size of Sample | MR Youth in Sample |
|---|---|---|---|
| Prout (1981) | 2.0 | 166 | 3 |
| Kardash & Rutherford (1983) | 3.0 | 355 | 12 |
| Cull et al. (1975a) | 3.3 | 638 | 21 |
| Cheek (1984) | 3.8 | 52 | 2 |
| McManus et al. (1981) | 4.2 | 71 | 3 |
| MO Assn. for Retarded Citizens (1976a) | 4.2 | 3693 | 154 |
| Prescott (1982) | 6.0 | 950 | 57 |
| MO Assn. for Retarded Citizens (1976b) | 6.3 | 1783 | 113 |
| WESCENMO, Inc. (1979) | 6.3 | 158 | 9 |
| Day & Joyce (1982) | 7.4 | 202 | 15 |
| Dennis (1975) | 13.0 | 269 | 34 |
| Smykla & Willis (1981c) | 13.0 | 30 | 4 |
| Mesinger (1976) | 14.6 | 1317 | 192 |
| Mauser & Cannella (1986) | 15.0 | 60 | 9 |
| Cull et al. (1975b) | 15.3 | 255 | 39 |
| Goulas (1982) | 16.0 | 25 | 4 |
| Sawicki & Schaeffer (1979) | 16.0 | 125 | 20 |
| Smykla & Willis (1981b) | 20.0 | 30 | 6 |
| Smykla & Willis (1981a) | 23.0 | 30 | 7 |
| Bullock & Reilly (1979) | 25.0 | 188 | 47 |
| Pasternack & Lyon (1982) | 30.0 | 40 | 12 |

Table 4

Studies Estimating the Prevalence of Other Handicapping Conditions Among Juvenile Offenders

| Author (Date) | Handicapping Condition[a] | Reported Prevalence Estimate | Size of Sample | Handicapped in Sample |
|---|---|---|---|---|
| Pasternack & Lyon (1982) | BD | 20.0 | 40 | 8 |
| Prout (1981) | BD | 24.0 | 166 | 40 |
| Goulas (1982) | ED | 0.0 | 25 | 0 |
| Cheek (1984) | ED | 11.5 | 52 | 6 |
| Kardash & Rutherford (1983) | ED | 36.0 | 355 | 128 |
| McManus et al. (1981) | NI | 0.0 | 71 | 0 |
| King & Young (1981) | NI | 2.9 | 749 | 22 |
| Yeudall et al. (1982) | NI | 84.0 | 99 | 83 |
| Steiger (1984) | PD | 20.0 | 787 | 156 |
| McManus et al. (1981) | PD | 67.6 | 71 | 48 |
| Kardash & Rutherford (1983) | SI | 3.0 | 355 | 10 |
| Cheek (1984) | LD/ED | 13.5 | 52 | 7 |
| U.S. GAO (1985) | LD/ED | 46.0 | 1287 | 595 |
| Cheek (1984) | MR/ED | 5.8 | 52 | 3 |
| Freeborne (1985) | UH | 16.0 | 645 | 103 |

[a]BD = Behavior Disorder, ED = Emotional Disturbance, NI = Neurological Impairment, PD = Psychiatric Disturbance, SI = Speech Impairment, LD = Learning Disability, MR = Mental Retardation, and UH = Unspecified Handicaps.

description of the studies contained in Appendix B and the coding form in Appendix C. Three of the categories pertain to the study's external validity: sample size, sampling methods, and the gender and ethnicity of the sample. The remaining five categories focus on the study's internal validity: definitions of handicapping conditions, source of data (primary or archival), assessment devices, assessment methods, and evaluators. Table 5 lists the eight categories, corresponding variables coded (see Appendix C) and the range of assigned values for each of the eight categories. (The individual values assigned to each of the original coded variables are presented on the last page of the coding form in Appendix C.) Three of the categories--sampling methods, gender and ethnicity, and definitions--combined more than one coding variable. The summed value across the variables provided the ratings in these categories.

The individual ratings were totalled across all eight categories for each study. A weight of 1 to 4 was given to each study based on the quartile of total ratings scores in which the individual study fell. These weights were used in calculating an average prevalence estimate for each of the handicapping conditions. The weights corresponded to the number of times a study's reported prevalence was counted in calculating the average prevalence estimates. For example, a study assigned a total rating in the third quartile of the total ratings scores was counted three times in calculating the overall estimate of prevalence.

4. Estimates of Prevalences

Based on the three steps of the meta-analysis described above, the weighted prevalence of learning disabilities among juvenile offenders is 35.6% and the estimate of mental retardation is 12.6%. Because they are

Table 5

Range of Assigned Values for Each Ratings Category

| Category | Corresponding Variable(s) From Coding Form | Range of Assigned Values |
|---|---|---|
| Sample Size | V4: Sample size | 0 -- 4 |
| Sampling Methods | V12: Selection procedure<br>V13: Possible bias | -2 -- 2 |
| Gender and Ethnicity | V17: Gender<br>V18: Ethnicity | -2 -- 2 |
| Data Source | V27: Data Source | -1 -- 1 |
| Instruments | V23: Assessment devices | -1 -- 2 |
| Definitions | V7: Quantity<br>V8: Agreement with standard definitions<br>V9: Level of detail | 0 -- 3 |
| Assessment Methods | V25: Test administration | -1 -- 2 |
| Evaluators | V24: Evaluators | -1 -- 2 |
| Total | | -8 -- 18[a] |

[a]For each of the 58 studies, a total score $\leq$ 7.0 was assigned a "weight" of 1, i.e., the reported prevalence estimate was counted only once in the "weighted" n of studies; a total score $>$ 7.0 but $\leq$ 8.5 was assigned a weight of 2; a total score 8.5 but 11.5 a weight of 3; and a total score $>$ 11.5 a weight of 4.

derived from too few studies, the weighted prevalence estimates for other handicapping conditions were calculated to demonstrate the meta-analysis and not to suggest meaningful estimates. Obviously, a weighted prevalence estimate based on one study provides no more information than using the original prevalence reported in the study. Since many of the studies investigating other handicapping conditions received low ratings, the reliability of these originally reported prevalence estimates is questionable. A larger sample of studies is needed to determine the accuracy of the prevalence estimates reported by these studies.

Tables 6, 7, and 8 present each of the study's (identified by name of authors and date) prevalence, total ratings score, weight, and weighted average prevalence for learning disabilities, mental retardation, and other handicapping conditions, respectively.

5. Relationships Between Prevalence and Other Factors

What accounts for the variability of reported estimates of prevalence of mental disabilities and handicapping conditions among juvenile offenders? Researchers[23] attribute it, in part, to the range of definitions, diagnostic instruments, assessment procedures, and research designs used by the different studies. These factors are related to several of the variables coded for the meta-analysis: definitions, instruments, assessment methods, evaluators, and sampling methods (see Table 5) and Variable 10, furthest penetration into the legal system (see the coding form in Appendix C). Exploratory analyses were conducted to investigate the extent of the relationship between these variables and reported prevalence rates for learning disabilities and mental retardation.[24] The results shown in Table 9 suggest directions for future studies.

Table 6

Total Ratings, Weights of Studies and Weighted Prevalence Estimate of Learning Disabilities Among Juvenile Offenders

| Authors (Date) | Reported Prevalence Estimate | Ratings Score | Weight |
|---|---|---|---|
| Mauser & Cannella (1986) | 1.7 | 12.0 | 4 |
| Lenz et al. (1980) | 6.0 | 5.5 | 1 |
| Bullock & Reilly (1979) | 9.0 | 9.5 | 3 |
| Pasternack & Lyon (1982) | 12.5 | 15.0 | 4 |
| Prout (1981) | 13.0 | 6.5 | 1 |
| Cheek (1984) | 13.5 | 7.0 | 1 |
| Kardash & Rutherford (1983) | 20.0 | 7.0 | 1 |
| U.S. GAO (1977) | 26.0 | 15.0 | 4 |
| Whitaker (1981) | 27.0 | 8.0 | 2 |
| Broder et al. (1981) | 36.5 | 15.0 | 4 |
| Zinkus & Gottlieb (1979) | 36.7 | 8.5 | 2 |
| Smykla & Willis (1981a) | 37.0 | 8.0 | 2 |
| WESCENMO, Inc. (1979) | 37.0 | 12.0 | 4 |
| Robbins et al. (1983a) | 40.0 | 9.0 | 3 |
| Smykla & Willis (1981b) | 40.0 | 8.0 | 2 |
| Robbins et al. (1983b) | 48.0 | 10.0 | 3 |
| Smykla & Willis (1981c) | 53.0 | 8.0 | 2 |
| Goulas (1982) | 56.0 | 13.0 | 4 |
| Love & Bachara (1975) | 57.0 | 9.0 | 4 |
| Swanstrom et al. (1978) | 59.7 | 6.0 | 1 |
| Wilgosh & Paitich (1982) | 62.0 | 8.0 | 2 |
| Sawicki & Schaeffer (1979) | 77.0 | 9.0 | 3 |
| Weighted Prevalence Estimate[a]: | 35.6% | | |

[a]Weighted Prevalence Estimate = $\Sigma$ (Reported Prevalence Estimate x Weight)/ $\Sigma$ Weight.

Table 7

Total Ratings, Weights of Studies and Weighted Prevalence Estimate of Mental Retardation Among Juvenile Offenders

| Authors (Date) | Reported Prevalence Estimate | Ratings Score | Weight |
|---|---|---|---|
| Prout (1981) | 2.0 | 7.0 | 1 |
| Kardash & Rutherford (1983) | 3.0 | 7.0 | 1 |
| Cull et al. (1975a) | 3.3 | 7.5 | 2 |
| Cheek (1984) | 3.8 | 7.0 | 1 |
| McManus et al. (1981) | 4.2 | 9.5 | 3 |
| MO Assn. for Retarded Citizens (1976a) | 4.2 | 10.0 | 3 |
| Prescott (1982) | 6.0 | 10.0 | 3 |
| MO Assn. for Retarded Citizens (1976b) | 6.3 | 12.5 | 4 |
| WESCENMO, Inc. (1979) | 6.3 | 12.0 | 4 |
| Day & Joyce (1982) | 7.4 | 10.0 | 3 |
| Dennis (1975) | 13.0 | 7.5 | 2 |
| Smykla & Willis (1981c) | 13.0 | 8.0 | 2 |
| Mesinger (1976) | 14.6 | 9.5 | 3 |
| Mauser & Cannella (1986) | 15.0 | 11.5 | 3 |
| Cull et al. (1975b) | 15.3 | 9.5 | 3 |
| Goulas (1982) | 16.0 | 13.0 | 4 |
| Sawicki & Schaeffer (1979) | 16.0 | 7.5 | 2 |
| Smykla & Willis (1981b) | 20.0 | 8.0 | 2 |
| Smykla & Willis (1981a) | 23.0 | 8.0 | 2 |
| Bullock & Reilly (1979) | 25.0 | 9.5 | 3 |
| Pasternack & Lyon (1982) | 30.0 | 13.0 | 4 |
| Weighted Prevalence Estimate[a]: | 12.6% | | |

[a]Weighted Prevalence Estimate = $\Sigma$ (Reported Prevalence Estimate x Weight)/ $\Sigma$ Weight.

Table 8

Total Ratings, Weights of Studies and Weighted Prevalence Estimates of Other Handicapping Conditions Among Juvenile Offenders

| Author (Date) | Handicapping Condition[a] | Reported Prevalence Estimate | Ratings Score | Weight | Weighted Prevalence Estimate[b] |
|---|---|---|---|---|---|
| Pasternack & Lyon (1982) | BD | 20.0 | 13.0 | 4 | |
| Prout (1981) | BD | 24.0 | 7.0 | 1 | 20.8% |
| Goulas (1982) | ED | 0.0 | 12.0 | 4 | |
| Cheek (1984) | ED | 11.5 | 7.0 | 1 | |
| Kardash & Rutherford (1983) | ED | 36.0 | 7.0 | 1 | 7.9% |
| McManus et al. (1981) | NI | 0.0 | 9.5 | 3 | |
| King & Young (1981) | NI | 2.9 | 11.5 | 3 | |
| Yeudall et al. (1982) | NI | 84.0 | 8.5 | 2 | 22.1% |
| Steiger (1984) | PD | 20.0 | 8.0 | 2 | |
| McManus et al. (1981) | PD | 67.6 | 12.5 | 4 | 51.7% |
| Kardash & Rutherford (1983) | SI | 3.0 | 7.0 | 1 | 3.0% |
| Cheek (1984) | LD/ED | 13.5 | 6.0 | 1 | |
| U.S. GAO (1985) | LD/ED | 46.0 | 6.0 | 1 | 29.8% |
| Cheek (1984) | MR/ED | 5.8 | 6.0 | 1 | 5.8% |
| Freeborne (1985) | UH | 16.0 | 6.0 | 1 | 16.0% |

[a]BD = Behavior Disorder, ED = Emotional Disturbance, NI = Neurological Impairment, PD = Psychiatric Disturbance, SI = Speech Impairment, LD = Learning Disability, MR = Mental Retardation, and UH = Unspecified Handicaps.

[b]Weighted Prevalence Estimate = $\Sigma$ (Reported Prevalence Estimate x Weight)/$\Sigma$ Weight.

Table 9

Correlations Between Selected Meta-Analysis Variables and Reported Prevalence Estimates for Learning Disabilities and Mental Retardation

| Variable | Learning Disabilities (N=22)[a] | Mental Retardation (N=21)[b] |
|---|---|---|
| Definition of the Handicapping Condition | .24 | .06 |
| Instruments | .20 | .51* |
| Evaluators | .02 | -.18 |
| Assessment Methods | -.18 | .13 |
| Sampling Methods | -.22 | .53* |
| V10: Penetration into Legal System | -.53* | -.30 |

*$P < .01$

[a]Data were unavailable for two cases on Variable 10.

[b]Data was unavailable for one case on Variable 10.

Variable 10, furthest penetration into the legal system, was the only variable to correlate moderately with the reported prevalence rates of learning disabilities; it accounts for approximately 28% of the variance. Penetration into the legal system has an inverse relationship with learning disabilities; as juveniles progress through the system, fewer are identified as handicapped.[25] This may reflect attempts by the juvenile justice system to divert handicapped juveniles out of the system at earlier stages in the process.

For the category of mental retardation, both sampling methods and instruments correlate moderately with the reported prevalence rates of mental retardation. Sampling methods accounts for approximately 28% of the variance, and instruments accounts for approximately 26%. Both of these variables relate to the study's sensitivity in identifying juveniles with the handicapping condition. Better sampling procedures and more sensitive diagnostic instruments probably result in more identifications of mentally retarded offenders.

Conspicuous are the small correlations between the definition of the handicapping condition and reported prevalence rates for both learning disabilities and mental retardation. The problems encountered in trying to standardize definitions of the various handicapping conditions (particularly learning disabilities) have been enumerated by many researchers in the field.[26] One possible explanation for the small correlations is that the major discrepancies between definitions gradually have been eliminated by federal and state guidelines. Perhaps the definitional problems that remain are more critical in developing specific treatment plans than in identifying the general condition.

As suggested by Table 9, the relationship between variables such as assessment instruments and definitions appears to depend on the handicapping condition investigated. The sensitivity of the researcher to these relationships may affect the accuracy of the obtained prevalence estimates for a given handicapping condition. Given the importance of these estimates for public policy programmatic planning, variables that potentially affect the magnitude of the estimates should be scrutinized carefully.

## C. DISCUSSION

According to the 1985 Census of Public Juvenile Detention, Correctional, and Shelter Facilities, public juvenile facilities registered just over half a million juvenile admissions (521,607) and discharges (515,301) during calendar year 1984.[27] The average cost of housing one resident for a year in a public juvenile facility was $25,000. Not reflected in these figures is the extent of juvenile casework before a final placement is made. For example, in the case of a ten-year-old boy recently described in a five-part article appearing in the Washington Post, a full year and a half expired between the juvenile's first arrest and his final placement. Altogether, 153 people in the justice, mental health, and social service systems had become involved in the case at one time or another. The ten-year-old boy who was arrested had turned twelve before his final placement.[28]

A juvenile offender's mental disabilities or handicaps only exacerbate the problems of placement. Often the handicapped juvenile falls between the cracks of the system. Facilities that accept handicapped juveniles do not accept delinquents, and facilities that

accept delinquents often are ill-equiped to handle the juvenile with special problems. Juvenile justice professionals are left with shuffling the handicapped juvenile from one placement to another, never finding a "good fit" for the juvenile's special needs. Time and resources are spent, but frustration with the system often is the outcome.

Despite the special problems juvenile offenders with handicapping conditions present, they have been guaranteed a free and appropriate education in the least restrictive environment by state and federal legislation. We have argued that sound public policy and appropriate social programs for mentally disabled and handicapped persons in the juvenile justice system will not be developed until the dimensions of the problem are well known. The meta-analysis reported in this Chapter is an attempt to move public policy toward such a consensus. The research took a systematic, documented approach in integrating the information available on the prevalence of mental disability and handicapping conditions among offenders. It presents a framework for replication and adjustment. For example, several approaches are available for calculating the prevalence estimates. A more conservative approach than that taken in this study is to base the estimates only on studies that received weights of 3 or 4. The more poorly designed studies would be eliminated, and the resulting prevalence estimates would be based on the most reliable studies available.[29] Ultimately, the purpose for obtaining the estimates (e.g., whether the risk of a Type I error is more or less important than the risk of a Type II error) will be the best guide for determining how the estimates should be calculated. Finally, the research framework also allows for the assimilation of additional studies as they become available.

The literature review conducted for this research indicates the need for additional studies on the prevalence of handicapping conditions among juvenile offenders other than mental retardation and learning disabilities. A meta-analysis relies on previous studies for its data. Obviously, one cannot begin to account for discrepancies among prevalence rates or calculate an average prevalence estimate that has any meaning when the data consists of the results of one or two studies. The results of the exploratory analyses of relationships between certain study variables and prevalence estimates suggest that the factors which affect the determination of prevalence rates depend on the handicapping condition being investigated. This only reinforces the need for a separate database of studies for each handicapping condition.

As a modern society we distinguish ourselves from our ancestors by systematically conceiving, planning, and implementing social change and improvement of our social systems. At our best, we are an "experimenting society"[30] wherein policy is tested by experience and guided by results, and social reform follows a course beginning with the determination of the dimensions of a social problem, which leads to innovation, experimentation, followed by demonstration of promise and solutions, widespread implementation, and ultimately, the institutionalization of reform. The research reported in this Chapter provides information for the first step of social reform--determining the dimensions of the problem. It is hoped that this step eventually will lead to handicapped offenders receiving the services they need and are entitled to receive.

NOTES

[1]Rutherford, Nelson & Wolford, Special Education in the Most Restrictive Environment: Correctional/Special Education, 19 J. Special Education 59 (1985) [hereinafter cited as Rutherford].

[2]Morgan, Prevalence and Types of Handicapping Conditions Found in Juvenile Correctional Institutes: A National Survey, 13 J. Special Education 283 (1979).

[3]Murphy, The Prevalence of Handicapping Conditions Among Juvenile Delinquents, 7 Remedial & Special Education 7 (1986).

[4]E.g., Rehabilitation Act of 1973, Pub. L. No. 93-112, 87 Stat. 355 (codified in scattered sections of 29 U.S.C. §§ 701 to 794) [hereinafter cited as Rehabilitation Act of 1973]; Education for All Handicapped Children Act of 1975, Pub. L. No. 94-142, 89 Stat. 773 (codified at 20 U.S.C. §§ 1232, 1405, 1406, 1411-20, & 1453 (1982))[hereinafter cited as Education for All Handicapped Children Act of 1975].

[5]E.g., C. A. Murray, The Link Between Learning Disabilities and Juvenile Delinquency: Current Theory and Knowledge 43-46 (1976); Murphy, supra note 3, at 8.

[6]See Rutherford, supra note 1, at 64.

[7]Murphy, supra note 3, at 8.

[8]See Breslin, Backlash Against the Disabled, 4 Mental and Physical Disability Law Reporter 345 (1980); Johnson, An Essay on Incarcerated Youth: An Oppressed Group, 45 Exceptional Children 566 (1979).

[9]Glass, Primary, Secondary, and Meta-Analysis of Research, Educational Researcher, November 1976, at 3.

[10]Cooper & Rosenthal, Statistical Versus Traditional Procedures for Summarizing Research Findings, 8 Evaluation Studies Review Annual 83, 83 (1983).

[11]See Wortman, Meta-Analysis: A Validity Perspective, 8 Evaluation Studies Review Annual 157, 157 (1983).

[12]See Leviton & Cook, What Differentiates Meta-Analysis from Other Forms of Review?, 8 Evaluation Studies Review Annual 173 (1983).

[13]E.g., N. Dunivant, The Relationship Between Learning Disabilities and Juvenile Delinquency: An Executive Summary (1982).

[14]Education for All Handicapped Children Act of 1975, supra note 4.

[15]E.g., Yeudall, Fromm-Auch & Davis, Neurological Impairment of Persistent Delinquency, 170 Nervous and Mental Disease 257 (1982).

[16]Rehabilitation Act of 1973, supra note 4.

[17]Education for All Handicapped Children Act of 1975, supra note 4.

[18]E.g., Rutherford, supra note 1; Morgan, supra note 2.

[19]E.g., Murphy, supra note 3; Murray, supra note 5.

[20]E.g., Mauser, Learning Disabilities and Delinquent Youth, in Youth in Trouble 91 (B.L. Kratoville ed. 1974); Poremba, Learning Disabilities, Youth and Delinquency: Programs for Intervention, 3 Progress in Learning Disabilities (H.R. Myklebust ed. 1975).

[21]A few of the studies met all four conditions for selection except the actual reporting of prevalence estimates or sufficient data to allow the computation of such estimates. See, e.g., Bachara & Zaba, Learning Disabilities and Juvenile Delinquency, 11 J. of Learning Disabilities 58 (1978); Reilly, Wheeler & Etlinger, Intelligence Versus Academic Achievement: A Comparison of Juvenile Delinquents and Special Education Classifications, 12 Crim. Just. and Behav. 193 (1985); Zincus & Gottlieb, Learning Disabilities and Juvenile Delinquency, 17 Clinical Pediatrics 775 (1978); Roth & Nicholson, Intellectual and Educational Characteristics of Court-Identified and School-Identified Violent and Assaultive Youth, 9 Diagnostique 226 (1984).

[22]Mesinger, Juvenile Delinquents: A Relatively Untapped Population for Special Education Professionals, 2 Behavioral Disorders 22 (1976), and J.C. Steiger, Mentally Disturbed Youths Within the Division of Juvenile Rehabilitation Residential Population (1984), reported prevalence rates for more than one handicapping condition, but the handicapping conditions were not mutually exclusive. Some juveniles could have been counted as having more than one handicapping condition, creating an inflated estimate of the number of handicapped juvenile offenders. The handicapping condition with the highest reported prevalence rate counted as the only study for each of these articles. Cheek, The Educational and Sociological Status of Handicapped and Non-handicapped Incarcerated Female Adolescents 45 (3-A) Dissertation Abstracts International 954 (1984) reported prevalence rates based on files from a state juvenile institution and files from the Local Education Agencies (LEA). Only the prevalence rates based on the files from the juvenile institution were used because too little information was available on the LEA files.

[23]See note 5.

[24]Too few studies in the other categories of handicapping conditions prohibited analysis of these categories.

[25]Nine of the studies on learning disabilities sampled juveniles who had received a formal hearing (e.g., adjudication or in need of supervision) or participated in a diversion program. The weighted prevalence estimate for these juveniles is 42.4%. The estimate for incarcerated juveniles (based on 10 studies) is 22.3%.

[26]E.g., Coons, Learning Disabilities and Criminality, 24 J. Criminology 251 (1982); Murphy, supra note 3; Murray, supra note 5.

[27]Bureau of Justice Statistics, Public Juvenile Facilities, 1985: Children in Custody, Bulletin, October 1986.

[28]Weiser, No Exit: Juvenile Justice in Washington, Washington Post, Oct. 2, 1986 at A16, col. 5. This article is the last of five articles bearing the same title. The first four appeared September 28, 29, 30, and Oct. 1, 1986, respectively.

[29]The weighted prevalence estimates based on this method are 35.2% for learning disabilities and 12.7% for mental retardation.

[30]Campbell, Reforms As Experiments, 24 American Psychologist 409 (1969).

Appendix A

Bibliography on Mentally Disabled and Handicapped Offenders

The following indexing services were searched for relevant articles:

Education Resources Information Center (ERIC) is an electronic database for educational materials. ERIC contains published and unpublished reports along with all entries of Current Index to Journals in Education and Research in Education. Specific descriptors utilized by the ERIC search were:

detention, detain, correction, jail, prison, imprison, police, law, enforcement, arrest, court, judge, judicial, trial, probation, criminal, incarcerated, handicapped, retarded, disabled, deaf, blind, impaired, disturbed, emotionally disturbed, special education, education, and learning.

The National Criminal Justice Reference Service (NCJRS) is a database which covers all aspects of law enforcement and criminal justice. Reports include federal and state studies along with published journal articles. Descriptors utilized were the same as those used in the ERIC search.

Psychology Information (PSYCINFO) covers the journals in psychology, and other related disciplines. The specific descriptors were the same as those used in the ERIC search.

Legal Resource Index is a database which covers legal journals including the Current Law Index. Specific descriptors were the same as those used in the ERIC search.

Family Resource is the database for the National Council on Family Relations. This database includes journals which concern the courts and the family. Specific descriptors were the same as those used in the ERIC search.

The Exceptional Child Education Resources (ECER) includes published and unpublished reports concerning the education of handicapped students. ECER citations include books and can be cross-referenced with ERIC. Specific descriptors were the same as those used in the ERIC search.

The Social Sciences Citation Index is a collection of periodicals in the field of law, criminology, public administration, sociology and related subjects. Specific descriptors utilized:

education, learning disabled children, education of prisoners, education of socially handicapped children, rehabilitation of juvenile delinquents, juvenile delinquency, handicapped, brain damage, social work with delinquents, emotionally disturbed children, and police services for juveniles.

Selected Rand Abstracts (1980 - 1985) is a comprehensive guide to the unclassified publications of the Rand Corporation, an independent, nonprofit organization with headquarters in Santa Monica, California. Rand research involves most of the major disciplines in the physical, social and biological sciences with emphasis on their application to problems of policy and planning in domestic and foreign affairs. Specific descriptors used included:

corrections, courts, crime, criminal justice, education, handicapped, juvenile delinquents, mental health, law, surveys, and youth

The Dissertation Abstracts International is a collection of doctoral dissertations throughout the United States and other countries. Specific descriptors used were:

juvenile delinquent, delinquent, corrections, special education, learning disabilities, mental retardation, emotionally disturbed, disturbed, disabled, and adolescents.

The Criminal Justice Periodical Index includes all periodicals related to the law, juvenile justice and all aspects of crime and delinquency. The specific descriptors used were:

education and schools, learning disabilities, mentally handicapped, problem children, juvenile offenders, rehabilitation of juveniles, juvenile education, rehabilitation of criminals, education of juvenile offenders, training of juvenile offenders, and mentally ill.

State Publications Index is a compilation of the official publications of the states, commonwealths and territories of the United States. Its principal sources for the citations are: the official checklists published by individual state libraries and other state agencies, the Library of Congress Monthly Checklist of State Publications and direct routine contact with state publishing agencies to verify and enhance the primary data collected. Specific descriptors included:

> criminal justice, developmentally disabled, Education of the Handicapped Act, educational assessments, educationally disadvantaged, emotionally disturbed children, learning disabilities, mental retardation, mentally handicapped, physically handicapped, special education, juvenile delinquency, juvenile delinquents, juvenile justice, and youth.

PsycScan LD/MR (1982 - 1985) is a quarterly publication of the American Psychiatric Association which contains abstracts from many journals concerned with learning, communication and cognitive problems. Descriptors used in this search were:

> behavior disordered, learning disabilities, dyslexia, mild mental retardation, moderate mental retardation, theories of learning, learning disorders, speech disorders, and education of behavioral and learning disabilities.

SPECIALNET is an electronic data service germane to special education. Many of its databases have some references to juvenile delinquents that have different handicapping conditions. The databases utilized were: C.SET, LITIGATION, and TESE.

Sociological Abstracts is a collection of journal papers and unpublished documents which are abstracted and categorized into 33 different areas. The areas searched in this study were:

> social psychology, deviance, sociology of education, social control, adolescence and youth, juvenile delinquency, social problems, substance use/abuse, and family.

Government Documents are publications provided to the public by the different departments of the executive branch of the federal government. Departments whose publications were utilized included.

> Department of Education, Department of Justice, Office of Civil Rights, Department of National Statistics, Office of Special Education and Rehabilitation, and Office of Juvenile Justice and Corrections.

Government Accounting Office (GAO) documents are reports of research commissioned by the GAO or Congressional committees. Descriptors used in this project were:

> juvenile delinquents, rehabilitation of juvenile delinquents, handicapped children, learning disabilities, corrections, emotional disorders, institutions, Public Law 94-142, Public Law 98-199, and Section 504 of the Rehabilitation Act of 1973.

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Appendix B

Descriptions of the Articles

Each of these articles met the following four criteria:

(1) juveniles observed, tested, or studied made official "contact" with one or more components of the justice system (e.g., police or other law enforcement agencies, the courts, or correctional agencies);

(2) the study has to include at least some individuals between the ages of 2 and 22 at the time of the study;

(3) the mental disabilities and handicapping conditions assessed in these studies approximate those outlined in Section 504 of the Rehabilitation Act of 1973[16] and the Education for All Handicapped Children Act (Public Law 94-142) of 1975;[17] and

(4) reported prevalence estimates were based on direct observation or assessment of the juveniles.

They are described in terms of the following categories of information:

(1) the type of mental disabilities or handicapping conditions studied and the reported prevalence rates;

(2) the conceptual and/or operational definition of the disabilities or handicapping conditions investigated;

(3) the definition of delinquency or the extent of the juvenile's contact with the justice system;

(4) the sample (e.g., size, geographic location, demographics) upon which the prevalence estimates were based and the sampling procedures;

(5) the characteristics of any comparison or control groups also included in the study;

(6) the nature of the instruments or other assessment devices that were used for identifying, classifying, or diagnosing the mental disabilities or handicapping conditions;

(7) the training, experience, and credentials of the individuals who conducted the assessments;

(8) the testing procedures and the testing environment; and

(9) any additional findings related specifically to the prevalence of mental disabilities or handicapping conditions among juvenile offenders (e.g., prevalence estimates for specific demographic groups).

## Descriptions of the Articles Included in the Meta-Analysis

### REFERENCE

Broder, P. K., Dunivant, N., Smith, E. C., & Sutton, L. P. (1981). Further observations on the link between learning disabilities and juvenile delinquency. Journal of Educational Psychology, 73, 838-850.

### HANDICAPPING CONDITION(S)/PREVALENCE

Learning disability for nonadjudicated public school youth (NJD): 18.9% (183/968); learning disability for juvenile delinquent sample (JD): 36.5% (229/628).

### DEFINITIONS

#### Handicapping Condition(s)

Conceptual: Learning disabilities were defined as significant discrepancies between expected and actual achievement. These discrepancies were presumed to be the result of interference in the processes of: (a) receiving information, (b) using it in cognition, or (c) communicating the cognitive results, and not the result of physical handicaps, mental retardation, emotional disturbance, or environmental disadvantage.

Operational: Children whose school and court records indicated possible learning disabilities were given a battery of tests including the Wechsler Intelligence Scale for Children - Revised (WISC-R), the Woodcock Reading Mastery Tests, the KeyMath Diagnostic Arithmetic Test, and the Visual Motor Gestalt Test. Juveniles were considered learning disabled if their protocols revealed three of the following LD indicators: a two-year or greater discrepancy among three WISC-R factor scores, among the WISC-R factor scores and the achievement scores, or between the achievement scores; a Bender-Gestalt score of three or more (Koppitz scoring); or at least two ratings of pronounced difficulties on behavioral observations made by the testers during the assessments.

#### Contact with Legal System

The youths in the juvenile delinquent sample were either adjudicated delinquents or status offenders and were on probation, in training schools, on parole, or in aftercare supervision.

### SUBJECTS

#### Population/Sample

The JD sample consisted of 633 juveniles from Baltimore, Indianapolis, and Phoenix who (1) consented to participate and (2) met

the requirements of the study.[1] Data were collected on 360 of the juveniles during the spring and summer of 1977 and on 273 juveniles during the summer and fall of 1978; the two groups were comparable on age, ethnicity, social status, school attitude, and self-reported delinquency. Of the 633 juveniles, 43.8% were in training schools and 56.2% were on probation, in aftercare supervision, or on parole. Only juveniles whose school and court records indicated some potential learning problem were tested for learning disabilities. Complete data for classifying a juvenile with respect to the presence or absence of a learning disability was not obtained for 5 of the juveniles.

### Demographic Variables

All of the juveniles were male between the ages of 12 and 15 years; the average age was 14.75 years. Data on ethnicity was available for 592 juveniles: 41.2% were white, 41.7% were black, 8.4% were Hispanic and 8.6% were of other ethnic groups. Some of the juveniles were status offenders, and others had been adjudicated delinquent for more serious offenses.

## COMPARISON GROUP

### Population/Sample

The sample consisted of 984 nonadjudicated students from twenty-eight schools in the three metropolitan areas from which the JD sample was obtained: Baltimore, Indianapolis, and Phoenix (see footnote 1). School administrators from each school system selected schools that represented the range of socioeconomic and ethnic characteristics of the students in the systems. Data was collected during the spring of 1977. Complete data for classifying a juvenile with respect to the presence or absence of a learning disability was not obtained for 16 of the students. As in the JD sample, only students whose school records indicated some potential learning problem were tested for learning disabilities.

### Demographic Variables

All of the students were male between the ages of 12 and 15 years; the average age was 14.11 years. Data on ethnicity was available for 943 students: 61.1% were white, 27.8% were black, 5.7% were Hispanic and 5.4% were of other ethnic groups.

## INSTRUMENTS

The primary testing instruments included the WISC-R, the Woodcock Reading Mastery Tests, the KeyMath Diagnostic Arithmetic Test, and the Visual Motor Gestalt Test. A checklist on behavior during the testing session also was completed for each youth.

## EVALUATORS

Data were collected by independent contractors working under the supervision of the Educational Testing Service which conducted testing and data collection and performed the learning disabled (LD)/ not learning disabled (NLD) classifications.

## ASSESSMENT METHODS

Juveniles' court and school records were screened for any evidence of a learning problem. If no evidence was found, the juvenile was classified as NLD. They were given a 25-minute interview on delinquent activities and general attitudes. The items were read aloud to each juvenile, and the test administrator recorded the answers. Each juvenile received a delinquency score from this interview which was used for further analyses. Juveniles who were not screened out initially were given a 3 1/2 hour battery of tests including the 25-minute interview. Juveniles were classified as LD or NLD based on the criteria listed under the "Operational" definition section above. A computerized algorithm was used to ensure the decision rules were applied consistently. Juveniles whose learning problems were due primarily to mental retardation, severe emotional disturbance, physical handicap, or were primarily non-English speaking were screened out of the study's sample.

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[1]The study reported on one phase of a federally-funded research project. A total of 2,179 juveniles participated in various aspects of the research. Both the JD and NJD (see "COMPARISON GROUP" in text) samples were subgroups of this larger sample. The JD and NJD groups were constructed to optimize the comparability of the two groups on age and gender.

Names of possible juvenile delinquent subjects were obtained from local juvenile courts, training schools, and departments of corrections. Names of possible subjects from public schools were obtained from school administrators. Informed consent was obtained for all of the institutionalized delinquents from the training school superintendents. For the non-institutionalized delinquents and the public school youth, informed consent was requested from parents or guardians. Initial requests were made by mail; follow-up requests were made by additional letters, telephone calls, or personal visits. Approximately 36% of the parents or guardians initially contacted gave consent. Approximately 34% were parents/guardians of juvenile delinquents, and 37% were parents/guardians of public school youth. Because of time, logistical constraints and requirements of the various studies, the final sample included about half of the juveniles for whom consent was obtained. (In addition to parental consent, verbal consent also was obtained from each juvenile.)

## REFERENCE

Bullock, L. M., & Reilly, T. F. (1979). A descriptive profile of the adjudicated adolescent: A status report. In R. B. Rutherford & A. G. Prietor (Eds.), Monograph in behavioral disorders (Vol. 2, pp. 153-161). Reston, VA: Council for Children with Behavioral Disorders.

## HANDICAPPING CONDITION(S)/PREVALENCE

Learning disability: 9% (17/188); mental retardation: 25% (47/188); total handicapping conditions: 35% (64/188).[1]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: No definition on mental retardation or learning disability is discussed.

Operational: No specific criteria were given, but the researchers based their classifications, at least in part, on the Wechsler Scales and the reading and arithmetic components of the Wide Range Achievement Test.

### Contact with Legal System

All juveniles were described as "adjudicated" and had been referred to a psychologist who was serving as a consultant to a juvenile bureau. Some of the juveniles had committed status offenses. It was not clear whether these juveniles were adjudicated delinquent based only on the status offenses or whether they had committed other offenses as well.

## SUBJECTS

### Population/Sample

The 188 subjects were selected randomly from the case files of a consulting psychologist for the juvenile bureau of a large metropolitan area in the southwestern United States. The sample represented juveniles referred to the psychologist between 1974 and 1978. No explanation for the referrals was given; therefore, it is not known whether the juveniles in the sample represented the general population of adjudicated delinquents or a particular group of adjudicated delinquents (e.g., juveniles exhibiting self-destructive behaviors). No figures on the delinquent population of the juvenile bureau were provided.

Demographic Variables

In the total sample there were 143 males and 45 females. They ranged in age from 13 years and 6 months to 17 years and 11 months. The sample consisted of 40 blacks, 138 whites and 10 native Americans and/or Mexican-Americans. Of the 209 offenses committed by these juveniles, status offenses accounted for 38.8%, crimes against persons accounted for 28.2% and crimes against property accounted for 33.0%.

COMPARISON GROUP

None.

INSTRUMENTS

Information on the intellectual functioning of the subjects was obtained from scores on the Wechsler Scales. In addition, subjects were administered the Reading and Arithmetic components of the Wide Range Achievement Test. No other tests were specified.

EVALUATORS

A consulting psychologist tested and evaluated each of the juveniles. The researchers classified juveniles as mentally retarded or learning disabled.

ASSESSMENT METHODS

A comprehensive (psychological, intellectual, and scholastic) evaluation was given to each juvenile at the time of referral. All of the testing data was collected by the same psychologist. The researchers considered the data more consistent than if it had been obtained by several individuals. No explicit information concerning the testing environment and procedure was offered, but the article implied that all testing was done in the psychologist's office. The researchers analyzed the data available from the juveniles' files to determine which juveniles were either mentally retarded or learning disabled.

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[1]Only percentages were presented in the article. The figures in the parentheses reflect the assumption that the percentages were based on all 188 subjects.

## REFERENCE

Cheek, M. C. (1984). The educational and sociological status of handicapped and nonhandicapped incarcerated female adolescents (Doctoral dissertation, University of Maryland, 1983). Dissertation Abstracts International, 45(3-A), 954-955.

## HANDICAPPING CONDITION(S)/PREVALENCE

60.1% (31/51) of the subjects were classified as handicapped by either the local education agencies (LEAs), the juvenile institution or both. 39.2% (20/51) were diagnosed as non-handicapped by both the LEAs and the juvenile institution. One subject could not be assigned to a handicapped or non-handicapped category. Separate prevalence figures from diagnosis by juvenile institutions and LEAs follow.

### Juvenile Institution

Emotionally disturbed: 11.5% (6/52); learning disabled: 13.5% (7/52); mentally retarded: 3.8% (2/52); learning disabled/emotionally disturbed: 13.5% (7/52); mentally retarded/emotionally disturbed: 5.8% (3/52); total handicapping conditions: 48.1% (25/52).

### Local Education Agencies - Diagnosis of Educational Categories

Emotionally disturbed: 10.2% (5/49); learning disabled: 12.2% (6/49); mentally retarded: 2.0% (1/49); learning disabled/emotionally disturbed: 6.1% (3/49); mentally retarded/emotionally disturbed: 0% (0/49); total handicapping conditions: 30.6% (15/49).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: The author refers to the Federal definitions of mental retardation, emotional disturbance, and learning disability (Federal Register, Rules and Regulations, § 121a.5, 1977). However, the relevance or application of these definitions to the study is not explained.

"Emotionally disturbed" refers to a child who has a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: inability to learn which cannot be explained by intellectual, sensory, or health factors; inability to build or maintain satisfactory interpersonal relationships with peers and teachers; inappropriate types of behavior or feelings under normal circumstances; a general pervasive mood of unhappiness or depression; or a tendency to develop physical symptoms of fears associated with personal or school problems.

"Mental retardation" refers to children who have significantly sub-average general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental years, which adversely affects a child's educational performance.

"Learning disability" refers to a disorder in one or more of the basic psychological processes involved in understanding or in using language spoken or written, which may manifest itself in an imperfect ability to listen, think, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, criminal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily a result of visual, hearing, or motor handicaps, or mental retardation, or of environmental, cultural or economic disadvantage.

Subjects were juveniles with handicapping conditions diagnosed by local education agencies, the state juvenile institution, or both, as learning disabled, mentally retarded, emotionally disturbed, learning disabled/emotionally disturbed, or mentally retarded/emotionally disturbed. While the author makes reference to the Federal definitions of learning disability, mental retardation, and emotional disturbance (see above), she does not define the latter two categories combining two handicapping conditions.

Operational: Subjects were classified based on the diagnoses of a state juvenile institution and local education agencies (LEAs). Only subjects who were diagnosed by either LEAs, the juvenile institution or by both institutions as learning disabled, mentally retarded, emotionally disturbed, learning disabled/emotionally disturbed or mentally retarded/emotionally disturbed were assigned to a handicapped category. The author does not identify criteria used by the LEAs and the juvenile institution used to classify individuals.

Contact with Legal System

All juveniles studied were committed residents of a Maryland state juvenile correctional institution as of January 1, 1983. Offenses committed by the subjects included crime against persons, crimes against property, drug offenses, offenses against public order, and status offenses.

## SUBJECTS

### Population/Sample

The sample consisted of 52 subjects randomly selected from a population of 60 adolescent females who were incarcerated at the only Maryland state juvenile correctional institution as of January 1, 1983. No written educational diagnosis could be obtained from LEAs for three of the subjects. Hence, the sample size for the LEA-diagnosed group (see above) was only 49.

### Demographic Variables

Subjects were twelve- to eighteen-year-old incarcerated females with a mean age of 15.78 and a mode of 17.0. Thirty subjects (57.7%) were black and 22 subjects (42.3%) were white. Although adolescents from every part of the state are sent to the facility, the majority of the Maryland institution's residents come from a "nearby large urban city" (p. 75) which one may infer is Baltimore.

## COMPARISON GROUP

None.

## INSTRUMENTS

The educational counselor at the juvenile institution administered the California Achievement Test, which provided information on the subjects' reading and math achievement levels. Other testing instruments administered by the juvenile institution or the local education agency were not identified.

## EVALUATORS

"The methodology chosen to collect the data was of a descriptive nature and employed the archival technique of data collection procedures" (p. 72). The author obtained the data for this study from the subjects' educational records and case history files assembled at the juvenile institution. Subjects were grouped as handicapped or nonhandicapped based solely on the diagnoses of the state juvenile institution and LEAs.

Staff psychologists administered a battery of tests to residents of the juvenile institution upon arrival and determined which, if any, educational handicaps were diagnosed for the subjects. No information is provided regarding who administered and evaluated the tests given at LEAs.

## ASSESSMENT METHODS

As noted above, the data collected for this study were obtained from the subjects' educational records and case history files assembled at the state juvenile institution. These records and case files contained the diagnoses of LEAs attended by the subjects prior to incarceration and the diagnoses of the juvenile institution. Precisely what constituted a diagnosis of handicapping conditions is not specified, though the author notes that psychologists at the juvenile institution "were consulted to determine which subjects the institution diagnosed as educationally handicapped . . . [and] . . . which categories of educational handicaps were diagnosed for the subjects" (p. 78).

## OTHER FINDINGS

The number of subjects identified by both LEAs and the juvenile institution as handicapped was not given. However, a chi-square was performed to determine if educational diagnoses of the juvenile institution and LEAs were related. The author concluded that, based on the findings ($x^2$=26.05, n.s.), there was not sufficient evidence to indicate a significant relationship between LEAs and the juvenile institution on their diagnosis of the sample. However, fewer subjects were diagnosed as having a handicapping condition by LEAs (30.6%, 15/49) than by the juvenile institution (48.1%, 25/52).

Black females committed more personal offenses than white females. The juveniles did not differ significantly by race or handicapping condition on the number of property, public order, status, and drug offenses committed.

## REFERENCE

Cull, W. H., Reuthebuck, G. L., & Pape, N. (1975). Mentally retarded offenders in adult and juvenile correctional institutions, Part I: Adult offenders, Part II: Juvenile offenders (Research Report No. 125). Frankfort, KY: Kentucky Legislative Research Commission.

Part I: Adult Offenders

## HANDICAPPING CONDITION(S)/PREVALENCE

Mentally retarded 18-22 year olds: 3.3% (21/638).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: None.

Operational: The authors state that there are two indicators of mental retardation: an IQ score below 70 and the existence of maladaptive behavior. Maladaptive behavior was considered a given for all of the inmates.

### Contact with Legal System

The participants were considered adult offenders and incarcerated in Kentucky's penal institutions.

## SUBJECTS

### Population/Sample

An attempt was made to collect data on the entire population of inmates in Kentucky's seven adult penal institutions. Data were not available on 206 of the 2,994 inmates for various reasons. Of the remaining 2,788 inmates, 2,312 had been given an IQ test by the Department of Corrections. Of these, 640 inmates were between the ages of 18 and 22. Data collection began on June 1, 1974, but the actual testing took place when each offender entered the system.

### Demographic Variables

Demographics are provided only for the entire population of inmates; they are not broken down by age groups. Therefore, race and sex of the 640 18-22 year olds is unknown.

## COMPARISON GROUP

None.

INSTRUMENTS

The Revised Beta Examination was given to most inmates entering the system. The WAIS was given to inmates who scored poorly on the Beta. The inmates also were tested on other "evaluative instruments," but the instruments were not specified.

EVALUATORS

Most testing was done by staff i the Admissions and Orientation units of the various facilities. The staff reportedly have "some training in psychometrics."

ASSESSMENT METHODS

The Department of Corrections tested most inmates entering the system. The testing usually was done by the Admissions and Orientation unit at the Kentucky State Reformatory or the women's institution at Pee Wee Valley. According to the authors, the testing facilities were inadequate. "The general atmosphere of the Admissions and Orientation unit is one of disorientation and anxiety. The facilities now being used are cramped, noisy, poorly lighted and inadequately ventilated. The type of testing environment that presently exists is simply not conducive to an accurate and fair evaluation" (p. A-15).

## Part II: Juvenile Offenders

HANDICAPPING CONDITION(S)/PREVALENCE

Mentally retarded: 15.3% (39/255). See "OTHER FINDINGS" below for prevalence rates for each treatment facility.

DEFINITIONS

Handicapping Condition(s)

Conceptual: The authors cite the American Association on Mental Deficiency which defines mental retardation as sub-average intellectual functioning coupled with deficits in adaptive behavior.

Operational: An IQ sc of 75 or less indicated mental retardation, but an IQ score alone was not considered adequate to determine whether a juvenile was mentally retarded. Juveniles were diagnosed as mentally retarded "based upon superintendents' estimations in conjunction with IQ scores" (p. B-33). The authors did not discuss what factors the facility superintendents used in estimating mental retardation.

Contact with Legal System

The juveniles were adjudicated delinquents residing in seven treatment facilities operated by Kentucky's Bureau for Social Services.

## SUBJECTS

Population/Sample

The population consisted of 255 juveniles residing in seven juvenile treatment facilities operated by Kentucky's Bureau for Social Services. All of the juveniles had been processed through Kentucky's diagnostic and reception centers.

Demographic Variables

The seven facilities as a group could house both male and female youth between 11 and 18 years old. No specific information on the population under study was given.

## COMPARISON GROUP

None.

## INSTRUMENTS

This area is vague. The authors mention the Wechsler Scales, the Stanford-Binet, the Vineland Social Maturity Scale, the Fairview Self-Help Scale and the Adaptive Behavior Scale as examples of tests that measure intelligence and adaptive behavior. They do not say whether these tests were used to assess the juveniles. Each juvenile "receives social, educational, vocational aptitude, physical and psychological diagnostic tests" (p. B-12), but these tests are not specified.

## EVALUATORS

The juveniles are evaluated by "trained professionals" from several disciplines, e.g., medical, dental, vocational, and psychological. Both of the reception centers in which the evaluations take place employed a psychologist and a psychiatrist.

## ASSESSMENT METHODS

After being adjudicated delinquent, the juvenile is sent to one of two reception centers for evaluation of treatment needs. The juvenile usually resides at the center for 30-45 days, during which time the staff develops a treatment plan for the juvenile. No specifics on the actual testing situations are provided.

OTHER FINDINGS

The prevalence of mentally retarded juveniles at each facility was: (a) Frenchburg Boy's Center - 33.3% (14/42); (b) Daniel Boone Youth Center - 31.6% (6/19); (c) Lynwood Treatment Center - 9.3% (5/54); (d) Green River Boys' Camp - 4.6% (2/44); (e) Lakewood Cumberland Boys' Camp - 19.4% (6/31); (f) Morehead Treatment Center - 7.5% (3/40); and (g) Woodsbend Boys' Camp - 12.0% (3/25).

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[1]Some juveniles considered mentally retarded by reception center staff were not sent to one of the treatment centers. However, for our purposes, the population was not considered biased (because of fewer mentally retarded youth) because prevalence was based on the number of mentally retarded juveniles in the seven treatment centers and not on the number of mentally retarded juveniles processed through the reception centers.

## REFERENCE

Day, E. & Joyce, K. (1982). Mentally retarded youth in Cuyahoga County Juvenile Court: Juvenile court work research group. In M. B. Santamour & P. S. Watson (Eds.), The retarded offender (pp. 141-165). New York, NY: Praeger.

## HANDICAPPING CONDITION(S)/PREVALENCE

Among a sample of 202, 7.4% (15) were mentally retarded, 31.2% (63) were borderline mentally retarded, and 61.4% (124) were not mentally retarded.

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: Mental retardation is conceptually defined as "the condition which exists when there is significantly sub-average general intellectual functioning concurrent with deficits in adaptive behavior which is manifested during the developmental period." This is the definition prescribed by the American Association on Mental Deficiency (AAMD) which further defines significantly sub-average intellectual functioning as represented by two standard deviations below the mean on standardized tests. The AAMD also defines adaptive behavior as "the degree with which the individual meets the standards of personal independence and social responsibility expected of his age and cultural group." According to the Manual on Terminology and Classification in Mental Retardation (1973 revision), both the intellectual level and the adaptive behavioral level should be considered in making the classification of mental retardation.

Operational: An IQ score of 70 or below was used to label a youth as mentally retarded. No attempt was made to include a measure of adaptive behavior.

### Contact with Legal System

Contact with the legal system was operationally defined as delinquent and unruly complaints filed against subjects in the Cuyahoga County Juvenile Court. The Court has exclusive original jurisdiction within the county over any person under the age of 18 who in a formal complaint is alleged to be delinquent or unruly. Delinquent and unruly children are defined in the Ohio Revised Code.

## SUBJECTS

### Population/Sample

A total of 540 official delinquent and unruly cases filed with the court between January 1, 1978 and May 30, 1979 were coded and studied. The source of the sample was the total of 7,500 delinquent and unruly complaints filed during 1978.

In their sampling, the researchers first selected 1,053 study cases. Of this total, only 736 (70%) were available to the researchers, however; 30% of the sample cases were closed, expunged, missing, or in the possession of court personnel (i.e., not available for study). Another 27% of the case records contained less than half the necessary data and were, therefore, not included in the study sample. Finally, the researchers systematically selected 40 additional subjects with low IQ scores to supplement the sample. However, prevalence figures are based only on the 202[1] cases with individual IQ scores, excluding the 40 cases with low IQ scores that were added to the sample.

The authors acknowledge that the study sample is not random and that there are several ways in which the sample may be biased. They note that the results reported are "base-line figures that indicate the nature of the problems of the mentally retarded and can lead to more refined definitions of the problems and more sophisticated strategies and solutions."

### Demographic Variables[2]

IQ scores ranged between 45 and 127, with a mean of 86 and a mode of 78. Demographic variables studied included race/ethnicity, sex, age, and living arrangements. The borderline and the retarded groups are predominantly black: 69% of the mentally retarded groups and 61% of the borderline group. The majority of each group was male; 77% of the mentally retarded group, 84% of the borderline retarded group, and 79% of the not-retarded group. Living with parents constituted the most common living situation for all cases. The juveniles ranged in age between 14 and 19 years.

## COMPARISON GROUP

None.

## INSTRUMENTS

No testing instruments were used by the researchers. Case files containing recent Stanford-Binet or Wechsler tests were examined.

EVALUATORS

Members of the Mentally Retarded Offender Project funded for one year (1979) by the Ohio Division of Mental Retardation and Developmental Disabilities and the Law Enforcement Assistance Administration reviewed and coded the case files. No professional credentials of the coders or the identities and qualifications of those contributing the information in the files are reported.

ASSESSMENT METHODS

Court records were reviewed and pertinent data was coded by research staff.

OTHER FINDINGS

The three groups were similar in the percentages of prior court contacts. Sixty-four percent of the mentally retarded group had some type of prior court contact compared with 60% of the borderline retarded group and 58% of the not-retarded group. The patterns of referrals to juvenile court and the types of complaints filed were also similar for all three groups. Police and parents/guardians filed the majority of the complaints. Robbery and theft complaints included at least 30% of all groups. For the mentally retarded group theft, robbery, and certain unruly complaints were filed with the same frequency, and constituted over half of all the complaints filed against this group. Assault was the next most frequently filed complaint; curfew and intoxication, truancy, and arson followed.

The court process for the mentally retarded group and the borderline group was found to be generally slower than for the not-retarded group. The court held dispositional hearings for 37% of the not-retarded group within 30 days of the filing of the complaint. Only 20% of the borderline and the retarded groups received dispositional hearings within 30 days of filing. However, the majority of dispositional hearings for the retarded groups were held within two months.

Fifty-three cases had recorded IQ scores between 50 and 80, yet only 20 (38%) showed enrollment of the subject in special education classes. The court did not have a standard procedure to identify retarded youth and to determine their special problems or needs. Placement with the Ohio Youth Commission constituted 25% of the dispositions for the retarded group; withdrawals or dismissals constituted 22%.

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[1] The article reports the figure of 202, indicating the number of cases with individual IQ scores, as 44% of the sample. This percentage does not correspond with the reported total of 540 completed code sheets for official delinquent and unruly cases constituting the sample. This discrepancy does not, however, affect the prevalence figures reported.

[2] The demographics were reported for a sample of 242 juveniles which included the 202 cases on which the prevalence estimates were based and the 40 supplemental cases (see "Population/Sample").

## REFERENCE

Dennis, F. (1975). Mental retardation and corrections: A research perspective. In M. Santamour (Ed.), The mentally retarded citizens and the criminal justice system: Problems and programs (pp. 34-53). Newport, RI: James L. Maher Center.

## HANDICAPPING CONDITION(S)/PREVALENCE

Mentally retarded juveniles: 13% (34/269); borderline mentally retarded: 37% (100/269).[1]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: Mental retardation is defined in accordance with the definition developed by the American Association for Mental Deficiency: "Mental retardation refers to subaverage general intellectual functioning that originates during the developmental period and is associated with an impairment of adaptive behavior" (p. 35).

Operational: The category of mental retardation is defined by intelligence quotient scores below 70; borderline mental retardation is defined by intelligence test scores between 70 and 84[2] (see "INSTRUMENTS" below).

### Contact with Legal System:

Juveniles studied were incarcerated at the Taft Youth Center in Pikeville, Tennessee.

## SUBJECTS

### Population/Sample

The population consisted of 1,056 students in the juvenile correctional institutions in Tennessee. A sample of 269 students was drawn from the Taft Youth Center. This sample constituted the entire population at the facility minus an unspecified number of students "who would be leaving within a month or had arrived less than a month before" (p. 37).

### Demographic Variables

No sample characteristics are reported except that the authors make reference to "these boys" in characterizing the sample of 269 students (p. 37).

## COMPARISON GROUP

None.

## INSTRUMENTS

All students in juvenile correctional institutions in Tennessee were given the Otis Beta Test of intelligence. This written group intelligence test was used to screen 167 boys from the sample of 269 who scored less than 81. The authors reasoned that a subject who scored above 80 on the Otis Beta Test could be presumed capable of exceeding a score of 80 on individually administered nonwritten tests. The individually administered nonwritten tests were not identified in the article.

## EVALUATORS

No specific information is provided. Project staff of a research and demonstration project funded by the Tennessee Social Rehabilitation Service Administration examined all records and administered individual intelligence tests to 167 boys of the sample of 269. Unidentified juvenile corrections staff presumably administered the Otis Beta Test upon which a portion of the sample classification was done (see above). The experience or qualification of the correctional staff who administered the written group tests and the research staff are not reported.

## ASSESSMENT METHODS

During the last two months of 1970 and the first two months of 1971, staff of a research and demonstration project examined the records of 1,054 students in the juvenile correctional institutions of Tennessee. More intensive review and testing was accomplished with the study sample of 269 students drawn from the population of the Taft Youth Center at Pikeville, Tennessee. Only 167 boys in this sample were given unspecified individual tests by research staff personnel; the remainder were classified as nonretarded on the basis of a score over 80 on the Otis Beta Test administered by correctional staff.

## OTHER FINDINGS

Based upon an examination of the records of 1,054 students of a total of 1,853 juveniles in the Tennessee juvenile correctional system, 18% of incarcerated juveniles were classified as mentally retarded because they scored below 70 on the Otis Beta Test. The authors of this article took issue with the results of this group-administered test because of its reliance on written language. They reasoned that such group-administered written tests in correctional facilities would yield a disproportionate number of false low scores because "if you can't read as well as the average person your age, you won't do as well on a written I.Q. test even though you may be more intelligent than average" (p. 37).

[1]This article reports prevalence rates of 9% for mental retardation and 26.9% for borderline mental retardation. Given the reported sample size (269), as well as the specific number of cases in the mental retardation category (34) and the borderline mental retardation category (100), it is assumed that the authors made computational errors in computing prevalence rates and that the rates computed here are correct.

[2]The category of borderline mental retardation has been dropped from the American Association on Mental Deficiency classification system. It was used for individuals who scored between 1 and 2 standard deviations below the mean on standardized tests.

## REFERENCE

Freeborne, G. L. (1985). A report on five projects funded to provide educational services to incarcerated youth who are handicapped or suspected of being handicapped. Albany, NY: New York State Education Department, Deputy Commissioner for Elementary, Secondary, and Continuing Education.

## HANDICAPPING CONDITION(S)/PREVALENCE

Handicapped: 16% (103/645).[1]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: The research was sponsored by the Office for Education of Children with Handicapping Conditions. While no specific definitions of handicapping conditions were provided, it is assumed that state and/or federal guidelines of handicapping conditions were followed.

Operational: The research was conducted at five different sites. Inmates were designated handicapped based on the screening and assessment procedures used at their particular facility. No criteria were provided for identifying specific handicapping conditions.

### Contact with Legal System

Participants were inmates of several county jails in New York.

## SUBJECTS

### Population/Sample

The research consisted of five separate projects conducted simultaneously. The project sites included: (a) Orange-Ulster, (b) Monroe, (c) Oneida-Madison which included both the Oneida County Jail and the Broadacres Detention Center, (d) correctional facilities in Rensselaer, Columbia, and Greene Counties, and (e) the Yaphank Correctional Facility in Suffolk County. All inmates, aged 16-21, at these correctional facilities were screened for handicapping conditions. During the second year of the project that began in January 1983 and ended in August 1984, 645 inmates participated in the five projects.

### Demographic Variables

All of the inmates were between the ages of 16 and 21 years.

COMPARISON GROUP

None.

INSTRUMENTS

The instruments varied by project. The Suffolk project used the Wide Range Achievement Test and the Woodcock. The Monroe project used the Woodcock Johnson and the Slosson Intelligence Test. The Rensselaer-Columbia-Greene project used the California Achievement Test and General Educational Development practice test. The Oneida-Madison project did not mention any specific tests. The Orange-Ulster project gave inmates the General Aptitude Test Battery, the Development Reading System and H.I.L.S.2 Math. Each project also included an interview and/or some kind of screening process as part of the evaluation.

EVALUATORS

Most of the projects mention "project staff." In addition the Rensselaer-Columbia-Greene project mentioned a project guidance counselor; the Monroe project mentioned a project psychologist; and the Orange-Ulster project mentioned a vocational consultant. The Oneida-Madison project also provided training through the Special Education Training and Resource Center for the correctional facility staff. Training included identifying inmates with handicapping conditions. Monroe project staff provided training for correctional facility staff, but the content of the training was not specified.

ASSESSMENT METHODS

Assessment methods varied by project. Only general information on assessment was provided. No project provided details on testing procedures. The Suffolk project included a group orientation and an intake interview. New inmates were screened for reading and math levels, vocational interests and need for specific support services. Project staff checked (presumably through school records) to see if inmates had been identified as handicapped by the local school district. Monroe project staff screened diagnostic information from each inmate's Presentence Investigation Report and school records in addition to educational evaluation instruments to determine whether an inmate had a possible handicapping condition. Those inmates who were suspected of having a handicapping condition were given a complete psychological evaluation. Rensselaer-Columbia-Greene project staff conducted intake interviews to determine an inmate's prior educational history. Basic skills and occupational interests also were assessed for inmates who needed special services. The Oneida-Madison project jail staff screened inmates' prior school records. Vocational interest inventories also were conducted for interested inmates. No information on the assessment methods at the

Detention Center was provided. Orange-Ulster conducted intake interviews and informed inmates of various services offered through the jail education program. Inmates interested in particular services were screened for vocational interests, physical and emotional problems, academic functioning, and prior school experiences.

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[1]The research consisted of five separate projects. Each project screened inmates for handicapping conditions separately. However, only a prevalence rate for all five projects combined was given; no prevalence rates for individual projects were provided. Since prevalence was assessed differently across the five projects and then combined, the research lacks both internal and external validity.

REFERENCE

Goulas, F. M. (1982). A diagnostic study of the prevalence of learning disabilities detected in randomly selected referrals to Jefferson County probation services, Jefferson County, Texas. (Doctoral dissertation, McNeese State University, 1982). Dissertation Abstracts International, 43(6-A), 1926.

HANDICAPPING CONDITION(S)/PREVALENCE

Learning disabilities in referral sample: 56% (14/25); learning disabilities among students in Region V: 7.3% (5,852/80,696); learning disabilities in Texas public school population: 6.3% (165,082/2,630,312); mental retardation in referral sample: 16% (4/25)[1]; emotional disturbance in referral sample: 0%; total prevalence of handicapping conditions in referral sample: 72% (18/25).

DEFINITIONS

Handicapping Condition(s)

Conceptual: The definitions are in agreement with P.L. 94-142. Students are learning disabled if their school achievement is not commensurate with their age and ability levels. "The lack of achievement is found when the student is provided with learning experiences appropriate for his/her age and ability levels in one or more of the following areas: oral expression, listening comprehension, basic reading skill, reading comprehension, mathematics calculation, mathematics reasoning, or spelling. The term does not include students whose severe discrepancy between ability and achievement is primarily the result of: a visual, hearing, or orthopedic handicap; mental retardation; emotional disturbance; or environmental, cultural, or economic disadvantage" (p. 9). Students are diagnosed as mentally retarded based on verbal ability, performance or nonverbal ability, and adaptive behavior. Students are considered emotionally disturbed if their "emotional condition is psychologically or psychiatrically determined to be such that they cannot be adequately and safely educated in the regular classes of the public schools without the provision of special services" (p.10).

Operational: Students were diagnosed as learning disabled if their scores on the Slosson Intelligence Test were no lower than one standard deviation below the mean (76 or above), and their achievement levels as measured by the Woodcock-Johnson Psycho-Educational Battery were significantly low (more than two grade levels) in at least one basic skill area (e.g., reading or mathematics). Students scoring more than two standard deviations below the mean on the Slosson Intelligence Test were classified as mentally retarded. Indications of an emotional disturbance were assessed by a checklist adapted from A Visual Motor Gestalt Test and Its Clinical Use which the local school districts used. Emotional indicators also were assessed by the Human Figure Drawing Test.

Contact with Legal System

Each juvenile "referral" had been (a) adjudicated delinquent for a criminal offense, (b) declared a status offender, or (c) declared in need of supervision in a formal judicial proceeding.

SUBJECTS

Population/Sample

A sample of 100 juveniles (approximately 10% of the population) was selected randomly from the population of juveniles referred to Jefferson County Probation Services in Texas from June 1980 to June 1981. A second sample of 25 juveniles was selected randomly from the original sample of 100 youth. One of these juveniles refused to participate in the study, and was replaced by another juvenile randomly selected from the original sample of 100 youth. No explanation for the two-step sampling process was given.

Demographic Variables

The sample consisted of male and female juveniles aged 10 to 17.

COMPARISON GROUP

The juveniles in the study were compared with 80,696 students in Region V of the Educational Service Center which serves 17 counties in east and southeast Texas. They also were compared with the 2,630,312 students enrolled in Texas public schools.

INSTRUMENTS

The juvenile referrals were assessed on several instruments: The Slosson Intelligence Test for Children and Adults, the Woodcock-Johnson Psycho-Educational Battery, the Bender Visual-Motor Gestalt test, "Indications of Emotional Disturbance on the Bender Gestalt," a checklist adapted from A Visual Motor Gestalt Test and Its Clinical Use, the Human Figure Drawing Test, and the Williams Creativity Assessment. Students in the Texas public school system annually received the Texas Assessment of Basic Skills (TABS). TABS assessed achievement level. No other tests for the general school population were specified. However, the author reported that the instruments used in the study are those used traditionally by the local school districts (with the exception of the Williams Creativity Assessment and Part Three of the Woodcock-Johnson Psycho-Educational Battery) when a student is suspected of having a handicapping condition.

EVALUATORS

All of the juveniles in the referral sample were tested by the researcher, a certified educational diagnostician. Students from the general school population were diagnosed as having a handicapping

condition by a multidisciplinary team. The composition of this team was not discussed.

ASSESSMENT METHOD

The researcher met individually with each juvenile in the referral sample to explain the study and make an appointment for the testing session. Juveniles were assured of the confidentiality of their test results. The testing required at least two hours for each juvenile and was conducted from June 1981 to August 1981. The researcher did not mention where the testing took place. Each juvenile was given a complete psychoeducational evaluation. The researcher used standard references for the scoring and administration of the tests. No information was given on the administration of the TABS the general school population. Assessment of possible handicapping conditions in public school students was conducted according to Policies and Administrative Procedures for the Education of Handicapped Students by the Texas Education Agency.

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[1]These juveniles were diagnosed "presumptively" as mentally retarded based on the Slosson Intelligence Test and psychoeducational functioning levels. The researcher suggests that final diagnosis of mental retardation should use a full-scale intelligence test and some evaluation of the juvenile's adaptive behavior.

## REFERENCE

Kardash, C. A., & Rutherford, R. B., Jr. (1983). Meeting the special education needs of adolescents in the Arizona Department of Corrections. Journal of Correctional Education, 34, 97-98.

## HANDICAPPING CONDITION(S)/PREVALENCE

Emotionally disturbed: 36% (128/355); learning disabled: 20% (70/355); educable mentally retarded: 3% (12/355); speech impaired: 3% (10/355); total handicapping conditions: 62% (220/355).[1]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: The article implies agreement with the definitions of handicapping conditions presented in P.L. 94-142.

Operational: No operational definitions were provided.

### Contact with Legal System

All of the juveniles had been committed to the Arizona Department of Corrections.

## SUBJECTS

### Population/Sample

The juveniles in the study comprised the population of the Arizona Department of Corrections in 1981-1982. The number of juveniles in the population was estimated to be 355 (see footnote 1 below).

### Demographic Variables

No demographics were provided.

## COMPARISON GROUP

None.

## INSTRUMENTS

No specific testing instruments were discussed, but juveniles were given vision and hearing tests and intellectual, psychological, and educational evaluations. Information also was obtained on the juveniles' educational, medical and developmental histories.

EVALUATORS

Each diagnostic assessment was conducted by a certified psychologist.

ASSESSMENT METHODS

Individual diagnostic assessments were conducted at the Adobe Diagnostic Treatment Center for each juvenile committed to the Department of Corrections. Juveniles suspected of having a handicapping condition were identified within 45 days of admittance. These juveniles were tested further according to the specific nature of their suspected handicaps.

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[1]The figures presented are estimated from information in the article. The researchers reported that 220 youths or 62% of the corrections population were identified as needing special education services. Therefore, the number of juveniles in the entire corrections population was estimated to be 355 (.62 x 355 = 220).

## REFERENCE

King, L. N., & Young, Q. D. (1978). Increased prevalence of seizure disorders among prisoners. Journal of the American Medical Association, 239(25), 2674-2675.

## HANDICAPPING CONDITION(S)/PREVALENCE

Epileptic seizure disorders: 2.9% (22/749).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: No conceptual definition was provided.

Operational: A person was classified as having a recurrent seizure disorder only if a physician prescribed anticonvulsant medication (maintenance phenytoin or phenytoin in combination with phenobarbital) for treatment.

### Contact with Legal System

The juveniles studied were residents of five juvenile facilities of the Illinois Department of Corrections.

## SUBJECTS

### Population/Sample

The 749 residents of five juvenile correctional facilities in Illinois were included in the study.

### Demographic Variables

All 749 juveniles were male.

## COMPARISON GROUP

None.

## INSTRUMENTS

No testing instruments were used. Patients receiving maintenance phenytoin or phenytoin in combination with phenobarbital were diagnosed as having recurrent seizure disorders.

## EVALUATORS

Anticonvulsant medications were prescribed by physicians who provided medical care in the correctional institutions. The physicians ranged from medical residents in an approved training program to private practitioners.

ASSESSMENT METHODS

The prevalence of seizure disorders was determined by the number of ambulatory inmates receiving continuous anticonvulsant medication. It was not clear if this information was obtained from prescription records, individual medical records, or some other method. The prescription rates excluded those cases where anticonvulsant medication was used on a short-term basis during alcohol withdrawal. The researchers were confident that prescriptions were not written for inmates who were faking seizures. Most physicians working in correctional facilities realize the potential for misdiagnosis.

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[1]The study also included residents of five adult facilities.

## REFERENCE

Lenz, B. K., Warner, M. M., Alley, G. R., & Deshler, D. D. (1980). A comparison of youths who have committed delinquent acts with learning disabled, low-achieving, and normally-achieving adolescents (Research Report No. 29). Lawrence, KS: University of Kansas, Institute for Research in Learning Disabilities.

## HANDICAPPING CONDITION(S)/PREVALENCE

Learning disability: 5.98% (7/117).[1]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: The study was conducted through the Institute for Research in Learning Disabilities (IRLD) which was in the process of collecting data for constructing a definition of learning disabilities. Data that had been collected by the Institute prior to the study indicated that learning disabilities was "a multitrait construct with very heavy loading on cognitive/academic factors" (p. 5). The authors also mentioned that the comparison group of learning disabled students was evaluated according to exclusionary criteria in the Federal definition of learning disabilities. It is assumed that the exclusionary criteria also were used in the evaluation of the delinquent youth.

Operational: Juveniles who were classified on the basis of the Bayesian Screening Procedure-Teacher Checklist as having a high probability of learning disabilities were given a psychometric battery. The authors did not specify the tests included in the battery or the final criteria employed in classifying a juvenile as learning disabled.

### Contact with Legal System

The juveniles were identified at intake into the juvenile court system before adjudication. All were participants of a diversion program and generally were first offenders who had committed misdemeanors.

## SUBJECTS

### Population/Sample

The juveniles were participants in a diversion program in a northeastern Kansas suburban community. They were selected for the diversion program by an officer of the juvenile court. All of the juveniles were from the same school district. The authors reported that the sample may have been biased. "Many potential subjects for the delinquent group were eliminated by apprehensive parents, lawyers, and the youth because of the delicate emotional and legal issues arising at the time of intake" (p. 8). Of the 267 juveniles

referred to the diversion program, 117 participated in the study. All 117 juveniles were screened for learning disabilities. Of the 13 juveniles who were identified as having a high probability of a learning disability, 12 were given a psychometric test battery. There was no explanation why all 13 juveniles did not receive the battery of tests. The number of learning disabled juveniles in the sample may have been underestimated because only 12 of the 117 juveniles received the psychometric test battery. The data was collected prior to December, 1980.

DEMOGRAPHIC VARIABLES

The delinquent acts committed by the juveniles were misdemeanors.

COMPARISON GROUP

Comparison groups were included in the study but not for comparing the prevalence of handicapping conditions across different populations. The primary purpose of the study was to compare the characteristics of delinquent juveniles with those of normally-achieving, low-achieving, and learning disabled juveniles.

INSTRUMENTS

Juveniles were screened for possible learning disabilities on the Bayesian Screening Procedure - Teacher Checklist. Tests of word recognition, word meaning, mathematical algorithms to solve word problems, and spelling comprised the psychometric test battery. School records including scores on the Iowa Test of Basic Skills and the Differential Aptitude Test, attendance, and grade point average also were reviewed.

EVALUATORS

The juveniles' academic teachers completed the Bayesian Screening Procedure - Teacher Checklist. Scores on the Iowa Test of Basic Skills and the Differential Aptitude Test were taken from school records, as were attendance records and grade point average for each juvenile. The psychometric battery given to 12 of the juveniles probably was administered through the Kansas IRLD, but the study does not specify this.

ASSESSMENT METHODS

The Teacher Checklist was employed to screen out juveniles with potential learning disabilities. Juveniles identified by the Checklist were given a psychometric battery. No information on the testing situation was provided.

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[1]The authors mentioned that a prevalence figure of 6%-11% could be expected using less stringent criteria on the psychometric battery, but they did not report specifically how the 6%-11% figure was obtained.

## REFERENCE

Love, W. C., & Bachara, G. H. (1975). A diagnostic team approach for juvenile delinquents with learning disabilities. Juvenile Justice, 26(1), 27-30.

## HANDICAPPING CONDITION(S)/PREVALENCE

Learning disability: 57% (sample size was greater than 100).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: While no definition of learning disability is explicitly stated, the authors mention characteristics often found in learning disabled children such as negative self-concept, low frustration tolerance, confusion over laterality and left-right discrimination, poor visual-motor-perceptual coordination, and underachievement in school.

Operational: The authors identified the instruments used for evaluating each juvenile, but they did not specify the criteria for diagnosing a juvenile as learning disabled.

### Contact with Legal System

The juveniles were under the purview of the Norfolk Juvenile Court for exhibiting incorrigibility, truancy, and runaway behaviors. The authors referred to the juveniles as delinquents, but it was not clear whether the juveniles had been through formal court proceedings.

## SUBJECTS

### Population/Sample

The sample consisted of over 100 juveniles (exact sample size not reported) from the Norfolk Juvenile Court who had been given psychological/psychoeducational evaluations during a one year period sometime between May 1973 and February 1975. It was not clear whether the sample included all juveniles who had received an evaluation during the one year period or a sample of these juveniles. Juveniles received an evaluation only if their social histories indicated a discrepancy between school performance and achievement test scores. Therefore, the sample was likely to include more learning disabled juveniles than a sample from the general population of delinquents.

### Demographic Variables

The mean age of the sample was 14.4 years. Of the more than 100 juveniles studied, 63% were black and 37% were white.

COMPARISON GROUP

None.

INSTRUMENTS

Tests used in the psychological/psychoeducational evaluations were: the Wechsler Intelligence Scale for Children, Wechsler Adult Intelligence Scale, Wide Range Achievement Test, Peabody Individual Achievement Test, Illinois Test of Psycholinguistic Ability, Draw-A-Person Test, Bender Visual-Motor Gestalt Test, Children's Apperception Test, Thematic Apperception Test, and Family Kinetic Drawings.

EVALUATORS

The Diagnostic and Evaluation Team of the Norfolk Juvenile and Domestic Relations District Court included a clinical psychologist (M.A.), a resource officer, probation officers and social workers (M.S.W.). Co-author Love was the court psychologist for the Norfolk Juvenile Court at the time of this study.

ASSESSMENT METHODS

A psychological/psychoeducational evaluation was completed if a probation officer discovered a discrepancy between previous school performance and achievement test results. Therefore, juveniles were, in a sense, "pre-screened" for probable learning disabilities. Information on testing environments and procedures was not provided. Final diagnosis and treatment recommendations were decided by a multidisciplinary team.

## REFERENCE

Mauser, A. J., & Cannella, F. (1986). Handicapped youthful offenders project: Final Report. Department of Special Education, University of South Florida, Tampa, FL, 33620.

## HANDICAPPING CONDITIONS(S)/PREVALENCE

Mental retardation: 15% (9/60); learning disabilities: 1.7% (1/60);[1] total handicapping conditions: 16.7% (10/60).

## DEFINITIONS

### Handicapping Conditions(s)

Conceptual: No conceptual definitions of mental retardation or learning disability are provided though, given the article's repeated references to the Florida Public Schools, compliance with the conceptual definitions of the Florida Department of Special Education is implicit.

Operational: An IQ score of 70 or less was considered a mental handicap (mental retardation).

A discrepancy of one and one-half standard deviations between the measured IQ and the achievement test score indicated a learning disability. According to the authors, these "criteria" are used by the public school system in Florida and are recommended by the Florida Department of Education, Bureau for the Education of Exceptional Students (p. 12).

### Contact with Legal System:

Subjects were residents of the Florida Correctional Institution.

## SUBJECTS

### Population/Sample

The population consisted of 500 inmates of the Florida Correctional Institution in March 1985. Sixty inmates were randomly selected as the sample; no additional details of sampling methods are reported.

### Demographic Variables

Thirty of the inmates were men and 30 were women. Twenty-eight were white and 30 were black; the race/ethnicity of 2 subjects was unknown. The mean age of the population was 24.7 years, with a range of 17.2 to 43.3 years. The average IQ in the population was 86.2 with a range from "below 60 to 117" (p. 11).

COMPARISON GROUP

None.

INSTRUMENTS

Three instruments were used to identify mental retardation and specific learning disabilities in the sample of subjects: the revised Beta Examination (Beta), the Peabody Individual Achievement Test (PIAT), and the Test of Adolescent Language (TOAL).[2]

EVALUATORS

The identity and qualifications of evaluators are not reported, though it may be surmised that the authors administered the instruments.

ASSESSMENT METHODS

The administration of the instruments is not described. The authors do summarize their scoring of the results of the test. Z scores were found for each subtest score and total score on the PIAT using raw scores and the appropriate norms reported in the test manual. The z scores were found using norming statistics reported in the manual for 17.0 to 17.5 years. Standard scores were used in the analysis. A z score was obtained for the Beta IQ score using a mean of 100 and standard deviation of 15. Discrepancies of minus 1.5 or more between obtained $I_Q$ score and obtained achievement score indicated learning disabilities.

OTHER FINDINGS

Data was analyzed to find incidences of specific learning disabilities using eighth, tenth, and twelfth grade norms for the Peabody Individual Achievement Test. Only the tenth grade norms are summarized here. Using the twelfth grade criteria, 23% (14/60) of the subjects were found to have specific learning disabilities on the basis of discrepancies between obtained total score on the PIAT and obtained IQ score. Using the eighth grade criteria, 1.7% (1/60) were found to have specific learning disabilities. In addition to reporting learning disabilities according to different age/norms, the authors report learning disabilities in mathematics, reading recognition, reading comprehension, and general information based on obtained subtest z scores on the PIAT. In addition, the TOAL performance was analyzed using z scores. Between 13% and 70% of the subjects were diagnosed as having a specific learning disability according to the various subtests of the TOAL.

[1]As described in this summary (see "OTHER FINDINGS"), the authors report separate incidences of specific learning disabilities using various grade norms and tests but do not report a composite prevalence estimate. The prevalence estimate for learning disabilities reported here uses the tenth grade norms of the Peabody Individual Achievement Test, the estimate that appears to be favored by the authors (p. 16).

[2]Hammill, D. D., Brown, V. L., Larsen, S. C., & Wiederholt, J. L. (1980). Test of adolescent language: A multidimensional approach to assessment. Austin, TX: Pro-Ed.

REFERENCE

McManus, M., Alessi, N., Grapentine, W. L., & Brickman, A. (1981). A report to the State of Michigan: A psychiatric study of serious juvenile offenders in the state training school system. Ann Arbor, MI: Children's Psychiatric Service, University of Michigan Medical Center.

HANDICAPPING CONDITION(S)/PREVALENCE

Psychiatric disorders: 67.6% (48/71)'; mental retardation: 4.2% (3/71); neurological disorders: 0%; total handicapping conditions: 71.8% (51/71).

DEFINITIONS

Handicapping Condition(s)

Conceptual: Serious psychopathology in thought and mood is defined in accordance with the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (Third Edition, 1980) (DSM-III).

Operational: The diagnostic criteria for the psychiatric disorders including schizophrenia, major affective disorder, borderline personality disorder, paranoid personality disorder, schizotypal personality disorder and, presumably, mental retardation, are those described in DSM-III. No operational definition of neurological dysfunction was provided, though assessment procedures (see below) were described in great detail.

Contact with Legal System

The following defines contact with legal system: seriously, repetitively delinquent adolescents housed in two facilities of the Michigan State Training School System. According to the authors, this is a "selective definition of delinquency" insofar as it includes only serious and repetitive delinquent behavior and "avoids the overly broad and often ambiguous definition of delinquent behavior found in other psychiatric studies" (p. 3). Of the total number of subjects evaluated, 45 (63%) had committed at least one violent felony, 29 (40%) had committed two or more violent felonies, and 21 (30%) had committed three or more non-violent felonies. 25 (35%) had previous training school placement and 22 (31%) had a history of "in-program assault."

SUBJECTS

Population/Sample

Subjects were seriously delinquent adolescents housed in the training school system in Michigan (see above). Males were chosen from two programs, the Green Oak Center and the Intensive Treatment Program designed for "serious and highly problematic male delinquents" (p. 10). The total population of these programs at the time of the study

was 120. Female subjects were chosen from the State's only residential facility for delinquent girls, the Adrian Training School, with a total female population of 60. After the selection process (see below), 84 subjects, 48 male and 36 female, were chosen. Of these, 71 (40 male, 31 female) constituted the study sample. Eleven subjects were either truent or discharged and, therefore, could not be studied; 2 subjects (both female) refused to participate.

Subjects met the following selection criteria: (1) residential placement for more than one month; (2) commission of a serious violent felony (murder, criminal sexual conduct, armed robbery, arson, felonious assault, or kidnapping) or multiple non-violent felonies; (3) prior training school placement; (4) prior psychiatric hospitalization; (5) assaultive training school behavior. Subjects, according to the authors, were a "highly visible and problematic segment of the delinquent population" (p. 2). They were significantly more delinquent than were the other adolescents in the programs. The authors acknowledge that a limitation of their study design is that the group of adolescents chosen for study may not be fully representative of the adolescents in the training school system as a whole (p. 3). Also, more importantly from the standpoint of estimating the prevalence of handicapping conditions among delinquents, subjects were preselected not only on the basis of serious and repetitive delinquent behavior, but also on the basis of prior psychiatric hospitalization. Twenty-six (37%) of the subjects had a history of psychiatric hospitalization.

Demographic Variables

Subjects ranged in age from 14 to 18 years, with an average age of 16.28 years. The average time in the training school program for all subjects was 9.07 months. The average socio-economic status of the group, using the Hollingshead-Redlich two-factor scale which ranges from one for the highest to five for the lowest socio-economic status, was 4.39. Thirty-nine of the subjects (21 male, 18 female) were white, 26 (19 male, 7 female) were black, and 6 (2 male, 4 female) were Hispanic or of mixed racial origin. As a group, the subjects were of low average intelligence and were significantly below grade level academically.

COMPARISON GROUP

None.

INSTRUMENTS

Assessment protocols included the following:

Psychiatric Interview

1. Schedule for Affective Disorders and Schizophrenia (SADS)

2. Diagnostic Interview for Borderlines (DIB) sections on: Social Adaptation and Interpersonal Relations

Rating Scales

3. Delinquency Check Lists (DCL)

4. Behavior Check Lists (BCL)

Neurological Evaluation

5. Gross Neurological Examination

6. Physical and Neurological Examination for Soft Signs (PANESS).

EVALUATORS

The evaluators were two psychiatrists, presumably the authors of the article, one serving as an interviewer and one serving as an observer.

ASSESSMENT METHODS

All subjects were evaluated by an interviewer and an observer in a structured interview and assigned Axis I and Axis II diagnoses in accordance with DSM-III. For each subject a primary and secondary diagnosis was made. In addition, each subject was evaluated for gross and minimal neurological dysfunction. All subjects completed a self-rating scale of delinquency, and staff working with the subjects completed a rating of the subjects' behavior while in the training school program.

The structured interview consisted of two parts, the first being the Social Adaptation and Interpersonal Relations section of the Diagnostic Interview for Borderlines (DIB), and the second being the Schedule for Affective Disorders and Schizophrenia (SADS). Following the interview, each subject was assigned diagnoses. Following the psychiatric interview, one evaluator reviewed the current medical status of the subject through questioning and record review and conducted a standard gross neurological examination and a Physical and Neurological Examination for Soft Signs (PANESS), an examination to evaluate non-progressive, non-focal evidence of minimal neurological dysfunction.

OTHER FINDINGS

As a group, subjects were of low average intelligence and were significantly below grade level academically. The average total IQ score was 85.2, verbal 84.9, and performance 86.8. Average scores on the Wide Range Achievement Test (WRAT) were 6.9 for reading, 5.6 for spelling, and 5.5 for mathematics. According to the authors, the WRAT scores were below the average for adolescents in the training school system as a whole (p. 17).

Seven (10%) of the subjects were diagnosed substance abusers as a primary diagnosis, and 44 (62%) as a secondary diagnosis. Sixty-four (90%) of the subjects had conduct disorders using DSM-III criteria. Substance abuse was a serious problem in this group with marijuana, hallucinogens and alcohol being the substances most frequently abused.

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[1]There are some discrepancies in the breakdown of these psychiatric disorders in several parts of the article, though the authors consistently report that 48 (68%) of the 71 subjects had psychiatric disorders. Comparing the figures reported in the abstract on page ii and in the text on page 25, for example, the authors report that of the 48 subjects exhibiting psychiatric disorders, 9 (12%) were reported as having a major effective disorder in remission on page ii and 4 (6%) were reported as having this diagnosis on page 25. The breakdown in Tables 9 and 10 do not help to reconcile the discrepancy.

The most reliably reported breakdown is as follows: 3 (4%) subjects had a primary diagnosis of schizophrenia, 11 (15%) an active major affective disorder, 4 (6%) a major affective disorder in remission, 26 (38%) a borderline personality disorder, and 4 (6%) a paranoid or schizotypal personality disorder.

REFERENCE

Mesinger, J. F. (1976). Juvenile delinquents: A relatively untapped population for special education professionals. Behavioral Disorders, 2, 22-28.

HANDICAPPING CONDITION(S)/PREVALENCE

Educable/trainable mentally retarded: 14.6% (192/1,317)[1]; moderate/severe speech disorders: 1.8% (21/1,181)[2]; moderate/severe hearing disorders: .1% (1/1,114).[3]

DEFINITIONS

Handicapping Condition(s)

Conceptual: No specific definition was given, but reference was made to the category of "seriously socially and emotionally disturbed youth" cited in P.L. 89-164.

Operational: A score of 74 or below on the Otis Beta indicated mental retardation. Hearing and speech disorders were not defined.

Contact with Legal System

All of the juveniles had been committed to State care by a juvenile court in Virginia and sent to a Diagnostic and Evaluation Center for further processing.[4]

SUBJECTS

Population/Sample

A VAJIIS (not defined) computerized report provided information on the 1,360 juveniles processed into State care from July 1, 1974 through June 30, 1975 in Virginia.

DEMOGRAPHIC VARIABLES

The sample consisted of 1,026 males (576 white and 450 black) and 334 females (209 white and 125 black). Ages ranged from less than 12 years to 17 years. The majority of juveniles were between 14 and 16 years old. Of the 1,360 juveniles, 449 committed status offenses, 492 property offenses, 88 person offenses, 33 morality/decency offenses and 298 other offenses.

COMPARISON GROUP

None.

INSTRUMENTS

The Otis Beta was used for intelligence testing. In a footnote to Table 3 (p. 24) the author says, "the use of Otis Beta is unjustified for diagnosis of individuals as handicapped." Perceptual motor performance was measured by the Bender Gestalt. Other tests were given, but they were not specified.

EVALUATORS

No information was provided.

ASSESSMENT METHODS

All of the juveniles initially were processed through the Diagnostic and Evaluation Center. Specific information on assessment methods was not provided. The article did say that juveniles committed to Youth Learning Centers receive an "extensive educational, medical, and sociopsychological evaluation, but not of uniform depth in all cases" (p. 23) However, it was not clear if all of the juveniles processed through the Diagnostic and Evaluation Center were committed to Youth Learning Centers.

OTHER FINDINGS

Prevalence figures were provided for possible CNS dy function. CNS was not included as a handicapping condition because it was based only on the Bender Gestalt. The author did not think this was sufficient criteria for determining CNS dysfunction.

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[1]The prevalence rate is taken from the table on p. 24. The sum of the first two categories yields 14.1%. For purposes of the current research, the 43 missing cases were removed from the total number of cases, increasing the percentage of the first two categories to 14.6%.

[2]The prevalence figure is based on a total of 1,181 cases (1,360-179 missing cases). The figures are taken from Table 7 on p. 27. (The number of juveniles with a minimal speech disorder should be 110: 8.1% x 1360. The Table indicates 100 juveniles had a minimal speech disorder.)

[3]The prevalence figure is based on a total of 1,114 cases (1,360-246 missing cases). (The number of missing cases listed in Table 7 under hearing disorders is incorrect. 18.1% of 1360 = 246, not 276.)

[4]The author implies that the study's focus is on juveniles in the Youth Learning Centers (correctional institution schools), but the article indicates that the 1,360 juveniles in the sample were from the Reception and Diagnostic Center. The relationship between the Youth Learning Centers and the Reception and Diagnostic Center is not clear.

## REFERENCE

Missouri Association for Retarded Citizens, Inc. (1976). The mentally retarded offender in Missouri with recommendations for a state-wide system of services. Author.

## HANDICAPPING CONDITION(S)/PREVALENCE

Juvenile mentally retarded: 6.3% (113/1,783);[1] adult mentally retarded: 4.2% (154/3,693).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: Below-average intelligence was considered a sign of mental retardation. However, the authors expressed reservations about identifying subjects on the basis of IQ test scores alone, so "any evidence or additional information concerning an individual's adaptive behavior skills was used as part of the criteria in determining the level of functioning" (p.5). This "evidence" was not specified.

Operational: For juvenile males and females and adult males, a score of 69 or below on a standardized intelligence test was used to identify mental retardation, although prevalence figures for those who scored in the 70-78 range also were provided. "Included in this study are those persons who scored IQ 78 and below which provides a range of measurement consistent with the population generally recognized as mild-moderate mentally retarded for special education in Missouri" (p. 5). No specific criteria were identified for classifying adult female inmates.

### Contact with Legal System

All juveniles were adjudicated delinquent and incarcerated at Division of Youth Services facilities. Juvenile boys were residents of the Boonville Training School; girls were inmates of the Training School for Girls in Chillicothe. The adults were inmates at institutions of the Missouri Division of Corrections. The juveniles and adult males were committed during the fiscal years ending June 1974 or June 1975, while the females studied were incarcerated in February, 1976.

## SUBJECTS

### Population/Sample

During fiscal years 1974 and 1975, 1410 boys were admitted to the Boonville Training School for boys and 373 girls were admitted to the Training School For Girls in Chillicothe. Presumably, the entire resident population was tested to obtain the prevalence estimates for mental retardation noted above.

In February 1976, there were 110 female inmates at the Correctional Center for Women at Tipton. Special education teachers and administrative personnel familar with mental retardation suggested that the researchers review the files of 12 inmates. Ten of these inmates (9%, 10/110) were believed to be in the mentally retarded range.

A total of 3,785 male inmates were admitted to the Missouri State Penitentiary for fiscal years 1974 and 1975. Of the total admitted, 3,583 were tested and 144 had test scores of 69 or below.

From a total adult inmate population of 3,693 tested subjects (110 females and 3,583 males), 154 (4.2%) were categorized as mentally retarded.

Demographic Variables

The juvenile population consisted of 1410 males and 373 females. The average age of boys in the functionally mentally retarded range (IQ score of 78 or below) was 15.3 years in 1974 and 15.1 years in 1975. For the juvenile females in the retarded range, the average age was approximately 15.2 years in 1974 and 16.0 years in 1975. Although the majority of the juvenile male population was white, 90% of the boys scoring 69 or below in 1974 were black and 100% of the mentally retarded subjects were black in 1975. The juvenile female mentally retarded population was 70% black in 1974 and 57% black in 1975. For 1974 and 1975, 81% of the mentally retarded boys were from the urban areas of Missouri. Approximately 70% of the families of mentally retarded juvenile offenders were receiving Aid to Dependent Children or other government assistance.

The 10 mentally retarded female inmates ranged in age from 18 to 49. Eight of the 10 were black and 70% were from metropolitan areas.

Seventy-one percent of the adult male mentally retarded prison population were between the ages of 15 and 25. Again, there was a disproportionate number of mentally retarded inmates from urban areas and 75% of the mentally retarded population was black, compared with 44.8% of blacks in the total prison population.

COMPARISON GROUP

None.

INSTRUMENTS

The male juveniles were given either the Wechsler Intelligence Scale for Children (WISC) or the Wechsler Adult Intelligence Scale (WAIS). The California Developmental Scales of Mental Maturity test was taken by the female juveniles. Although the authors acknowledge the question of the validity of a diagnosis based solely on an intelligence testing and indicate the use of "any evidence or additional information concerning an individual's adaptive behavior skills" in identifying mental retardation, no details are provided.

The adult male offenders were administered a series of tests upon admission. The tests were the Revised Beta, a personnel test for industry (PTI, verbal test A), Test of Mechanical Comprehension Form AA, and Adult Basic Learning Examination (ABLE). The ABLE is not given to inmates scoring 20 or less on the PTI, verbal test A. No official diagnostic evaluation to assess the actual functioning level of women inmates was performed. Adult female offenders were classified on the basis of various unspecified test results, school records, and their functioning level within the institution.

## EVALUATORS

The juvenile and adult male offenders were tested by unidentified prison personnel upon their admission to a correctional institution. The researchers compiled their information by reviewing the subjects' files at the institutions. Since the adult women were not tested when admitted, the direct care staff composed of supervisors, counselors, and special education teachers directed the researchers to files of the women they felt could be considered in the range of the mentally retarded. The researchers then evaluated various information to determine which subjects were in the mentally retarded range.

## ASSESSMENT METHODS

Besides compiling data concerning test scores, the researchers conducted interviews of and issued questionnaires to administrative personnel and direct care workers at the various institutions and carefully examined individual files for conduct violations, case work recommendations, supervisory program grade, special merit time, and confinement to a Special Treatment Unit. The authors claim this information was carefully scrutinized to determine an individual's adaptive behavior skills within the correctional facility and was considered when categorizing an individual as in the mentally retarded range. The standarized intelligence tests were administered during the subjects' first few days in an institution, "which is usually a traumatic period" (p. 5).

## OTHER FINDINGS

Less than 20% of the files for the mentally retarded juveniles showed that the subjects had previously received any special education. All of the mentally retarded youths had been "previously known" to the juvenile court prior to their committing offense; 40% of the male-juvenile cases and slightly over 20% of the female-juvenile cases had been placed on official court supervision.

[1]These prevalence figures are a composite of the following prevalence figures reported: mentally retarded boys admitted to the Boonville Training School for boys during fiscal year 1974: 5.5% (35/638); mentally retarded boys admitted to the school during fiscal year 1975: 4.1% (32/772); mentally retarded girls in the Training School for Girls in Chillicothe in 1974: 12.5% (23/184); and mentally retarded girls in the school in 1975: 12.2% (23/189).

REFERENCE

Pasternack, R., & Lyon, R. (1982). Clinical and empirical identification of learning disabled juvenile delinquents. Journal of Correctional Education, 33(2), 7-13.

HANDICAPPING CONDITION(S)/PREVALENCE

Learning disabilities: 12.5% (5/40); behavior disorders: 20% (8/40); mental handicaps (mental retardation): 30% (12/40);[1] total handicapping conditions: 63% (25/40).

DEFINITIONS

Handicapping Condition(s)

Conceptual: The authors state that learning disabled children should be identified on the basis of "a) manifesting average to above-average intelligence; b) exhibiting a discrepancy between intellectual ability and academic achievement; c) manifesting disorders in one or more of the basic psychological processes involved in understanding and using spoken or written language; and d) evidence of learning problems which cannot be attributed primarily to environmental disadvantage, mental retardation, emotional disturbance, or sensory impairments" (p. 7). As emphasized by the authors of this article, this definition of learning disabilities conforms to the Federal definition.

No conceptual definitions of behavior disorders or mental handicaps (mental retardation) are provided, although presumably the definitions employed also conform to the Federal definitions.

The major purpose of this study was to clinically identify and empirically validate the existence of learning disabilities within a sample of juvenile delinquents. The authors claim that some studies that have identified a high prevalence of learning disabilities among the juvenile delinquent population have failed to exclude children who were primarily emotionally disturbed, mentally retarded, or who did not have adequate educational opportunity. This study excluded from the learning disabled category children with these handicapping conditions. In addition, a language dominance assessment was completed on all subjects with non-Anglo surnames and/or a minority background. All subjects were found to be fluent in the understanding and use of English.

Operational: "[A] clinical diagnosis of learning disabled was made only when the juvenile delinquent exhibited normal intelligence [not specified], placed below the tenth percentile on a measure of academic achievement, scored at least 1.5 standard deviations below the mean on a measure(s) of process function, and displayed no evidence of sensory impairment, lack of educational opportunity, mental retardation, or severe emotional disturbance" (p. 7).

"Furthermore, the present study identified as LD those children who: 1) were not blind, deaf, retarded, behaviorally disordered, or physically impaired; 2) obtained scores in the lower tenth percentile on measures of academic achievement; and 3) exhibited a discrepency between expected and actual performance on measures of central processing, including auditory and visual processing" (p. 10). Classification of a child as behaviorally disordered or mentally handicapped was based on the criteria of The New Mexico State Regulations for Special Education (1976).

### Contact with Legal System

All juveniles studied were incarcerated in the Bernalillo County, New Mexico Detention Home for adjudicated delinquent acts or status offenses. Offenses committed by individuals in the sample included crimes of violence (n = 6), forgery and prostitution (n = 3), probation revocation (n = 8), armed robbery (n = 3), grand theft (n = 4), commercial burglary (n = 3), residential burglary (n = 1), "incorrigible" (n = 4), and "runaway" (n = 8).

## SUBJECTS

### Population/Sample

All 40 subjects were randomly selected from a single juvenile institution, the Bernalillo County, New Mexico Detention Home. "The names of subjects were randomly drawn from daily lists of residents incarcerated at the Detention Home. A table of random numbers was used to select the names of subjects from the lists" (p. 8). No population figures were reported. No dates were given as to when the sample was selected.

### Demographic Variables

The sample included 30 males and 10 females. All subjects were less than 18 years of age when placed in the home by the Children's Court Division of the Bernalillo County District Court. The mean chronological age of the sample was 15.4 years (SD = 20.0 months) while the mean grade in school was 9.4 (SD = 1.8 months). The racial composition of 15 Caucasians, 18 Hispanics, 5 Blacks, and 10 Indians approximated that of the general and school population of New Mexico as well as the population of incarcerated juveniles in the correctional facilities of New Mexico.

## COMPARISON GROUP

The proportion of learning disabled juvenile delinquents (5/40, 12.5%) was compared with the proportion of learning disabled children identified within a 1973 sample of public school children (24/319, 7.5%) who were in the same age range as the delinquent sample. "A non-significant Z was obtained ($Z = 1.77$, $p = .21$, $q = .79$), which indicated no significant difference between the proportion of LD children in the delinquent sample and the proportion of LD children in the public school population when age was held constant" (p. 10).

There is no mention in the article that learning disabilities in the comparison group were identified using the same methods used to identify learning disabilities among the adjudicated youth. The detailed description of the clinical identification of learning disabilities among the adjudicated youth compared to the sparse description of the methods used to determine the prevalance of learning disabilities within the public school population suggests that different methods were used.

INSTRUMENTS

All subjects were administered a diagnostic battery consisting of nine psychometric instruments used in the identification of exceptional education needs throughout the state of New Mexico. Test order was determined by random assignments.

The diagnostic battery included: (1) the Wide Range Achievement Test (WRAT) reading subtest (WR); (2) the WRAT spelling subtest (WS); (3) the WRAT math subtest (WM); (4) the Developmental Test of Visual-Motor Integration; (5) the Goldman-Fristoe-Woodcock Auditory Skills Test Battery (GFW) - sound analysis subtest; (6) the GFW sound blending subtest; (7) the GFW sound-symbol association subtest; (8) the Peabody Picture Vocabulary Test (PPVT); and (9) the Symbol Digit Modalities Test. The WRAT subtests were used to assess academic achievement while the PPVT was included as a measure of intelligence. Test measures 4 and 9 were employed as measures of visual-motor functions, while measures 5 through 7 were used to assess auditory processing.

EVALUATORS

The identity and qualifications of the evaluators were not reported.

ASSESSMENT METHODS

Each of the nine tests noted above was administered individually and scored according to the instructions in the test manuals. Test data for each subject was first clinically analyzed by an "Educational Appraisal and Review Committee" comprised of two certified educational diagnosticians, a special education teacher, a regular education teacher, a coordinator of special education, and a pupil personnel services representative. After analysis and discussion, the Committee assigned each subject to one of the following diagnostic categories according to New Mexico State Department of Special Education Regulations (1976): delinquent-learning disabled; delinquent-behaviorally disordered; delinquent-mentally handicapped; and delinquent-non-handicapped.

OTHER FINDINGS

To empirically validate the decisions made by the Educational and Appraisal Review Committee, and to determine if the diagnostic groups were significantly different from one another in terms of performance on the diagnostic battery, univariate and multivariate analysis of covariance were performed. The results of these analyses provided empirical support for the clinical observation that a number of different exceptional conditions rather than a homogeneous learning disabilities representation existed within the sample of juvenile delinquents.

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[1]Subjects were identified as "mentally handicapped." The criteria for the application of this diagnostic label can be found, according to the authors, in The New Mexico State Regulations for Special Education (1976). Based upon a number of statements in the discussion of the results, it is presumed that the category of "mentally handicapped" subjects refers to the more frequently used category of mental retardation.

REFERENCE

Prescott, M., & Van Houten, E. (1982). The retarded juvenile offender in New Jersey: A report on research in correctional facilities and mental retardation facilities. In M. B. Stantamour & P. S. Watson (Eds.), The retarded offender (pp. 166-175). New York, NY: Praeger.

HANDICAPPING CONDITION(S)/PREVALENCE

Mental retardation: 6% (57/950).[1]

DEFINITION(S)

Handicapping Condition(s):

Conceptual: Consistent with the classification of the American Association on Mental Difficiency (AAMD), mental retardation is defined as the condition that exists when there is "significantly sub-average general intellectual functioning concurrent with deficits in adapted behavior which is manifested during the developmental period" (p. 167).

Operational: Mentally retarded subjects were those who had IQ scores of 70 or below on standardized tests such as the Stanford-Binet or the Wechsler.

Contact with Legal System

All members of the population were confined in facilities maintained by the New Jersey Division of Mental Retardation and the Division of Youth and Family Services of the Department of Human Services or the Department of Corrections. "A youngster was considered to be a member of the target population if the social history recorded delinquent or status offenses prior to admission to the facility, whether or not there was formal adjudication. The exception to involvement in the formal court process was made because of the overwhelming number of instances in which school personnel, social service workers, or juvenile intake officers suggested to parents that they 'voluntarily' commit their children in order to avoid going to court" (p. 168, emphasis added).

SUBJECTS

Population/Sample

The target population consisted of 950 juveniles 18 years of age or younger who were accused and/or adjudicated as status offenders or delinquents and who were housed in three correctional facilities in New Jersey: the Skillman Training School for Boys, the Jamesburg Training School for Boys and Girls, and the Youth Correctional Institution Complex.

Demographic Variables

The study group was 96% male and 4% female. The ethnic composition of the study group was as follows: black 76%; Caucasion 9%; and Hispanic 15%. The highest ranking crimes were assault 31%, larceny 61%, breaking and entering 63%, motor vehicle theft 28%, and robbery 23%.

COMPARISON GROUP

The article reports findings of research conducted in juvenile facilities maintained by the New Jersey Division of Mental Retardation and the New Jersey Department of Corrections. Though juveniles housed in facilities maintained by these two systems are compared on a number of demographic variables, no comparative prevalence estimates are reported.

INSTRUMENTS

Three standardized tests of general intellectual functioning were administered: the Stanford-Binet, the Wechsler, and the Revised Beta.

EVALUATORS

The article implies, though it does not specifically state, that staff of the corrections facilities administered the instruments and the researchers surveyed subjects' records.

ASSESSMENT METHODS

Researchers conducted a search of records containing the results of IQ testing and other information maintained by the juvenile facilities housing the target population. No detail regarding assessment methods is provided except that different tests were administered at the three facilities. Subjects at the Skillman Training School for Boys were individually tested with the Wechsler or Stanford-Binet. Subjects at the Jamesburg Training School for Boys and Girls were first tested with a prorated Wechsler, with more thorough testing of subjects scoring below 60 or exhibiting severe behavioral problems. Finally, subjects at the Youth Correctional Institutional Complex were administered the Revised Beta "except in rare instances" (p. 169).

OTHER FINDINGS

The highest prevalence of mental retardation was found in the group of subjects aged 16 and younger (10.5%). Ninety-six percent of the subjects were classified in the "mild" retardation range, and 4% in the "moderate" range of mental retardation (i.e., using the AAMD classification scheme).

[1]The raw number (57) corresponding to the 6% of the total juvenile corrections population (950) below the mentally retarded range was extrapolated from the reported percentage; no raw figure was reported in the article. The New Jersey Department of Corrections, using an IQ score of 79 or less for purposes of classifying mentally retarded juveniles, classified 21% (195/950) of the juveniles as mentally retarded.

Separate prevalence estimates are reported for the three correctional facilities from which the population of juveniles was drawn. The prevalence of mental retardation was 13% at the Skillman Training School for Boys, a facility admitting juveniles aged 8 to 13. The prevalence rate was 8% of the population at the Jamesburg Training School for Boys and Girls, a facility designated for admission of youth aged 13 to 16. Finally, the prevalence rate was 3% at the Youth Correctional Institution Complex which housed 40% of the target population ranging in age from 16 to 21 with a mean of 17.3 years.

## REFERENCE

Prout, H. T. (1981). The incidence of suspected exceptional educational needs among youth in juvenile correctional facilities. Journal of Correctional Education, 32(4), 2?-24.

## HANDICAPPING CONDITION(S)/PREVALENCE

Behavior disorder: 24% (40/166); learning disability: 13% (22/166); educable mental retardation: 2% (3/166); behavior disorder or learning disability: 19% (31/166); learning disability or educable mental retardation: 4% (6/166); behavior disorder or educable mental retardation: 4% (6/166); total handicapping conditions: 66% (108/166).[1]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: The definitions of handicapping conditions were based on criteria outlined in the state guidelines.

Operational: Mental retardation was indicated by a group or other recent IQ score of 75 or less. Learning disabilities were suspected if an individual had a significant deficit in one area of achievement (e.g., arithmetic or reading) and an IQ within the normal range of intelligence. Evidence of a significant behavioral and/or emotional problem in at least two different settings indicated a juvenile with a possible behavioral disorder. Evidence of a behavior disorder was obtained from several different reports such as behavioral ratings by reception center staff and previous psychiatric treatment histories. In addition, juveniles were categorized as needing special education in a particular area if their files mentioned special education services in that area.

### Contact with Legal System

The juveniles were residents of state juvenile correctional facilities.

## SUBJECTS

### Population/Sample

The sample included 166 juveniles consecutively admitted during a three month period to two state correctional facilities in Wisconsin. [The study screened juveniles for possible handicapping conditions. Further evaluation would have been required for identifying juveniles with diagnosed handicaps.] Data were missing for some of the juveniles, but no specific information (kinds of data or number of cases with missing data) was given.

Demographic Variables

The sample included both males and females, although males accounted for 90% (149) of the population. The juveniles ranged in age from 13 to 17 years.

COMPARISON GROUP

None.

INSTRUMENTS

Those used by the Reception and Diagnostic Centers included group intelligence and achievement tests, behavioral rating scales and clinical reports. Other sources of information included school records, previous psychological/psychiatric evaluations, and reports from the local juvenile correctional agency or other community agency.

EVALUATORS

No information was provided on how the original testing data was obtained. It is assumed that the researcher, an Assistant Professor of Psychology and a consultant to the Wisconsin Department of Corrections, reviewed the data on each case for possible handicapping conditions.

ASSESSMENT METHOD

Data collected on each juvenile during a 30-day evaluation at the reception center and any other available information (school records, prior psychological assessments, etc.) were reviewed by the researcher. The data on some juveniles indicated more than one handicapping condition. No information was provided on the testing situation at the reception center. The author considered the study "screening in nature rather than diagnostic" (p. 23).

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[1]The prevalence figures are taken from Table 1 on p. 24. The author reports a total prevalence rate of 71% (118/166). The individual categories in Table 1, however, sum to a prevalence rate of 66% (108/166).

REFERENCE

Robbins, D. M., Beck, J. C., Pries, R., Jacobs, D., & Smith, C. (1983). Learning disability and neuropsychological impairment in adjudicated, unincarcerated male delinquents. Journal of the American Academy of Child Psychiatry, 22, 40-46.

HANDICAPPING CONDITION(S)/PREVALENCE

Learning disability for the clinic-referred sample: 40% (10/25); learning disability for the non-clinic referred sample: 48% (12/25).

DEFINITIONS

Handicapping Condition(s)

Conceptual: No conceptual definition was provided.

Operational: The Myklebust ratio method was used for diagnosing learning disabilities. The method was not detailed in the paper, but the reference for it was cited.

Contact with Legal System

All of the juveniles had been adjudicated delinquent by the Juvenile Court of Middlesex County, Massachusetts. Some of the juveniles had been referred to the Court Clinic for evaluation. No juvenile in the study was incarcerated.

SUBJECTS

Population/Sample

Two samples were studied, each consisting of juveniles processed through the Cambridge Juvenile Court. The samples consisted of a consecutive cohort of the first 25 adjudicated males who agreed to participate in the study and who either (a) had (sample 1) or (b) had not (sample 2) been referred to the court clinic for evaluation. In total, 63 juveniles were recruited because 13 of the original subjects (4 clinic-referred and 9 non-clinic referred) dropped out of the study. Of the 98 juveniles who were asked to participate, 23 clinic referred and 12 non-clinic referred refused. Each juvenile received $10 for participating.

Demographic Variables

All of the juveniles were male between the ages of 14 and 18 years. For the clinic sample, the mean age was 15.9. The sample consisted of 20 white and 5 black juveniles. Only 8 of the juveniles were not repeat offenders. For the non-clinic sample, the mean age was 15.7. Only 3 of the juveniles were

black. Of the 25 juveniles in the sample, 10 were repeat offenders. The types of offenses committed by juveniles in both groups ranged from status offenses to violent crimes against persons. The majority, however, were property offenses.

COMPARISON GROUP

None.

INSTRUMENTS

Each juvenile participated in three sessions of testing that assessed physical health, stature, social and psychological functioning, neurological status, visual and auditory perception, and cognitive performance. Specifically, Session I included observations of neurologic function, the Purdue Perceptual Motor Chalkboard Tasks, tests of sound mimicry, blending and recognition from the Goldman-Fristoe-Woodcock Auditory Skills Battery, measurements of height and weight, and a structured interview covering the child's family, social, medical, psychiatric, and delinquent history. Session II included the Draw-A-Person test, the Bender-Gestalt, the Wechsler Intelligence Scale for Children or the Wechsler Adult Intelligence Scale and the Wide Range Achievement Tests of reading, spelling, and math. Session III included a complete physical exam.

EVALUATORS

A psychologist with two years of experience in a children's hospital and eight years of experience in interviewing and psychological testing conducted Session I. A psychologist with four years of experience with delinquents conducted Session II. Both psychologists also were authors of the article. Session III was conducted by a pediatrician who did not know the purpose of the study.

ASSESSMENT METHODS

Juveniles were informed that the testing would consist of three different sessions: two 2-hour sessions in the court clinic office and one 30-minute examination at a pediatrician's office. The researchers obtained informed consent from each juvenile and a parent or guardian. They also requested permission from the juvenile to interview a parent or guardian in the home.

REFERENCE

Sawicki, D., & Schaeffer, B. (1979). An affirmative approach to the LD/JD link. Juvenile and Family Court Journal, 30, 11-16.

HANDICAPPING CONDITION(S)/PREVALENCE

Mental retardation: 16% (20/125); learning disabilities: 77% (96/125); total handicapping conditions: 93% (116/125).

DEFINITIONS

Handicapping Condition(s)

Conceptual: Learning disability is defined generally as a discrepancy between intellectual potential and academic achievement. The authors acknowledge that this definition may be subject to criticism "because of its strong reliance on age and intelligence and avoidance of emotional and environmental factors" (p. 13). They state that learning disabilities must be viewed as "multi-varied having emotional, social, and educational components, consideration being given to all of its facets" (p. 13). No conceptual definition of mental retardation is provided.

Operational: Mild learning disability is defined as a discrepancy between intellectual potential and academic achievement of two grade levels, while severe learning disability is defined as a discrepancy of four to six years. All subjects identified as learning disabled had full scale IQ scores of 79 or above. Presumably, subjects with full scale IQ scores below 79 were identified as mentally retarded.

Contact with Legal System

Subjects were children held in detention under authority of the St. Louis County Juvenile Court. The severity of offense history of the subjects was categorized into five levels as follows (p. 12):

Level I-Exclusively status and most victimless offenses: runaway, truancy, hitchhiking, violation of curfew, incorrigible, violation of supervision, escape from custody, failure in placement, traffic violation, possession of liquor, public intoxication, injurious behavior and suicide attempt. There were 27 juveniles in this category.

Level Ii-Minor offenses: stealing under $50, shoplifting under $50, possession of stolen property, destruction of property, bicycle stealing, tampering with automobiles, riding in stolen automobiles, operating an automobile without owner's consent, filing false police report, possession of marijuana, possession of fireworks, trespassing, fighting, peace disturbance, common assault, and fugitive. There were 18 adolescents in this category.

Level III-More serious property offenses: burglary, burglary and stealing, auto theft, stealing over $50. There were 30 youths in this category.

Level IV-Less serious assaultive offenses: attempted robbery, strongarm robbery, resisting arrest, flourishing a dangerous weapon, shooting in a dwelling, carrying a concealed weapon, sodomy, child molestation, and arson to an unoccupied dwelling. There were 11 adolescents in this category.

Level V-Major assaultive offenses: armed robbery, assaulting a police officer, assault to do great bodily harm, rape, assault to kill, and murder. There were 10 juveniles in this category.

## SUBJECTS

### Population/Sample

The sample consisted of 125 delinquents, randomly "screened" from the population of children held in detention under the authority of St. Louis County Juvenile Court. The size of the population is not reported.

### Demographic Variables

No specific demographic variables are described. However, the article indicates that referrals to the juvenile court parallel the racial proportions among the approximately one million residents surrounding the city of St Louis. Approximately 7% of this population is black, 89% is white, and 4% is otherwise categorized.

## COMPARISON GROUP

None.

## INSTRUMENTS

It is implied, though not specifically stated, that IQ and achievement tests were administered. No other information about evaluation instruments or protocols was provided.

## EVALUATORS

No specific information about the identity of the evaluators is provided. The authors do note, however, that learning disabilities were identified by a multi-disciplinary, diagnostic team (see below).

## ASSESSMENT METHODS

All adolescents in detention under the authority of the St. Louis County Juvenile Court are automatically "screened" for indicators of learning disability. No information about the screening methods are provided. If the screening identifies suspected learning

disabilities, a full scale investigation, including a full developmental and medical history, a psychological assessment, a detailed profile of academic skill levels, a review of the complete school history, and an investigation of family functioning, is conducted by the multi-disciplinary, diagnostic team. The team makes a diagnosis based upon this information.

OTHER FINDINGS

The study revealed a relationship between the degree of LD and number of offenses. The more severe the LD, the larger the number of offenses. Further, there was also a relationship between the severity of LD and the severity of offenses.

The article notes that during an unspecified period of time, records from the St. Louis County Juvenile Court indicated that out of 147 youths referred for an LD evaluation, 59% were identified as having either primary or secondary LD. Of these children, more than 75% had not been previously identified as LD (p. 13).

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[1]The prevalence of mental retardation was presented in percentage only; the raw number (20) was extrapolated from the percentage. The prevalence of learning disabilities includes both "mild" and "severe" learning disabilities (see "DEFINITIONS").

REFERENCE

Smykla, J. O., & Willis, T. W. (1981). The incidence of learning disabilities and mental retardation in youth under the jurisdiction of the juvenile court. Journal of Criminal Justice, 9(3), 219-225.

HANDICAPPING CONDITION(S)/PREVALENCE

Group 1: Confined Juveniles

Learning disabled: 37% (11/30); mentally retarded: 23% (7/30); total handicapping conditions: 60% (18/30).

Group 2: Nonconfined Juveniles

Learning disabled: 40% (12/30); mentally retarded: 20% (6/30); total handicapping conditions: 60% (18/30).

Group 3: CHINS (Children in Need of Supervision)

Learning disabled: 53% (16/30); mentally retarded: 13% (4/30); total handicapping conditions:: 67% (20/30).

Total Sample: Groups 1, 2, and 3

Learning disabled: 43% (39/90); mentally retarded: 19% (17/90); total handicapping conditions: 62% (56/90).

DEFINITIONS

Handicapping Condition(s)

Conceptual: While no conceptual definition of learning disabled was provided, the researchers indicated that their choice of instruments for classifying juveniles as learning disabled or mentally retarded was based on the theoretical structure of abilities by Witkin and others.[1] For classifying a juvenile as mentally retarded, they used a definition by Grossman: "Significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior, and manifested during the developmental period" (p. 223).

Operational: Juveniles were classified as learning disabled or mentally retarded based on their scores on the Bender Visual Motor Gestalt Test, the Wide Range Achievement Test reading and arithmetic sections Level II (WRAT), the D & E Behavior Rating Scale and the Wechsler Intelligence Scale for Children - Revised (WISC-R). In addition to the Full Scale IQ, the WISC-R was reported as the Witkin factor scores: Analytic Functioning (AF), Verbal Comprehension (VC), and Attention Consideration (AC). The specific criteria for classifying a juvenile as learning disabled included:

1. A difference or discrepancy of 10 points (11 if AC is a contributing score) within the three Witkin factors will count as one toward the learning disabled (LD)/non-learning-disabled (non-LD) decision. Only one discrepancy may be counted from this score.

2. A difference of 15 points between the reading and mathematics test count as one discrepancy toward an LD decision.

3. A discrepancy of 10 points between the reading score and any Witkin score counts as one toward an LD decision. Any one reading/Witkin discrepancy may be counted.

4. A discrepancy of 15 points between the mathematics score and any Witkin score counts as one toward the decision. Only one mathematics/Witkin discrepancy may be counted.

5. If two discrepancies are present among the six comparison sets, and if any one of the following conditions is also present, the case is classified as LD.

   a. A Bender score of three or more.
   b. Pronounced characteristics (a score of 3) in the D & E behaviors.
   c. Three or more significant tests behaviors scored on the Bender Gestalt Test.

6. If only one profile discrepancy is present, a score of three or more on the Bender, and the presence of pronounced characteristics on D & E behaviors will classify as LD.

7. If no discrepancies are present but achievement t scores of 40 or less and occasional or pronounced characteristics in D & E behavior and three or more significant test behaviors scored on the Bender and the WISC-R Full Scale score is at least 33, classify as LD.

8. All other cases are classified as non-LD.

9. All cases classified as LD are reviewed for the presence of reading and mathematics t scores of 50 or greater or WISC-R Full Scale t scores of 32 or less. These cases are reclassified as non-LD. (p. 222)

Grossman's definition of mental retardation was operationalized as:

1. Subaverage intellectual functioning means two or more standard deviations below the mean on the WISC-R.

2. General intellectual functioning may be assessed by the WRAT scores and the differences that exist between chronological age, grade placement, and expected achievement level.

3. Developmental period is defined as 18 years and below.

4. Deficits in adaptive behavior is defined as effectiveness or degree with which the individual meets the standards of personal independence and social responsibility expected of his or her age and cultural group (p. 223).

### Contact with Legal System

The juveniles in the study comprised three groups. The first group, the confined delinquents, consisted of residents of the Alabama State Department of Youth Services. The second group, the nonconfined delinquents, consisted of juveniles on probation. The third group consisted of juveniles in need of supervision or status offenders.

## SUBJECTS

### Population/Sample

The total sample consisted of 90 juveniles under the jurisdiction of juvenile courts in Alabama. The juveniles were divided into three groups. The first group was composed of 30 juveniles randomly selected from those committed to the Alabama State Department of Youth Services between July 1, 1977 and June 30, 1978. They had been processed through the juvenile courts of Mobile, Madison, and Montgomery Counties and the Central Alabama Youth Services region which includes Bibb, Chilton, Conecuh, Dallas, Lowndes, Monroe, Perry, and Wilcox counties. The second group consisted of the first 30 juveniles listed in the probation department files of the courts listed above who matched the confined juveniles in both geographic location and age (within 90 days of birth date). The third group of juveniles consisted of 30 status offenders or CHINS. They also were selected from the probation files in the same manner as group 2.

### Demographic Variables

All of the juveniles were between 12 and 16 years of age. All of the confined juveniles were male. The authors did not indicate the gender of the juveniles in the nonconfined and CHINS groups.

COMPARISON GROUP

No non-delinquent comparison group was included in the study.

INSTRUMENTS

The data collection instruments included: the D & E Behavior Rating Scale, the Bender Visual Motor Gestalt Test, the Wechsler Intelligence Scale for Children - Revised and the Wide Range Achievement Test reading and arithmetic sections Level II.

EVALUATORS

No information was provided about the test administrators. It is assumed that the tests were interpreted by the researchers.

ASSESSMENT METHODS

No information was given on the testing conditions.

OTHER FINDINGS

There were no significant differences in the prevalence of learning disabilities or mental retardation among the three groups.

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[1]Whitkin, H. A., Dyk, R. B., Faterson, H. F., Goodenough, D. R., & Karp, S. A. (1974). Psychological differentiation. New York, NY: John Wiley and Sons.

## REFERENCE

Steiger, J. C. (1984). Mentally disturbed youths within the division of juvenile rehabilitation residential population. Olympia, WA: Division of Juvenile Rehabilitation.

## HANDICAPPING CONDITION(S)/PREVALENCE

Severe mental disturbance: 4% (28/787); interpersonal relationship problems: 20% (156/787); self-destructiveness: 4% (33/787).[1,2]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: No information was provided.

Operational: Three scales of mental health disturbances (severe mental disturbance, interpersonal relationship problems, and self-destructiveness) were generated through a factor analysis of 29 mental health symptom variables. The original 29 variables were suggested by a Division of Juvenile Rehabilitation (DJR) mental health work grour Juveniles were identified as having a mental health problem they exhibited at least three symptoms on one of the scales.

### Contact with Legal System

The juveniles were residents of DJR facilities.

## SUBJECTS

### Population/Sample

Information was requested on every juvenile residing in one of Washington's DJR facilities on December 30, 1983. Information was obtained on 772[3] juveniles. The total number of juveniles in custody on December 30 was not provided.

### Demographic Variables

No information was provided.

## COMPARISON GROUP

None.

## INSTRUMENTS

A checklist of 29 symptoms of mental health problems was constructed by a DJR mental health group. Three scales were produced by factor analyzing the 29 symptoms.[4] The symptoms comprising the Severe Mental Disturbance Scale were:

* History of previous mental health placements or treatment (counseling, medication, etc.)

* Serious suicide threats or attempts

* Cruel and unusual torture of domestic animals or livestock

* Repeats what is said in a mechanical way or repeats the same meaningless phrase in a mechanical way

* Speaks in a disconnected, incoherent nonsensical way

* Reports hearing voices or other hallucinations

* Engages in bizarre and repetitive motor behavior, such as rocking

* Exhibits severe depression

* Encopretic and/or history of.

The symptoms comprising the Interpersonal Relationship Problems Scale were:

* Punishment for negative behavior (isolation) becomes reinforcing on a consistent basis

* Sets self up for extreme punishment and abuse from peers and staff

* Severe inability to establish or sustain relationships with peers or adults

* High level of motor activity -- serious attention deficit

* Unusually suspicious or fearful. Thinks others are "out to get him"

* Unable to define appropriate physical and social boundaries. (Violates the personal space of others, latches onto anyone, etc.)

* Engages in extended and disruptive outbursts of temper which include destruction of property or excessive yelling, screaming, crying or verbal abuse

* Naively obeys or follows instructions or creates situations presenting anger to self or others

* Shows rapid mood changes or moods which appear unrelated or inappropriate to ongoing situations.

The symptoms comprising the third scale, Self-Destructive Tendencies, were:

* History of previous mental health placements or treatment (counseling, medication, etc.)
* Serious suicide threats or attempts
* Exhibits severe depression
* Severe sleep disturbance, i.e., night terrors, disruptive pattern
* Self-mutilation, e.g., cutting, burning, head banging

The factor loadings of the items were not given.

EVALUATORS

The checklists were completed by DJR residential program staff.

ASSESSMENT METHODS

A checklist was completed on each juvenile. Interrater reliability was checked on approximately 10% of the sample (72 youths) by having two staff people rate the same juvenile. Interrater agreement ranged from 71% to 100% depending on the item. Only 4 items had less than 80% agreement among raters. Information on how DJR staff were selected to complete checklists and the instructions they were given was not provided.

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[1]The author refers to 772 juveniles throughout the text of the report, but Table 2 reports the total number of juveniles in the study as 787, and the reported percentages reflect a base of 787 rather than 772.

[2]The figures refer to the number of youth exhibiting at least three symptoms on each mental disturbance scale. Using a less stringent criterion, 26% (202/787) of the youth exhibited at least one symptom of severe mental disturbance; 46% (363/787) exhibited at least one symptom of inadequate interpersonal relationships; and 24% (189/787) exhibited at least one symptom of self-destructiveness.

[3]See footnote 1. The author does not explain how the additional 15 subjects were obtained.

[4]The use of dichotomous variables in factor analysis presents several problems. See Kim, J., & Mueller, C. W. (1978). Factor analysis: Statistical methods and practical issues. In E. M. Uslaner (Ed.), Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-014. Beverly Hills, CA: Sage.

## REFERENCE

Swanstrom, W. J., Randle, C. W., & Offord, K. (1978). The frequency of learning disability: A comparison between juvenile delinquent and seventh grade school populations. (Unpublished manuscript) Rochester, MN: Dodge-Fillmore-Olmsted Counties Community Corrections System Learning Disabilities Research Project.

## HANDICAPPING CONDITION(S)/PREVALENCE

Learning disability (seventh grade population): 15.8% (50/317); juvenile delinquent population: 59.7% (86/144).[1]

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: "Children with special learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or using spoken or written languages. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing or motor handicaps, to mental retardation, emotional disturbance or to environmental disadvantages" (p. 9).[2]

Operational: The learning disabilities population was identified according to three basic criteria (pp. 8-9):

(1) Discrepancy: Youth with learning disabilities show a discrepancy between expected and actual achievement in one or more areas such as spoken or written language, reading or mathematics. If a ten-point or greater discrepancy between the full scale IQ score and standard scores on the WRAT subtests (see below) occurred, the evaluators recommended further testing before making a diagnosis.

(2) Exclusion: The learning disabled youth's disability is not primarily the result of mental retardation, sensory impairment, motor handicaps, emotional disturbance, or environmental disadvantage. Those students having a 75 or lower full scale IQ were classified in the non-learning disability group.

(3) Deficit: Learning disabled youth have a significant deficit in one or more essential learning processes, which often limits their ability to receive information, to understand or interpret it, and finally to express it in a meaningful way.

Contact with Legal System

The sample included "adjudicated" youth, including delinquents on probation, either enrolled or not enrolled in school, in five counties (Dodge, Fillmore, Olmsted, Nicollet, and Blue Earth) in southern Minnesota.

SUBJECTS

Population/Sample

Throughout the article, the comparison group of seventh graders in the public schools of the city of Rochester (see below) is described in much greater detail than the delinquent sample. To make up the delinquent sample, all adjudicated youth aged 12 to 17, on probation during the years 1977-1978 in the three counties (Dodge, Fillmore, and Olmsted) were "screened" for possible learning disabilities. This screening, which is not described and introduces a possible bias into the sampling procedure, yielded 116 juvenile delinquents. In addition, 28 juveniles were similarly screened from Blue Earth and Nicollet Counties for a total sample of 144 subjects.[3]

Demographic Variables

In contrast to the relatively detailed description of the comparison group (see below), the demographic characteristics of the delinquent sample are not reported. The authors do note, however, that the population from which the sample was drawn ranged in age from 12 to 17 years (p. 10).

COMPARISON GROUP

The random sample of subjects was drawn from a population of 1,120 seventh grade students in the Rochester (Minnesota) school district. One hundred eighty three boys and 134 girls participated in the study. The subjects ranged in age from 12 to 15. The average age for the learning disabled and non-learning disabled groups was approximately 12.9 years. The authors give cogent reasons for selecting seventh grade students as the most appropriate comparison group (p. 6).

For the most part, detailed description of instruments, evaluators and assessment methods (see below) refer to the comparison group. The reader can only imply that some or all of this description applies to the delinquent sample as well.

INSTRUMENTS

Each subject was administered the Wechsler Intelligence Scale for Children-Revised (WISC-R) and the Wide Range Achievement Test (WRAT).[4] Two additional tests, the Woodcock Reading Mastery Test (in reading) and the Key Math Diagnostic Test (in mathematics), were administered in the academic subject "appearing suspect" (p. 7) if a ten-point or greater discrepancy occurred between a full scale IQ and standard scores on the achievement tests.

## EVALUATORS

The testing and diagnosis of the subjects in the comparison group was conducted by certified school psychologists and school disabilities teachers in the Rochester school district, with assistance provided by the Community Corrections Learning Disabilities Staff, presumably the authors of the article. Project staff, and presumably not the public school personnel, screened and diagnosed the subjects in the delinquent sample.

## ASSESSMENT METHODS

Assessment methods consisted of two major steps, screening and further testing. First, subjects were "screened" using the WISC-R and WRAT. As noted above, if a ten-point or greater discrepancy between the full scale IQ score and the standard scores on WRAT subtests occurred, further testing was conducted. Of the 317 subjects in the comparison group, 12 were administered the Woodcock Reading Mastery Test after screening, 62 were administered the Key Math Test, and 38 were administered both tests. No comparable information was provided for the delinquent sample.

## OTHER FINDINGS

Learning disabilities were found with significantly greater frequency in boys than in girls in the sample of seventh grade students. Twenty percent (37/183) of the boys and 10% (13/134) of the girls met the criteria for learning disabilities. Eight of the 13 learning disabled girls were classified as having "mild" and 5 were classified as having "moderate" learning disabilities. No girls were assigned to the "severe" classification. The majority of the boys fell in the "moderate" classification of learning disability, with 28 of the 37 boys exhibiting moderate or severe deficiencies. In sum, the boys outnumbered the girls at a rate of two to one in addition to having more severe deficits in learning. Again, this type of detailed data is provided for the comparison group only; no such data is provided for the delinquent sample.

The authors sum up the results of their study by stating that the "overall rate of learning disability among juvenile delinquents is approximately four times greater than in the seventh grade sample and the rate of severe learning disabled youths is seven times greater (p. 31, emphasis added)." Unfortunately, the authors present no data to substantiate the finding emphasized in the quotation.

[1]Subjects diagnosed as having learning disabilities in the random sample of seventh grade students (but not in the juvenile delinquent sample) were given a "mild," "moderate," or "severe" disability classification. Those whose learning disability was classified as mild had deficits primarily in one skill area. "Mild learning disabled students may be one and one-half to two years deficit in academic achievement. Social and vocational needs and goals are not restricted by their learning process and self-concepts are not severely damaged." Similarly, detailed analyses of a number of disabled youth in the seventh grade population classified by type of disability, (i.e., reading, math), performance on subtests, and sex were reported.

[2]This conceptual definition of learning disability and the operational definition that follows in the text are, according to the author, consistent with the federal guidelines and those of the local school district pertaining to the diagnosis of learning disabilities.

[3]The authors note that 28 juvenile delinquents refused to participate in the study; these "decliners" were not compared to the participants in the sample, thus introducing another possible bias into the sampling procedure.

[4]The WISC-R is an individually administered intelligence test that measures verbal and performance abilities. The test is administered to children between 6 and one-half and 16 and one-half years of age. The test consists of six subtests on the Verbal Scale and five subtests on the Performance Scale. Ten subtests are combined to produce the full scale intelligence quotient. The mean of the WISC-R is 100 and the standard deviation is 15. The Digit Span Subtest was not used in establishing the intelligence quotient.

The WRAT is a screening device developed for a diagnosis of reading, spelling, and arithmetic disabilities in individuals of all ages. The academic skills measured by the test are limited to single components of reading and arithmetic and, at times, do not render adequate information to be used as the sole instrument in diagnosing learning disabilities.

REFERENCE

United States General Accounting Office. (1977). Learning disabilities: The link to delinquency should be determined, but schools should do more now. Washington, DC: Author.

HANDICAPPING CONDITION(S)/PREVALENCE

Primary learning problems (learning disabilities): 26% (33/129).

DEFINITIONS

Handicapping Condition(s)

Conceptual: Youth with primary learning problems (learning disabilities) are classified as a subcategory of underachievers: "adolescents of normal intelligence who are achieving two or more years below the level expected for their ability in one or more academic areas" (p. 48), and are specifically excluded from the categories of satisfactory slow learners and adolescents of limited academic potential. "The term 'learning disability' refers . . . to a demonstrated inability to perform a specific task normally found within the capability range of individuals of comparable mental capacity. It involves deficits in essential learning processes having to do with perception, integration, and verbal and non-verbal expression. Adolescents with learning disabilities generally demonstrate underachievement in one or more academic areas: oral language expression, reading, spelling and written expression, or arithmetic" (pp. 49-50).

Operational: "Aptitude, perceptual, and academic tests were all examined for error patterns significant for learning disability. The deficits in basic functions had to be evident in the student's academic work in order for him to be classified as learning disabled. Discrepancies in basic functions of the type that indicate learning disabilities included difficulties in the following areas:

(a) expressive language skills, as might be seen in WISC Verbal scores as much as 15 points below Performance scores in addition to generalized lack of verbal fluency.
(b) receptive language processing, as might be seen in low receptive vocabulary scores on tests like the Peabody Picture Vocabulary Test or in poor auditory memory combined with frequent necessity to delay responses or re-auditorize questions or instructions.
(c) auditory perceptual skills necessary for work analysis, as might be seen in inability to sequence sounds or master sound-symbol association for spelling and reading and usually further evident on tests such as the Wepman Test of Auditory Discrimination or the ITPA Sound Blending Test.

(d) visual-perceptual skills necessary for effective word recognition, such as might be seen in pervasive visual confusions such as rotation or inversion of stem letters, substitution of other similar-appearing letter or word forms, or transpositions of letters and words in reading and writing and usually further evident on the Slingerland or the Malcomesius Tests.
(e)visual-motor integration, as might be seen in significant distortion on the Bender Gestalt or Graham-Kendall Tests, or in WISC or WAIS Performance scores 15 points lower than Verbal, as well as in generalized inability to reproduce patterns or letter forms.
(f) abstract reasoning skill not commensurate with general intellectual level, as might be seen in markedly depressed Similarities and/or Block Design scores on the WISC or almost total and unexpected reliance on concrete trial-and-error processes (note: degree of abstraction is expected to increase with increased intelligence).
(g) quantitative reasoning skill necessary for development of arithmetic concepts, as might be seen in markedly low scores on WISC and other arithmetic problem solving tests, especially if these reflect skills low in relation to rote computation rather than simple deficits in instruction, and sometimes accompanied by indications of poor spatial organization ability and inadequate grasp of part-whole relationships" (pp. 51-52).

Contact with Legal System

The exact legal status of the juveniles is unclear. They are described in the report as institutionalized juvenile delinquents. However, "institutionalized" is not defined. The appendix notes that the sample was drawn from detention centers. Many detention centers hold juveniles awaiting their adjudication hearing as well as juveniles adjudicated delinquent. The report does not indicate whether the juveniles in the sample represented adjudicated delinquents only or a more heterogeneous group of juveniles.

SUBJECTS

Population/Sample

The total sample consisted of 129 juveniles from two states. "Sixty of the 347 juveniles in the 4 institutions in Connecticut were tested between July and September 1975. Sixty-nine of the 1,247 juveniles in the 7 institutions in Virginia were tested in February and March 1975" (p. 4). It is unclear whether the subjects were selected randomly from each institution, each state, or both states combined.

Demographic Variables

The total sample consisted of 106 males (53 from each state) and 23 females (7 from Connecticut and 16 from Virginia). The average age for the entire sample was not provided. A weighted average calculated from the average age in the Connecticut sample (16.3) and the average age in the Virginia sample (15.6) was 15.9 years. See "OTHER FINDINGS" for details on the juveniles considered handicapped.

COMPARISON GROUP

None.

INSTRUMENTS

All of the juveniles received the following tests: the Wechsler Intelligence Scale for Children-Revised or the Wechsler Adult Intelligence Scale; the Peabody Picture Vocabulary Test; the Bender Visual-Motor Gestalt Test; Human Figure Drawings; Gray Oral Reading Test, Form A; Nelson Reading Test, Form D Paragraph Comprehension; Wide Range Achievement Test, Reading, Spelling, Arithmetic; and Written Expression, Story Composition. Tests administered for further clarification were: Graham-Kendall Memory-for-Designs Test; Wechsler Memory Scale; Ferkauf Auditory Recognition Test; Wepman Auditory Discrimination Test; Roswell-Chall Diagnostic Reading Test; Illinois Test of Psycholinguistic Abilities. Sound Blending Subtest; Slingerland and Malcomesius Screening Tests for Children with Specific Language Disability, Visual Discrimination Test; Informal Arithmetic Problem Solving; and Informal Word Lists for Visual Discrimination.

EVALUATORS

"Consultants specializing in remedial education" (p. 4) from The Kingsbury Center, Inc., in Washington, DC acted as test administrators.

ASSESSMENT METHODS

"Diagnoses of learning disabilities for this study were educational in nature, made on the basis of examination of the student's total protocol. Where available, the students' records were studied for additional information . . . . Each student's protocol was examined by 3 diagnosticians for reliability of classification, and the diagnoses were reviewed by a clinical psychologist" (pp. 52-53).

Students were not included in the study if they had a visual (worse than 20/30 on the Snellen Chart) or auditory (could not hear tones at 20 db in the frequency range 500 to 4,000 in both ears on the Maico Audiometer Test) problem. A few subjects whose English was too poor for valid test results also were omitted. They were replaced by

other randomly chosen subjects. "Bilingual students were included only if they stated that they were more fluent in English than Spanish, if they had lived in the United States since birth or shortly after, and if they had always attended school in the United States. In case of doubt, the English and Spanish teachers were consulted" (pp. 52-53).

OTHER FINDINGS

Of the 33 handicapped juveniles, 27 were male and 6 were female. The average age was 16.2 years.

## REFERENCE

United States General Accounting Office. (1985). Implementation of Public Law 94-142 as it relates to handicapped delinquents in the District of Columbia. Washington, DC: United States General Accounting Office.

## HANDICAPPING CONDITION(S)/PREVALENCE

Learning disability and/or emotional disturbance: 46% (595/1,287).

## DEFINITION(S)

### Handicapping Conditions

Conceptual: Although no definition of emotional disturbance or learning disability is explicitly stated, the authors imply agreement with the definitions of handicapping conditions in P.L. 94-142.

Operational: None.

### Contact with Legal System

Juveniles studied either received a consent decree or were found guilty by the District of Columbia Superior Court. No information is provided to distinguish these categories.

## SUBJECTS

### Population/Sample

From a population of 1,287 juveniles receiving a consent decree or found guilty by the District of Columbia Superior Court in calendar year 1983, two separate samples were selected. The first consisted of a total of 173 delinquents identified as handicapped by the District of Columbia Public Schools or the Youth Services Administration. To determine if the remaining delinquents exhibited handicapping conditions, a second sample of 281 juveniles was randomly selected from the juveniles in the population considered non-handicapped by the Public Schools and the Youth Services Administration (i.e., 1287-173=1114). The latter sample was selected using a statistical formula which considered the size of the population, a 95% confidence level (with 541 or 42% of handicapped delinquents in the total universe as the lower limit and 649 or 50% as the upper limit), and a 5% sampling error rate.

This method of producing the second sample enabled the researchers to be 95% confident in statistically projecting results to the population of 1,287 juvenile delinquents. A total of 108 or 38.4% of the delinquents in the second sample (281) had identified handicaps. By applying this percentage to the population, the researchers estimated that 422 handicapped delinquents were not identified by the first sample, i.e., juveniles who were acknowledged to be

handicapped by the Public Schools or the Youth Services Administration. To arrive at the overall prevalence estimates of 46%, the researchers presumably simply added the number of handicapped delinquents identified by the two samples; specifically, they added 173 to 422 to yield a total of 595.[2]

Demographic Variables

Although the study describes a few examples of the types of juveniles studied, no summary demographic characteristics relevant to prevalence of handicapping conditions are reported.

COMPARISON GROUP

None.

INSTRUMENTS

None are specified. However, the report notes that specific learning disabilities or severe emotional disturbances were identified by reviewing "analytical reports" of test results contained in the juveniles' files in the District of Columbia Superior Court, the Youth Services Administration, and/or the Public Schools. These tests included intelligence tests, psychological tests, auditory discrimination tests, and/or "certain academic achievement tests." The District of Columbia Youth Services Administration had no criteria for determining eligibility or standards for identifying handicapped delinquents or did not follow Public Schools' standards.

EVALUATORS

Clinical psychologists, psychiatrists, and educational psychologists on the staffs of the Court, the Youth Services Administration and the Public Schools administered the instruments and prepared the "analytical reports" of results that were subsequently reviewed by the researchers. "We did not interpret the test results ourselves; rather, we relied on the analyses prepared by the testers" (p. 11).

ASSESSMENT METHODS

Test data upon which the prevalence estimates were based were collected from case files available in the District of Columbia Public Schools, the Youth Services Administration, and the Court between August 1984 and August 1985. Use of "standardized data collections instruments," presumably to compile test data or "analytical reports" of tests results from files, was noted. In 42% of the cases, handicapping conditions were indicated by more than one data source or in more than one file. No checks on objectivity or reliability are reported. No information regarding the administration of diagnostic instruments was provided.

## OTHER FINDINGS

372 of the 595 handicapped delinquents, or 63%, did not have an Individualized Education Program (IEP) that delineates the specific services required to meet the juvenile's unique needs.

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[1]38.4% of 1,114 is 428.

[2]Their method for producing the second sample, however, may have systematically overestimated the number of handicapped delinquents in the population. A more appropriate method would have been to derive the second sample from the entire population of 1,287 juveniles, not just those who were not identified in the record as handicapped. Logic suggests that at least some of the 173 juveniles identified as handicapped by the Public Schools and the Youth Services Administration may not have been so identified by the researchers, therefore resulting in a prevalence estimate lower than 46%.

REFERENCE

WESCENMO, Inc. (1979). Survey of inmates eligible for services according to Public Law 94-142 and recommendations for the creation of a division wide special education system. Sedalia, MO: Author.

HANDICAPPING CONDITION(S)/PREVALENCE

Learning disabled: 37% (59/158); educable mentally retarded: 6.3% (9/158); total handicapping conditions: 43% (68/158).

DEFINITIONS

Handicapping Condition(s)

Conceptual: Adheres to the definitions in P.L. 94-142.

Operational: A diagnosis of EMR was made if the Weschler Full Scale, Verbal, and Performance IQ scores were below 80, if this was supported by scores on other IQ measures, and if achievement was markedly impaired. The criteria for a final diagnosis of learning disabled was not given. Initially, however, inmates were screened using the WRAT to determine if they were functioning two or more years below their grade level expectancy.

Contact with Legal System

Juveniles were inmates of Missouri correctional facilities.

SUBJECTS

Population/Sample

The sample for study was identified in steps. First, staff from the Division of Corrections identified inmates whom they thought might be eligible for services under P.L. 94-142. No details were given on the selection procedure. Approximately 800 inmates from six Missouri correctional facilities (Fordland Honor Farm, Renz Farm, Church Farm, the Missouri State Penitentiary, the Missouri Intermediate Reformatory at Algoa, and the Missouri Training Center for Men in Moberly) were identified in this step. The next step screened the 800 inmates on the following four criteria: (1) was not 21 years of age before 10/1/79, (2) did not have a high school diploma or GED certificate, (3) would be incarcerated at least until 10/1/79, and (4) was placed at one of the sites before 1/1/79. These criteria identified 216 age-eligible inmates who would be under the authority of the Division of Corrections during the 1979-1980 school year. Of these, 47 refused to participate in the study. The remaining 169 inmates were interviewed and tested. Inmates who failed to meet criteria on any part of

this evaluation comprised the final sample. Therefore, the final sample already had been screened for possible handicapping conditions.

Demographic Variables

Only inmates who were younger than 21 years were included in the study. Most of the inmates were male; only 5 came from Renz Farm, the women's facility.

COMPARISON GROUP

None.

INSTRUMENTS

Basic screening: the Wide Range Achievement Test, the Raven's Progressive Matrices a hearing test using the Maico Portable Audiometer, a Behavioral Checklist, and a Bio-Data Checklist. Both of the checklists were developed by the consulting firm WESCENMO. The Behavioral Checklist consisted of 30 behavior descriptions pertaining to peer relations, authority interactions, and emotional adjustment to prison life. The Checklist was completed by personnel of the Division of Corrections who had contact with the inmates. The Bio-Data Checklist gathered information relevant to special education needs. It requested information on an inmate's educational, medical (including visual deficits), family, and psychological history. The Checklist was completed by personnel of the Division of Corrections. Inmates who failed to meet criteria on these instruments were given the Wechsler Adult Intelligence Scale or recommended for more comprehensive visual or hearing tests.

EVALUATORS

Personnel of WESCENMO administered the instruments. An interdisciplinary team from WESCENMO determined each inmate's diagnostic classification. No specific information on the composition of this interdisciplinary team was provided; however, four consultants were listed at the beginning of the report. They included a psychiatric consultant, a medical doctor, a Ph.D. working in the Department of Special Education, and the Coordinator for Special Education Services for the Sedalia Public School System in Missouri.

ASSESSMENT METHODS

Tests were administered at each site by WESCENMO personnel. The Raven's Progressive Matrices and the spelling and arithmetic sections of the WRAT were administered in groups of not more than 20 inmates. The reading section of the WRAT, and the hearing test were administered individually. After the basic screening was completed, WESCENMO personnel reviewed the data on each inmate to determine if

further testing was warranted. Inmates who failed to meet the criteria on the WRAT, the Raven's, the Bio-Data Checklist, or the Behavioral Checklist were administered the WAIS. Inmates who did not pass the hearing or vision screen were recommended for a comprehensive evaluation by appropriate professionals. Informed consent was requested at two different times during the study. Initially, personnel from the Division of Corrections explained the study to inmates and requested participation. Additionally, written consent was requested during the group testing situations.

## OTHER FINDINGS

7.1% of the inmates were recommended for additional visual tests and 7.7% were recommended for additional hearing tests. These classifications were not distinct from the learning disabled and the EMR classifications. That is, an inmate with a possible hearing problem also may have been classified as learning disabled. The inmates with hearing and visual problems were not included in the handicapping conditions because the screening only indicated possible problems.

## REFERENCE

Whitaker, D. W., Jr. (1981). The learning disability-juvenile delinquency link (Doctoral dissertation, Case Western Reserve University, 1981). Dissertation Abstracts International, 42, 1070A.

## HANDICAPPING CONDITION(S)/PREVALENCE

Learning disabilities among the adjudicated sample: 27% (8/30); learning disabilities among the non-adjudicated sample: 13% (4/30).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: The author adheres to a definition of learning disability espoused by Alex Bannatyne. Conceptually, this definition incorporates the idea that a learning disabled youth performs better in some skill clusters than in others and that certain perceptual skills are involved in the weaker skill clusters" (p. ii).

Operational: The Bannatyne technique is based on four scores generated from the Wechsler Intelligence Scale for Children-Revised (WISC-R). The generated scores are: (a) Spatial - the mean scaled score for the Picture Completion, the Block Design and the Object Assembly scores; (b) Conceptual - the mean scaled score for the Comprehension, Similarities, and Vocabulary scores; (c) Sequential - the mean scaled score for the Digit Span, Arithmetic, and Coding scores; and (d) Acquired Knowledge - the mean scaled score for the Information, Arithmetic and Vocabulary scores. A learning disability is indicated if the Spacial score is the highest followed by the Conceptual, Sequential and Acquired Knowledge scores, respectively.

### Contact with Legal System

The juveniles in the adjudicated sample were incarcerated by the Ohio Youth Commission for committing a juvenile offense. "Juvenile offense" was not defined.

## SUBJECTS

### Population/Sample

A sample of 30 juveniles was selected randomly from a population of 300 adjudicated males incarcerated by the Ohio Youth Commission. All of the juveniles had taken standardized achievement tests no earlier than a year before the study and had scored two or more years behind their respective grade levels. Therefore, the sample did not represent adjudicated juveniles but, rather adjudicated juveniles who scored at least two years below their grade levels.

Demographic Variables

All of the juveniles were males; 17 were black and 13 were white. The average age of the sample was 15.5 years; the range was 14-16 years.

COMPARISON GROUP

Population/Sample

A sample of 30 non-adjudicated (never incarcerated for a juvenile offense) youth was drawn from a population of 173 underachievers in two school districts in Cuyahoga County. The two public school districts were considered representative of the general population on socio-economic and ethnicity factors. Juveniles were considered underachievers if they scored at least two years below their current school grade level on standardized achievement tests. Juveniles who were tested earlier than a year before the study did not qualify for the study. A letter was sent to the parents of each of the 173 underachievers. The first 30 juveniles who were permitted to participate in the study comprised the sample.

Demographic Variables

All of the juveniles were male; 9 were black and 21 were white. The average age of the juveniles was 15.2 years; the range was 14-16 years.

INSTRUMENTS

Juveniles were included in the sample only if they scored two or more years below their current grade level on standardized achievement tests. No information was provided on these tests. Learning disabilities were identified using scores from the Wechsler Intelligence Scale for Children-Revised (WISC-R).

EVALUATORS

Most of the juveniles had been assessed on the WISC-R (presumably for school records) before the study was conducted. No information was given about the test administrators. The six youth who had not received the WISC-R prior to the study were administered it under the researcher's direction.

ASSESSMENT METHODS

No information specific to the administration of the WISC-R for the 54 juveniles who had taken the test prior to the study was provided. The remaining six juveniles were administered the test as the last component of an interview with the researcher. The interview also collected data for several other purposes of the study.

## OTHER FINDINGS

There was no significant difference between the incidence of learning disabilities in the adjudicated sample and the non-adjudicated sample.

## REFERENCE

Wilgosh, L., & Paitich, D. (1982). Delinquency and learning disabilities: More evidence. Journal of Learning Disabilities, 15(5), 278-279.

## HANDICAPPING CONDITION(S)/PREVALENCE

Learning disabilities (conservative criterion, see "Operational" definition below): 62% (61/99); learning, disabilities (less conservative criterion, see "Operational" definition below): 85% (84/99).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: Authors state that they use the term "learning difficulties" rather than learning disabilities "because the subjects were preselected for delinquency, not for learning disabilities" (p. 279).

Operational: The "conservative" criterion for classifying juveniles as having a learning difficulty was a score of two or more grades below grade placement for one or more subtests of the Wide Range Achievement Test (WRAT). A less conservative criterion was a score of more than one grade below actual grade placement in at least one WRAT subtest.

### Contact with Legal System

All of the juveniles had been adjudicated delinquent and referred to the psychiatric services of the Toronto Family Court for assessment.

## SUBJECTS

### Population/Sample

Subjects were 99 adjudicated delinquents referred to psychiatric services by the Toronto Family Court. No information was given on how the subjects were initially chosen for the study, the total juvenile delinquent population of the Toronto Family Court, or the period of time during which the sample was chosen. The authors did indicate that an initial screening of subjects eliminated a group of 8 males and 7 females from the study sample because both their WISC Vocabulary scale scores and the Raven IQ were below the average range. All the subjects included in the study had one or both of the scores in or above the average range.

### Demographic Variables

The sample included 72 males (mean age = 14.27 years; mean grade level = 8.17) and 27 females (mean age = 14.51 years, mean grade

## REFERENCE

Yeudall, L. T., Fromm-Auch, D., & Davies, P. (1982). Neuropsychological impairment of persistent delinquency. Journal of Nervous and Mental Disease, 170(5), 257-265.

## HANDICAPPING CONDITION(S)/PREVALENCE

Neuropsychological impairments (delinquents): 84% (83/99); neuropsychological impairments (nondelinquents): 11% (5/47).[1]

## DEFINITION(S)

### Handicapping Condition(s)

Conceptual: No conceptual definition of handicaps is provided. The authors note, however, that delinquents with "'specific disorders'" had a high percentage of abnormal profiles"; delinquents with developmental delays, dyslexia, and stuttering all had 100% abnormal profiles; disruptive delinquents had more than 80% abnormal profiles; withdrawn delinquents had 89% abnormal profiles.

Operational: Abnormal profiles are operationally defined as those that "contain many or all test scores within the critical range and these form consistent patterns of cerebral dysfunction." No other operational definition of abnormal profiles is provided.

### Contact with Legal System

All of the juveniles were admitted to the Youth Development Centre, a primary residential treatment facility for "persistent delinquents with severe behavioral disturbances" in the Canadian Province of Alberta. Included were those juveniles who committed delinquent acts for the previous four to five years with an average of 5.3 and 3.8 court appearances for males and females, respectively.

The majority of the crimes committed by the delinquent group were non-violent (81.3%). Self-reported non-prescription drug usage among this group indicated that 80.2% of the offenders used cannabis and its derivative, 50% used inhalants, 66.7% used hallucinogens, 61.5% used amphetamines, 15.6% used barbiturates, 23.9% used opiates, and 30.2% used miscellaneous drugs. Alcohol usage was 92.7%.

## SUBJECTS

### Population/Sample

The sample consisted of 99 adolescents (64 male, 35 female) consecutively admitted to a residential treatment facility (see above). Eight of the adolescents were on medication at the time of testing.

No population figures are provided. The sample studied does not represent the average or normal delinquent population insofar as the residental treatment facility admits delinquents with "severe behavioral disturbances" (see above). Assuming that the facility indeed admits only delinquents with such disturbances, one would expect, all other things being equal, the sample to exhibit greater incidences of handicapping conditions than the normal delinquent population.

Demographic Variables

The mean age of the delinquent group was 14.8 years (range, 13 to 17); 15% were in grade 6 or less, 80% in grades 7 to 9, and 5% in grade 10.

## COMPARISON GROUP

Forty-seven adolescents (29 male, 18 female) from regular classrooms in Edmonton, Canada area junior high and high schools were assessed. Their mean age was 14.5 years (range 13-17) and the incidence of left-handedness as measured by the same test used by the delinquent group was 17% (male 10%, female 28%). No significant differences were found between the delinquent and non-delinquent groups in age, sex, or handedness. Importantly, only adolescents who had no previous history of neurological or psychiatric disorders were included in the comparison group.[2]

## INSTRUMENTS

The Halstead-Reitan Battery plus twelve other neuropsychological tests, a total of 40 tests, were administered in a standard order. The Halstead-Reitan Battery is the most widely used and most extensively validated neuropsychological series. It is usable only in the hands of a highly trained and experienced clinical neurologist who possesses a broad background in clinical neuroscience, basic behavioral sciences, the generic components of applied psychology, and developmental psychology. The twelve other tests included: the Language Modalities Test, Memory-For-Designs, Raven's Progressive Matrices, Symbol Gestalt, Finger Localization, Organic Integrity Tests, Minute Estimation, Oral Word Fluency, Purdue Pegboard, Face-Hand tests, and the Williams' Clinical Memory Test.

## EVALUATORS

Independent ratings (by two of the three authors of the article) of the neuropsychological profiles were made according to methods derived by Reitan. Agreement between the two raters was 92%; mutual agreement was reached on the remaining 8% of the cases. Three testers administered the battery of 40 tests upon which these ratings were based. The qualifications of these three testers are not reported.

## ASSESSMENT METHODS

Three testers administered the battery of tests. Each tester administered one-third of the battery on a six-week rotation schedule. Each tester administered the complete Wechsler Intelligence Scale for Children--Revised (WISC-R) for ages 16 and under and the WAIS for ages 17 and over. Total test time for each subject was approximately seven hours. Demographic data and legal histories were compiled from the files of the residential treatment facility and personal interviews.

## OTHER FINDINGS

In addition to the major findings of this study of the high percentage of delinquents who show neuropsychological deficits in comparison to the control sample of adolescents, other findings include: (a) the specific pattern of these deficits which implicate anterior brain dysfunction that is greater in the nondominant than dominant hemisphere; (b) the lack of difference between the violent and nonviolent delinquents on these measures; (c) the high degree of statistical discrimination between the delinquent and control groups on the basis of neuropsychological and psychological test scores.

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[1]The incidences of neurological deficits in the delinquent and non-delinquent groups are reported in terms of percentages of abnormal profiles. Although not indicated in the article, it is assumed that every subject had only one profile, thus making it possible to translate reported incidences of neuropsychological impairment (i.e., abnormal profiles) into prevalence estimates.

[2]The composition of the experimental sample and the comparison group throws into question the major findings of the study of (a) a "high percentage of delinquents who show neurological deficits in comparison to the control sample of adolescents" and (b) the "high degree of statistical discrimination between the delinquent and control groups on the basis of neuropsychological and psychological tests scores." In fact, the comparison was between a group of delinquents in a facility admitting delinquents with "severe behavioral disturbances" and a group of "normal" adolescents from regular classrooms who had no "previous history of neurological or psychiatric disorders." Obviously, one would expect differences between these groups. The major comparison is between a group that had exhibited behavioral disturbances and a group with no previous history of disorders; the fact that one group exhibited delinquency seems irrelevant to establishing estimates of the prevalence of handicapping conditions among delinquents.

## REFERENCE

Zinkus, P. W., & Gottlieb, M. I. (1979). Patterns of perceptual deficits in academically deficient juvenile delinquents. Psychology in the Schools, 16, 19-27.

## HANDICAPPING CONDITION(S)/PREVALENCE

Severe academic deficiency (learning disability): 36.7% (22/60).

## DEFINITIONS

### Handicapping Condition(s)

Conceptual: No conceptual definition of either severe academic deficiency or learning disorder was provided.

Operational: Juveniles identified as having a severe academic deficiency scored: (a) at least a Full Scale IQ of 85 on either the Wechsler Intelligence Scale for Children - Revised (WISC-R) or the Wechsler Adult Intelligence Scale (WAIS) and (b) at least 3.5 grade levels below their expected achievement level based on the Wide Range Achievement Test (WRAT).

### Contact with Legal System:

The delinquents were residents of a juvenile correctional facility. All had a history of multiple offenses ranging from status offenses to felonies. The delinquents averaged 8.3 contacts with the Juvenile Court.

## SUBJECTS

### Population/Sample

The sample consisted of 60 youths from a juvenile correctional facility. No information was provided on the sampling procedures.

### Demographic Variables

All of the juveniles were male between the ages of 13 and 18 (average age = 15.9 years). The sample was 45% white and 55% black. The juveniles were incarcerated for a range of offenses from truancy and vandalism to felonies.

## COMPARISON GROUP

None.

INSTRUMENTS

The WISC-R (or WAIS for juveniles over 17 years), WRAT, Bender-Gestalt and Lateral Dominance Examination were administered to all of the juveniles. The authors did not explain how the results of the Bender-Gestalt and the Lateral Dominance Examination were used.

EVALUATORS

It is assumed that the evaluations were conducted either by the authors or under their direction. Both authors were from the University of Tennessee Center for the Health Sciences.

ASSESSMENT METHODS

No information on the testing situation was provided.

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[1]Of the 60 subjects in the study, 51 met the IQ score requirement. The authors report on only 38 of these 51:

22 scored at least 3.5 grade levels below expected achievement, and
16 scored no more than 1.0 grade level below expected achievement.

It is assumed that the remaining 13 subjects (51-38 = 13) fell between the two groups above (more than 1.0 grade level but less than 3.5 grade levels below expected achievement) and were not considered learning disabled by the authors.

Coding Form

\ingo\form.sys Page 1 of 15

ID Case ID _ _ _ _ _ _

V1 Article ID _ _

Select value from following:

1 Broder, et al.
2 Bullock & Reilly
3 Cheek
4 Cull, et al.
5 Day & Joyce
6 Dennis
7 Freeborne
8 Goulas
9 Kardash & Rutherford
10 King & Young
11 Lenz, et al.
12 Love & Bachara
13 Mauser & Cannella
14 McManus & Alessi
15 Mesinger
16 MO Assn. for Retarded Citizens, Inc.

Create/Edit Form

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17 Pasternack & Lyon
18 Prescott
19 Prout, et al.
20 Robbins, et al.
21 Sawicki & Schaeffer
22 Smykla & Willis
23 Steiger
24 Swanstrom, et al.
25 U.S. GAO 1977
26 U.S. GAO 1985
27 WESCENMO, Inc.
28 Whitaker
29 Wilgosh & Paitich
30 Yeudall, et al.
31 Zinkus & Gottlieb

V2 Publication Date _ _ _ _

V3 Handicapping Condition _ _

Select value from following:

Create/Edit Form

\ingo\form.sys Page 3 of 15

1 Learning disability
2 Mental retardation
3 Emotionally disturbed
4 Speech impaired
5 Hearing impaired
6 Neurologically impaired
7 Behaviorally disordered
8 Learning disabled/Emotionally disturbed
9 Mentally retarded/Emotionally disturbed
10 Psychiatric disorders
11 Learning disabled/mentally retarded
12 Behaviorally disordered/mentally retarded
13 Learning disability/mental retardation
14 Total: All handicapping conditions

V4 Sample size _ _ _ _ (9999 if unknown)

V5 Number of handicapped in sample _ _ _ _ (9999 if unknown)

V6 % handicapped in sample _ _ _ _ (Record % to 1 decimal place or 9999 if unknown)

Create/Edit Form



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V7 Definition: Quantity _

Select value from following:

1 Information insufficient for identifying handicap
2 Identifying information provided by inference/reference only
3 Information sufficient for identifying handicap
4 More than one handicap and definitions vary in quantity

V8 Definition: Agreement _

Select value from following:

1 No agreement with federal, state, or professional groups
2 At least partial agreement with standard definitions
3 Strict adherence to a standard definition
4 More than 1 handicap; definitions vary in agreement
9 No information provided

Create/Edit Form



V9 Definition: Level of detail _

Select value from following:

1 Insufficient detail to replicate even partially (e.g., no tests or criteria mentioned)
2 Sufficient detail to replicate partially
3 Sufficient detail to replicate completely
4 More than 1 handicap; definitions vary in level of detail

V10 Furthest penetration into legal system _

Select value from following:

1 Intake/preadjudication detention
2 Formally processed (adjudicated, in need of supervision)
3 Diversion program
4 Resident of treatment or correctional facility
5 Mixed
9 Insufficient information

Create/Edit Form



V11 Offense type: Total sample _

Select value from following:

1 Status or PINS/CHINS
2 Misdemeanor
3 Felony
4 Mixed
9 No information

V12 Selection procedure for total sample _

Select value from following:

1 All juveniles from one or more facilities
2 Random sample
3 Convenience sample
4 Mixed
9 No information provided

Create/Edit Form

V13 Possible bias in total sample? _

Select value from following:

1 Bias towards higher incidence of handicapping conditions (Such as a sample drawn from a facility for mentally retarded offenders)
2 Possible bias - directionality unknown
3 No bias indicated

V14 Total sample drawn from: _

Select value from following:

1 School district(s), local jurisdiction, or city
2 Several jurisdictions/cities or an entire state
3 Multiple states or a region
4 National level
9 No information

Create/Edit Form



V15 Average age for total sample _ _ _ _ (Record mean to 1 decimal place or 9999 if unknown)

V16 Range of ages for total sample _ _ _ _ (Record lowest & highest ages or 9999 if unknown)

V17 Gender of total sample _

Select value from following:

1 Males only
2 Females only
3 Both males and females
9 Gender not reported

V18 Ethnicity of total sample _

Select value from following:

1 Whites only
2 Minorities only

Create/Edit Form



3 Mixed
9 Ethnicity not reported

V19 Nature of comparison group _

Select value from following:

1 Sample of public school youth matched to delinquent youth on relevant variables
2 Sample public school youth not matched to delinquent youth on relevant variables
3 General statistics on public school youth
9 No comparison group available

V20 Size of comparison group _ _ _ _ _ _ _ (9999999 if unknown or NA)

V21 Number of handicapped in comparison group _ _ _ _ _ _ (999999 if unknown or NA)

V22 % handicapped in comparison group _ _ _ _ (Record % to 1 decimal point or 9999 if unknown)

Create/Edit Form

V23 Appropriateness of assessment devices _

Select value from following:

1 Handicapping condition identified by standard instruments (diagnostic tests, classifications, etc.), perhaps appropriately modified, that are widely recognized and used with individuals suspected of having the handicapping condition. (The instruments are "good tests" - reliable and valid.)
2 Only limited evidence the instruments are standard tests that are widely recognized and used with individuals suspected of having the handicapping condition
3 Either no evidence that the instruments used to identify the presence of the handicapping condition are standard tests, or the instruments are clearly unorthodox
9 Information on the instruments is insufficient for coding

Create/Edit Form



V24 Appropriateness of evaluators _

Select value from following:

1 Strong evidence that evaluators have appropriate credentials
2 Limited evidence that evaluators have appropriate credentials
3 Some evidence evaluators did not have appropriate training/experience
9 Information on the evaluators is insufficient fc coding

V25 Assessment procedures: Test administration _

Select value from following:

1 Strong evidence that tests were administered correctly
2 Limited evidence that tests were administered correctly
3 Some evidence of inappropriate testing procedures
9 Information on test administration is insufficient for coding

Create/Edit Form



V26 Assessment procedures: Evaluation method _

Select value from following:

1 Subjects were identified as handicapped in a multistep process with some subjects eliminated at each step
2 All subjects participated in all steps of the evaluation process for identifying handicapping conditions
9 Information on the evaluation is insufficient for coding

V27 Assessment procedures: Data source _

Select value from following:

1 Subjects identified as handicapped based on prior records only
2 Subjects identified as handicapped based on prior records and original data from tests and/or direct observations
3 Subjects identified as handicapped based on original data from tests and/or direct observations
9 Information on the data source is insufficient for coding

Create/Edit Form

Values assignied to codes for rating each study:

| VARIABLE | CODE | VALUE |
|---|---|---|
| V4 | Less than 21 | 0 |
| | 21 to 50 | 1 |
| | 51 to 150 | 2 |
| | 151 to 500 | 3 |
| | More than 500 | 4 |
| V12 | 9 | 0 |
| | 1, 3, 4 | 1 |
| | 2 | 2 |
| V13 | 1 | -2 |
| | 2 | -1 |
| | 3 | 0 |
| V17 | 1, 2 | -1 |
| | 9 | 0 |
| | 3 | 1 |

Create/Edit Form



| VARIABLE | CODE | VALUE |
|---|---|---|
| V18 | 1, 2 | -1 |
| | 9 | 0 |
| | 3 | 1 |
| V27 | 1 | -1 |
| | 9 | 0 |
| | 2, 3 | 1 |
| V23 | 3 | -1 |
| | 9 | 0 |
| | 2 | 1 |
| | 1 | 2 |
| V7 | 1, 4 | 0 |
| | 2 | .5 |
| | 3 | 1 |

Create/Edit Form



| VARIABLE | CODE | VALUE |
|---|---|---|
| V8 | 1, 4, 9 | 0 |
| | 2 | .5 |
| | 3 | 1 |
| V9 | 1,4 | 0 |
| | 2 | .5 |
| | 3 | 1 |
| V25 | 3 | -1 |
| | 9 | 0 |
| | 2 | 1 |
| | 1 | 2 |
| V24 | 3 | -1 |
| | 9 | 0 |
| | 2 | 1 |
| | 1 | 2 |

Create/Edit Form